900

ALLIED ELECTRONICS

A SUBSIDIARY OF HALL-MARK ELECTRONICS CORPORATION

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ELECTRONICS

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900 Engineering Manual & Purchasing Guide

Allied Electronics, with over 50 years of servicing the electronics industry, proudly offers and stocks these products from over 200 valued manufacturers plus access to over 75 manufacturers from Hall-Mark Electronics. We want to serve you. Just call

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ALLIED ELECTRONICS

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Our Nationwide Order Entry System and Immediate Inventory Access Coupled With Instantaneous Electronic Order Processing Allow Us To Give You The Quickest Reaction Time

Majority of Orders Processed and Shipped the Very Same Day!

See Page 6 for Local Addresses and Telephone Numbers for Allied Facilities

Our National WATS, Wide Area Telephone Service, Places You In Contact With the Allied Facility Serving Your Area. And, It's Toll-Free, Too! Call NOW for the Very Best in Service and Handling.

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ALABAMA

Huntsville Area
HUNTSVILLE, AL 35807
4900 Bradford Drive
205/721-3500
205/830-2565 (FAX)

ARIZONA

Phoenix Area
PHOENIX, AZ 85040
4637 South 36th Place
602/437-9080
602/437-2348 (FAX)

CALIFORNIA

Chatsworth Area
CHATSWORTH, CA 91311
9420 Topanga Canyon Blvd.
818/882-6981
818/773-4555 (FAX)

Los Angeles Area
TORRANCE, CA 90505
4015 Pacific Coast Fwy., Suite 205
213/373-8828
213/373-4256 (FAX)

Orange County Area
IRVINE, CA 92718
1 Mauchly Court
714/727-3010
714/727-6066 (FAX)

Sacramento Area
ROCKLIN, CA 95677
580 Menlo Dr., Suite 2
916/632-3104
916/961-0922 (FAX)

San Diego Area
SAN DIEGO, CA 92123
3878 Ruffin Rd., Suite B
619/279-2550
619/268-0209 (FAX)

San Francisco Area
FREMONT, CA 94538
5035 Brandin Court
415/770-0590
415/770-0252 (FAX)

COLORADO

Denver Area
ENGLEWOOD, CO 80111
12503 E. Euclid Dr., Suite 20
303/790-1664
303/790-4991 (FAX)

CONNECTICUT

Cheshire Area
CHESHIRE, CT 06410
615 W. Johnson Ave., Bldg. 3
203/272-7730
203/272-1704 (FAX)

EXPORT SERVICES

FORT WORTH, TX 76102
401 E. 8th Street
817/336-5401
817/336-9168 (FAX)
75-8314 (Telex)

FLORIDA

Ft. Lauderdale Area
POMPANO BEACH, FL 33069
3161 Southwest 15th Street
305/978-3008
305/971-9339 (FAX)

Orlando Area
CASSELBERRY, FL 32707
489 E. Semoran Blvd., Suite 145
407/831-3331
407/767-5002 (FAX)

Tampa Area
LARGO, FL 34647
10491 72nd Street North
813/541-4660
813/544-4394 (FAX)

GEORGIA

Atlanta Area
NORCROSS, GA 30071
6410 Atlantic Blvd., Suite 115
404/446-8595
404/448-9654 (FAX)

ILLINOIS

Chicago Area
DES PLAINES, IL 60016
1300 Jefferson St., Suite 208
708/803-1040
708/803-6970 (FAX)

Wood Dale Area
WOOD DALE, IL 60191
210 Mittel Drive
708/860-0007
708/860-5315 (FAX)

INDIANA

Indianapolis Area
INDIANAPOLIS, IN 46268
4275 W. 96th Street
317/875-0448
317/876-7165 (FAX)

KANSAS

Kansas City Area
LENEXA, KS 66215
10809 Lakeview Avenue
913/599-6227
913/888-0523 (FAX)

KENTUCKY

Louisville Area
LOUISVILLE, KY 40218
1939 Goldsmith Ln., Suite 116
502/452-2293
502/451-1695 (FAX)

LOUISIANA

New Orleans Area
METAIRIE, LA 70002
3925 N. I-10 Service Rd. West,
Suite 205
504/885-1195
504/885-1808 (FAX)

MARYLAND

Baltimore Area
COLUMBIA, MD 21046
10240 Old Columbia Rd.
301/381-1560
301/381-2036 (FAX)

MASSACHUSETTS

Boston Area
BILLERICA, MA 01821
6 Cook Street
Pinehurst Park
508/667-7921
508/667-4129

MICHIGAN

Detroit Area
LIVONIA, MI 48150
38027 Schoolcraft
313/462-0190
313/462-1830 (FAX)

Grand Rapids Area
GRAND RAPIDS, MI 49512
4880 36th St. SE, Suite 202
616/949-8200
616/949-5377 (FAX)

MINNESOTA

Minneapolis Area
EDEN PRAIRIE, MN 55344
10300 Valley View Rd., Suite 101
612/829-7554
612/941-5778 (FAX)

MISSOURI

St. Louis Area
EARTH CITY, MO 63045
3783 Ridge Trail South
314/291-7031
314/291-0362 (FAX)

NEBRASKA

Omaha Area
OMAHA, NE 68154
399 N. 117 St., Suite 416
402/697-0038
402/697-0238 (FAX)

NEW HAMPSHIRE

Nashua Area
NASHUA, NH 03063
154 Broad Street, Suite 14
603/883-3006
603/883-2603 (FAX)

NEW JERSEY

Fairfield Area
PARSIPPANY, NJ 07054
200 Lanidex Center
201/428-3350
201/515-4475 (FAX)

Philadelphia Area
MT. LAUREL, NJ 08054
11000 Midlantic Dr., Suite 5
609/234-7769
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NEW YORK

Mineola Area
MINEOLA, NY 11501
328 Willis Avenue
516/248-2360
516/294-6029 (FAX)

Poughkeepsie Area
LAGRANGEVILLE, NY 12540
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914/452-1470
914/452-1448 (FAX)

Rochester Area
FAIRPORT, NY 14450
6605 Pittsford Palmyra Rd., Suite E-8
Blackwatch Office Park
716/425-3850
716/425-7195 (FAX)

NORTH CAROLINA

Raleigh Area
RALEIGH, NC 27604
5234 Greens Dairy Road
919/876-5845
919/878-8729 (FAX)

OHIO

Cleveland Area
SOLON, OH 44139
5821 Harper Road
216/248-4200
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Columbus Area
WORTHINGTON, OH 43085
400 E. Wilson Bridge Rd., Suite S
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614/888-0767 (FAX)

OKLAHOMA

Tulsa Area
TULSA, OK 74129
2326 S. Garnett Rd., Suite K
918/664-0844
918/664-9446 (FAX)

OREGON

Portland Area
PORTLAND, OR 97219
10505 SW Barbur Blvd., Suite 303
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Harrisburg Area
CAMPHILL, PA 17011
355 N. 21st St., Suite 300
717/975-3570
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Pittsburgh Area
PITTSBURGH, PA 15237
8150 Perry Hwy., Suite 303
412/367-4124
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TENNESSEE

Memphis Area
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5830 Mt. Moriah Rd., Suite 15
901/367-2895
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Austin Area
AUSTIN, TX 78721
1514 Ed Bluestein, Suite 104
512/389-3771
512/389-3775 (FAX)

Dallas Area
DALLAS, TX 75243
11420 Pagemill
214/553-4370
214/553-4055 (FAX)

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EL PASO, TX 79925
1140 Airway Blvd., Suite 114
915/779-6294
915/778-6212 (FAX)

Fort Worth Area
FT. WORTH, TX 76102
401 E. 8th Street
817/336-5401
817/336-9168 (FAX)

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HUMBLE, TX 77338
9802 FM 1960 Bypass, Suite 180
713/446-8005
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Virginia Beach Area
VIRGINIA BEACH, VA 23455
4525 E. Honeygrove Rd., Suite 201
804/363-8662
804/363-9703 (FAX)

WASHINGTON

Seattle Area
SEATTLE, WA 98107
250 NW 39th Street
206/547-2827
206/632-4814 (FAX)

WISCONSIN

Milwaukee Area
NEW BERLIN, WI 53151
16255 W. Lincoln Avenue
414/796-1280
414/797-9259 (FAX)

"Watch For New Openings"

Our Nationwide Toll-Free WATTS Number is: 1-800-433-5700

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

International Sales and Services (Export Orders)

Minimum export order is $50.00. Write **Allied Electronics International Marketing Dept. at 821 Jones Street, Fort Worth, Texas 76102 U.S.A. (Telex 75-8314, Telephone 817/336-5401)** for a complete quotation including handling, documentation and shipping.

Terms for payment on export orders are cash or irrevocable letter of credit. Credit terms are available to qualified customers—inquire when placing order. Cash orders in U.S. dollars will be accepted for immediate processing. Please include an extra 20% (10% on orders over $500.00) to cover handling, documentation and shipping charges. We promptly refund any excess of payment over actual charges.

We stock all items listed in this catalog. However, in some cases, certain items from our suppliers may require a leadtime of 60 to 90 days. To ensure faster delivery to you, a divisible letter of credit for two (2) shipments is recommended to allow the majority of your order to be shipped immediately. **All letters of credit must be valid for a minimum of one hundred-fifty (150) days.**

For total yearly procurement of U.S. electronic products, as on a contract basis, contact our International Marketing Group, at 821 Jones Street, Fort Worth, Texas 76102 U.S.A. (Telex 75-8314, Telephone 817/336-5401).

Other Services Available For You...

Allied Electronics Offers Basic Services Like *PACK AND HOLD, SHIP COMPLETE, DROP SHIP, QUOTATIONS* and *SCHEDULED DELIVERIES.* Please Contact Your Nearest Allied Facility at 1-800-433-5700 About the Value of These Services and How They Will Help You.

We Invite You To Open An Allied Electronics Credit Account Today!

Open Accounts

We extend credit to Government Agencies and well-rated Industrial and Institutional accounts. Firms without a published rating may apply to Allied for a line of credit by submitting a financial statement with bank and trade references to our Industrial Credit Dept. You'll find a Business Credit Application on the reverse side of the order blank in this Guide. Terms of payment are net, 30 days and 1½% carrying charge over 30 days.

Minimum Billing

Minimum Billing is **$25.00** for the total amount of any order. On Non-Catalog Items, the Minimum Billing is $25.00 per line.

C.O.D. Orders—See Cash, Next Page

APO and FPO Orders

APO and FPO shipments will be routed Parcel Post Insured, with maximum size 100 inches (length plus girth) and maximum weight 70 lbs. For faster delivery, specify Priority Mail (handling similar to First Class Mail). To estimate shipping charges contact your local Post Office.

Prices and Shipments

Prices shown are net, F.O.B. shipping point, and are subject to change without notice. Orders are filled at prices in effect at time of shipment. If prices are reduced, you receive the benefit and pay the lower price. We reserve the right to add any Federal, State or local tax, UNLESS your Tax Exemption Certificate is on file with Allied Electronics. States where UPS cannot deliver to a P.O. Box number, your order **MUST BE SENT VIA PARCEL POST or Priority (First Class Zone Rated) Mail.**

Future Ship/Pack & Hold

All orders for future scheduled deliveries must be confirmed in writing by Purchase Order with specific delivery information. Any changes in delivery schedules must be agreed upon by Allied and customer and confirmed in writing.

Large Quantity Quotations and Bids

If you need bids or quotations to place an order, or if you want larger quantities than are listed in our Guide, be sure to contact us. Prices and delivery information will be provided for you immediately. Please address requests for quotations to your nearest Allied Electronics facility.

If You Write To Us

Please include your purchase order number and our invoice number when writing to us on Open Account orders. If a cash order is returned, include your original order papers (these are returned to you after your order is shipped) with Stock Nos. and descriptions of items.

Limited Warranty

Allied is only acting as a distributor of products manufactured by other companies. Thus, Allied expressly limits its guarantees and warranties for products sold hereunder to those extended and allowed by the manufacturing company to be passed through to Allied's customers. There are no express or implied warranties which extend beyond the description on the face hereof. Allied disclaims and excludes from any sale of products herein any implied warranties of merchantability, or of fitness or suitability for any particular purpose or use. All goods sold by Allied are purchased by the buyer "AS IS." Since Allied cannot control the manner or use of its products after their sale, Allied will not be responsible for any direct, consequential or indirect damages to the purchase or any third party or ultimate user of the products. Allied will, at its option, either replace the goods sold or refund the purchase price should a product defect be brought to its attention within a reasonable time after sale.

Merchandise Return

If you want to return all or part of your purchase for any reason other than damage or shortage, call the Allied facility where you placed the order within 30 days after receiving your order for complete instructions and a return authorization number. Return authorization numbers are valid for 30 days only. Parts returned without prior authorization may be subject to a restocking charge, or may not be accepted. Product returned for credit is subject to inspection by Allied prior to any credit being issued. Merchandise should be returned in original containers.

Damaged Products—See Shipment Damage, Next Page

Shortages

All claims for shortage or shipment errors must be made **WITHIN 10 DAYS** after receipt of shipment.

Precious Metal Surcharge

Because of the extremely volatile nature of precious-metal pricing with rapid fluctuations in market conditions, a surcharge may be included in our price on certain electronic devices. The precious-metal surcharge is based on prices in effect at time of shipment. Products listed in this Guide which are subject to the surcharge include connectors, relays, switches, Integrated Circuits and Discrete Devices. Current pricing is always available at your nearest Allied facility listed above.

Non-Catalog Items

Merchandise not listed in our catalog, if available from our regular suppliers, may be subject to minimum order quantities and/or special handling charges. Shipment is made as quickly as deliveries are received from our source. Special order products are sold on a nonreturnable basis.

Cash Orders

Be sure to include all transportation and insurance charges. Allied will ship your order the best way possible (see chart for United Parcel Service charges). Minimum order $25.00 Any order less than $25.00 will have a $5.00 handling charge added to the total price. No Back Orders will be made on Cash Orders. Please re-order in 45 days.

C.O.D. Orders

The minimum C.O.D. order is $25.00. Payment must be by cash, money order or certified check to delivering carrier. An advance deposit of 40% of the total value is required with order. NO BACK ORDERS WILL BE MADE FOR ANY C.O.D. ORDER.

Sales Tax

Allied Electronics is required by law to collect Sales Taxes imposed by the state you live in. As rates vary from state to state, please remit the correct percentage for your locality. If you have a State Sales Tax Exemption Certificate, make sure a copy is on file with Allied if you purchase Open Account. For Cash or Credit Card orders, insert your Certificate number as provided on the Cash Order form.

Truck Shipments

Truck is the most economical way to ship items weighing approximately 50 pounds or more. Shipments weighing between 50 to 99 pounds will be charged at the minimum 100 pound rate as specified by truck carriers. Consult your local agent for truck rates.

Air Freight Shipments

We will ship your order Air Freight at your expense with your instructions. Contact your local Air Freight Carrier for Air Freight charges.

Shipment Damage

Merchandise we ship is carefully packed or prepackaged by our suppliers in compliance with carrier requirements. Claims for loss or damage in transit must be made with the carrier by the customer. All shipments should be unpacked and inspected immediately upon receipt.

Concealed Loss or Damage. If damage does not become apparent until shipment is unpacked, make a request for inspection by the carrier's agent and file claim with the carrier.

Visible Loss or Damage. Any external evidence of loss or damage must be noted on the freight bill or carrier's receipt and signed by the carrier's agent. Failure to do this will result in the carrier refusing to honor the claim. For your protection our billings include insurance for damage or loss in transit.

Merchandise Return

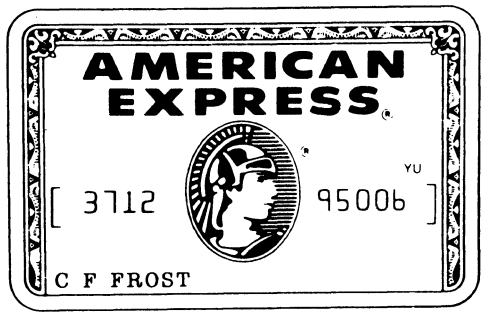
If you want to return all or part of your purchase for any reason other than damage or shortage, call the Allied facility where you placed the order within 30 days after receiving your order for complete instructions and a return authorization number. Return authorization numbers are valid for 30 days only. Parts returned without prior authorization may be subject to a restocking charge, or may not be accepted. Product returned for credit is subject to inspection by Allied prior to any credit being issued. Merchandise should be returned in original containers.

Method of Shipment

All terms are F.O.B. shipping point.

UPS shipping charges on next page are those in effect at the time of printing— they are subject to increase at any time.

Credit Cards



ORDER THE EASY WAY...Use Your American Express, Visa, or MasterCard When Ordering From Allied Electronics.

Allied Electronics will accept current (unexpired date) MasterCard, Visa, or American Express Credit cards. Be sure to sign your name, and Account Number on the Order Blank in the space provided. Unsigned or expired date requests will be returned.

United Parcel Service (UPS) Rate Charts—Effective February 12, 1990

GROUND SERVICE

Weight Not to Exceed	Zones 2	3	4	5	6	7	8
—	—	—	—	—	—	—	—
1 lb.	$1.63	$1.77	$ 1.93	$ 2.01	$ 2.09	$ 2.19	$ 2.28
2 lb.	1.64	1.78	2.16	2.28	2.46	2.62	2.81
3 lb.	1.72	1.93	2.34	2.53	2.77	3.03	3.28
4 lb.	1.81	2.08	2.53	2.72	3.04	3.35	3.69
5 lb.	1.90	2.17	2.62	2.85	3.23	3.61	4.01
6 lb.	1.99	2.21	2.68	2.93	3.33	3.77	4.23
7 lb.	2.07	2.23	2.73	3.01	3.47	3.97	4.47
8 lb.	2.16	2.27	2.81	3.21	3.74	4.29	4.87
9 lb.	2.27	2.38	2.96	3.39	4.00	4.61	5.27
10 lb.	2.35	2.49	3.09	3.56	4.23	4.93	5.64
11 lb.	2.45	2.60	3.23	3.78	4.48	5.27	6.08
12 lb.	2.56	2.74	3.40	3.99	4.79	5.62	6.50
13 lb.	2.63	2.86	3.58	4.21	5.08	5.99	6.93
14 lb.	2.67	2.99	3.77	4.42	5.36	6.33	7.36
15 lb.	2.74	3.11	3.93	4.65	5.64	6.70	7.79
16 lb.	2.81	3.24	4.10	4.88	5.94	7.05	8.22
17 lb.	2.86	3.37	4.27	5.09	6.22	7.40	8.65
18 lb.	2.95	3.49	4.44	5.31	6.50	7.76	9.07
19 lb.	3.06	3.64	4.62	5.52	6.80	8.12	9.50
20 lb.	3.18	3.77	4.79	5.75	7.08	8.46	9.93
21 lb.	3.30	3.90	4.97	5.98	7.36	8.83	10.36
22 lb.	3.40	4.03	5.14	6.19	7.65	9.18	10.79
23 lb.	3.50	4.15	5.31	6.41	7.94	9.53	11.21
24 lb.	3.60	4.28	5.48	6.63	8.23	9.89	11.65
25 lb.	3.70	4.40	5.65	6.85	8.50	10.25	12.07
26 lb.	3.80	4.53	5.83	7.08	8.80	10.59	12.50
27 lb.	3.89	4.68	6.01	7.29	9.08	10.96	12.94
28 lb.	3.99	4.80	6.18	7.51	9.37	11.31	13.35
29 lb.	4.08	4.94	6.35	7.74	9.66	11.67	13.80
30 lb.	4.18	5.07	6.54	7.98	9.98	12.06	14.27
31 lb.	4.27	5.23	6.75	8.24	10.30	12.44	14.74
32 lb.	4.35	5.39	6.94	8.50	10.63	12.84	15.21
33 lb.	4.44	5.52	7.15	8.75	10.95	13.23	15.68
34 lb.	4.52	5.67	7.33	8.96	11.25	13.61	16.15
35 lb.	4.62	5.79	7.49	9.19	11.54	14.01	16.59
36 lb.	4.70	5.93	7.67	9.42	11.83	14.35	17.04
37 lb.	4.79	6.07	7.85	9.64	12.12	14.73	17.47
38 lb.	4.88	6.19	8.02	9.87	12.42	15.08	17.91
39 lb.	4.96	6.32	8.21	10.08	12.71	15.44	18.34
40 lb.	5.05	6.44	8.37	10.31	12.99	15.18	18.77
41 lb.	5.13	6.59	8.54	10.53	13.28	16.17	19.21
42 lb.	5.22	6.72	8.73	10.76	13.57	16.52	19.64
43 lb.	5.30	6.84	8.90	10.98	13.87	16.89	20.08
44 lb.	5.39	6.99	9.08	11.20	14.16	17.24	20.51
45 lb.	5.47	7.11	9.25	11.42	14.44	17.60	20.95
46 lb.	5.57	7.24	9.43	11.66	14.74	17.97	21.38
47 lb.	5.66	7.38	9.61	11.87	15.03	18.33	21.82
48 lb.	5.74	7.50	9.78	12.10	15.32	18.69	22.25
49 lb.	5.83	7.64	9.96	12.31	15.61	19.06	22.68
50 lb.	5.91	7.77	10.12	12.54	15.90	19.40	23.12

No Intrastate Service over 50 Lbs.

51 lb.	5.95	7.81	10.17	12.60	15.97	19.50	23.24
52 lb.	5.98	7.84	10.22	12.66	16.04	19.59	23.34
53 lb.	6.01	7.87	10.28	12.72	16.12	19.68	23.44
54 lb.	6.04	7.90	10.32	12.78	16.19	19.78	23.55
55 lb.	6.07	7.93	10.36	12.84	16.26	19.89	23.66
56 lb.	6.11	7.96	10.41	12.89	16.33	19.98	23.77
57 lb.	6.14	8.00	10.45	12.94	16.40	20.07	23.88
58 lb.	6.17	8.03	10.49	13.00	16.47	20.16	23.98
59 lb.	6.20	8.07	10.54	13.05	16.55	20.25	24.09
60 lb.	6.23	8.10	10.58	13.11	16.61	20.35	24.21
61 lb.	6.27	8.13	10.63	13.17	16.70	20.44	24.31
62 lb.	6.30	8.17	10.69	13.23	16.77	20.53	24.41
63 lb.	6.33	8.20	10.73	13.28	16.84	20.62	24.53
64 lb.	6.36	8.24	10.77	13.33	16.91	20.73	24.63
65 lb.	6.39	8.27	10.82	13.39	16.99	20.82	24.73
66 lb.	6.43	8.30	10.86	13.45	17.06	20.91	24.85
67 lb.	6.46	8.33	10.90	13.51	17.13	21.01	24.96
68 lb.	6.49	8.36	10.95	13.56	17.20	21.10	25.06
69 lb.	6.52	8.39	10.99	13.64	17.27	21.20	25.17
70 lb.	6.55	8.42	11.03	13.69	17.33	21.29	25.28

UPS 2ND DAY AIR

Weight Not to Exceed	Zones* 12† A	14‡ B
—	—	—
1 lb.	$ 4.00	$ 6.50
2 lb.	5.00	8.00
3 lb.	5.50	9.00
4 lb.	6.00	10.50
5 lb.	7.00	11.50
6 lb.	8.00	12.50
7 lb.	9.00	13.50
8 lb.	10.00	15.00
9 lb.	11.00	16.00
10 lb.	12.00	17.00
11 lb.	13.00	18.00
12 lb.	14.00	19.00
13 lb.	15.00	20.00
14 lb.	16.00	21.00
15 lb.	17.00	22.50
16 lb.	18.00	23.50
17 lb.	19.00	24.50
18 lb.	20.00	25.50
19 lb.	20.50	27.00
20 lb.	21.50	28.00
21 lb.	22.50	29.50
22 lb.	23.50	30.50
23 lb.	24.50	31.50
24 lb.	25.50	32.50
25 lb.	26.50	33.50
26 lb.	27.50	34.75
27 lb.	28.50	35.75
28 lb.	29.50	36.75
29 lb.	30.50	37.75
30 lb.	31.50	38.75
31 lb.	32.50	39.75
32 lb.	33.50	40.75
33 lb.	34.75	42.00
34 lb.	35.75	43.00
35 lb.	36.75	44.00
36 lb.	37.25	45.00
37 lb.	38.25	46.00
38 lb.	39.25	46.50
39 lb.	40.25	47.00
40 lb.	41.25	47.50
41 lb.	42.25	48.00
42 lb.	43.25	48.50
43 lb.	44.25	49.00
44 lb.	45.25	49.50
45 lb.	46.25	50.50
46 lb.	47.25	51.50
47 lb.	48.25	52.50
48 lb.	49.25	53.50
49 lb.	50.25	54.50
50 lb.	51.50	55.50
51 lb.	51.50	56.50
52 lb.	52.00	57.00
53 lb.	52.00	57.50
54 lb.	52.50	58.00
55 lb.	52.50	58.50
56 lb.	53.00	59.00
57 lb.	53.00	59.50
58 lb.	53.50	60.00
59 lb.	53.50	60.50
60 lb.	54.00	61.00
61 lb.	54.00	61.50
62 lb.	54.50	61.50
63 lb.	54.50	62.00
64 lb.	54.50	62.00
65 lb.	55.00	62.50
66 lb.	55.00	62.50
67 lb.	55.50	63.00
68 lb.	55.50	63.00
69 lb.	56.00	63.50
70 lb.	56.00	63.50

UPS NEXT DAY AIR

Weight Not to Exceed	Zones* 22† C	24‡ D
Letter	$ 9.00	$ 9.00
1 lb.	12.00	13.50
2 lb.	13.00	15.25
3 lb.	14.25	16.25
4 lb.	15.25	18.00
5 lb.	16.50	19.00
6 lb.	17.75	20.00
7 lb.	19.00	21.50
8 lb.	20.00	22.50
9 lb.	21.00	24.25
10 lb.	22.00	25.25
11 lb.	23.00	26.25
12 lb.	24.25	27.25
13 lb.	25.50	28.50
14 lb.	26.75	30.00
15 lb.	27.75	31.50
16 lb.	28.75	32.50
17 lb.	29.75	33.50
18 lb.	31.00	34.75
19 lb.	32.25	35.75
20 lb.	33.50	37.25
21 lb.	34.75	38.25
22 lb.	35.75	39.50
23 lb.	36.75	40.50
24 lb.	37.75	41.50
25 lb.	39.00	42.50
26 lb.	40.25	44.00
27 lb.	41.50	45.25
28 lb.	42.75	46.25
29 lb.	43.75	47.25
30 lb.	44.75	48.25
31 lb.	45.75	49.50
32 lb.	47.00	51.00
33 lb.	48.25	52.00
34 lb.	49.50	53.00
35 lb.	50.50	54.00
36 lb.	51.50	55.00
37 lb.	52.50	56.25
38 lb.	53.75	57.25
39 lb.	55.00	58.75
40 lb.	56.25	59.75
41 lb.	57.25	61.00
42 lb.	58.25	62.00
43 lb.	59.25	63.00
44 lb.	60.50	64.25
45 lb.	61.75	65.50
46 lb.	63.00	66.75
47 lb.	64.00	67.75
48 lb.	65.00	68.75
49 lb.	66.00	69.75
50 lb.	67.00	71.00
51 lb.	67.50	71.50
52 lb.	67.50	71.50
53 lb.	68.00	72.00
54 lb.	68.50	72.50
55 lb.	68.50	72.50
56 lb.	69.00	73.00
57 lb.	69.00	73.00
58 lb.	69.50	73.50
59 lb.	69.50	73.50
60 lb.	70.00	74.00
61 lb.	70.00	74.00
62 lb.	70.50	74.50
63 lb.	70.50	74.50
64 lb.	71.00	75.00
65 lb.	71.50	75.50
66 lb.	71.50	75.50
67 lb.	72.00	76.00
68 lb.	72.00	76.00
69 lb.	72.50	76.50
70 lb.	72.50	76.50

Any Fraction of a pound over the weight shown takes the next higher rate. †48 States. ‡Hawaii. *Delivery to Hawaii requires one additional day except for shipments from portions of California, Nevada, Washington and Oregon.

Next Day Air Letter $9.00

When recording a UPS Next Day Air Letter in the UPS Pickup Record Book, use the appropriate zone as shown above, and show "LTR" in the AIR LBS column.

Additional Charges

For each COD received for collection: $3.30. **For each Address Correction:** $2.75. **For each Acknowledgment of Delivery (AOD):** .45 cents. **For each Interstate Call Tag received:** $1.35 (95 cents if submitted in electronic transmission format). **For each package with a declared value over $100:** 25 cents for each additional $100 or fraction thereof. **Weekly service charge:** $4.50.

Weight and Size Limits

Maximum Weight Per Package
70 pounds Next Day Air, 70 pounds 2nd Day Air, 70 pounds Ground Interstate, 50 pounds Ground Intrastate.

Maximum Size Per Package
Ground Service: Out of State—130 inches in length and girth combined, with a maximum length of 108 inches; In State—108 inches in length and girth combined. **Air Service:** 130 inches in length and girth combined, with a maximum length of 108 inches. Minimum charge for a package measuring over 84 inches in length and girth combined will be equal to the charge for a package weighing 25 pounds.

Air Restrictions

The maximum value for an air service package is $25,000 and the maximum carrier liability is $25,000. No Call Tag service provided in Air Service. **Hazardous materials are prohibited in Air Service.**

Note: Some Air Shipments may be shipped by Surface Transportation.

Insurance on Freight or Air Shipments

We also insure for your protection, all freight or air shipments. Allow an additional 10% of shipping charges for insurance.

We Will Ship Your Order UPS Next Day Air or 2nd Day Air upon Your Request, or By Any Other Shipment Method You Request. Please Specify When Ordering.

Insurance On Parcel Post And United Parcel Shipments

To protect you, we insure all shipments. Allow for insurance charges at the following rates:

If Shipping Charges Are	Add for Insurance
.01 to .50	.40
.51 to 1.00	.50
1.01 to 2.50	.70
2.51 to 5.00	.90
5.01 and Up	1.10

Allied Precision Tools
Choice of nine types and sizes of high quality, low cost precision ground cutting tools, with high resistant orange elastic PVC resin handles anatomically shaped to offer a safe and comfortable grip. Also available a high quality industrial crimp tool. This crimp tool is full cycle, compound leverage ratcheted to give exact precision to every crimp connection. Frames are made of high-grade steel. All dies are dual nest precision stamped to deliver the proper crimp specifications for oval barrel crimp and insulation support to AWG requirements. This series is designed for plant maintenance, field service, hobbyist, prototype shops and small production runs.

AVX Capacitors
An excellent line of capacitors in conformly coated ceramic (both axial and radial leads), ceramic dual-inline leads, military ceramic CKR series, tantalum in both leaded and surface mount, surface mount chips, wide offering in voltage, tolerances, temperature coefficient, sizes, and lead arrangement or spacing.

Bondhus
The largest manufacturer of ballpoint hex tools. Patented ball design allows for thicker neck diameter, increasing torque capacity up to 100% while maintaining operational angles to 25 degrees. Also featuring "WIHA" precision fastening tools, heat treated, nickel/chrome plated to protect against rust and corrosion with plastic handles molded directly to the blade. Slotted, phillips, torx and hex drivers.

Carlo Gavazzi (Soar)
Test equipment manufacturer providing high quality with modest cost. Line includes handheld and bench type DMM in both 3½ and 4½ digit displays, digital clamp meters, analog multimeters, insulation testers, frequency counters, digital thermometers, and accessories for their units. Warranty for most of the products is one year with certain models having a 3 year warranty.

Collmer Semiconductor
Collmer Semiconductor was founded 10 years ago to serve the needs of the high voltage industry. As well as the manufacturer of high voltage assemblies, Collmer is also the North American agent for semiconductors manufactured by Fuji Electric Company, LTD. This brings a broad line of available products to Allied Electronics including MOSFET power transistors, super high speed switching transistors, diode and bridge modules, as well as a complete stock of standard and fast recover diodes, Schottky rectifiers, bridge rectifiers and high voltage silicon rectifiers.

Dupont Electronics
Dupont's "Berg" family of connectors include PC board, flat cable and wire-to-PC board types. Featured are the dual-metal 0.025 inch PV female receptacles. Over 400 of the best callout items are offered from stock by Allied.

General Instruments
General Instruments is one of the leading producers of discrete semiconductor devices. They include low and medium power rectifiers from standard thru ultrafast recovery, bridge assemblies and transient voltage suppressors. General Instruments offers a wide selection of rectifier package types and junction structures including plastic encapsulated, glass passivated, superrectifier, and super surface mounted. The GI logo printed on every General Instruments device ensures that it reaches the highest level of quality and reliability.

GE/RCA
GE MOV varistors represent the state-of-the-art in metal oxide technology; offering high energy capability and excellent clamping characteristics. These devices are voltage dependent, symmetrical metal-oxide semiconductor devices. Their characteristics enable them to protect against high transient voltage spikes to meet anticipated loads. GE MOV's are available in voltage ratings of from 5.5V to 3500V, and in energy ratings of from 0.1 joules to 10,000 joules. They are available from Allied Electronics in the MA Series—Axial Leaded, LA Series—Radial Leaded, and the ZA Series—Radial Leaded.

Hameg
Test equipment manufacturer supplying oscilloscopes and HM8000 Modular System. The HM8000 system offers a variety of test benches composed of individual instruments that are ergonomically compatible with one another. The instruments fit into the HM8001 mainframe and are powered either by the mainframe itself or from an additional module. Oscilloscopes are offered from 10 MHz to 100 MHz.

Ideal Industries
A broad line manufacturer of electronic and electrical hand tools, power tools and accessories. Ideal has high quality wire and cable pulling equipment, wrenches, wire strippers, commutator maintenance products, wire connectors, and much more.

ITT Power
ITT Power has UPS and power conditioners ranging from 400 VA to 50 KVA in power but at a smaller package size. They have an attractive finish suitable for use within an office environment. These units are designed to meet the needs of small to medium business computer systems, private telephone systems, and local area networks among many other applications.

Kings Electronics
Kings is well known for their coaxial cable connectors. Their families of SMA, SHV, BNC, and Triaxial are the products new to this catalog.

Leecraft
Leecraft offers an excellent line of lamp holders for use with screw base, wedge base, and bayonet type lamps. They also offer indicator lamps designed for panel mounting using neon or incandescent light source.

Paladin
A comprehensive spectrum of modular telephone hardware designed to make the connection between telephone equipment and outside lines easier. All products are manufactured under the license of AT&T in full compliance with FCC requirements, and are 100% tested for uniform reliable high quality.

Serpac/Serco
A wide variety of packaging products that provide functional utility and professional, high quality appearance. Choose from a variety of styles, sizes, and colors. 9 volt and AA battery compartments available in some styles. Card guides for vertical circuit boards, bossing for horizontal circuit boards, protective non-skid elastomer feet; and a perimeter seal kit which provides an effective barrier from an aqueous environment when used in conjunction with their standard enclosures.

S.L. Waber
S.L. Waber offers a wide variety of multiple outlet power strips for use in both office and industrial applications. Many contain a master switch with pilot light and circuit breaker for protection. Most are UL approved. Waber also has a line of surge and noise suppressor outlets and electronic power centers for use with computer and peripheral devices.

Thomas and Betts (T&B) Electrical Division
New items in this catalog are solderless terminals and wire ties in both small packages and bulk. Bulk packages offer a substantial savings over small packages. In both lines, quality materials and exacting manufacture combine to offer high quality products.

WECO
WECO's product line features the European-style of PC board "dead front" terminal boards and blocks. This line contains over 10,000 items—predominantly in the terminal strip/terminal board product family. Products are internationally rated as well as UL recognized and CSA certified.

Xicor
Since its founding, Xicor has developed and placed into production a wide range of system-alterable non-volatile memory devices. These devices, manufactured with Xicor's proprietary state-of-the-art textured triple-poly floating gate process, are available in a variety of architectures, interfaces, densities, and speeds. Xicor's beginning in 1978 has lead to an industry leader in electronic erasable programmable read only memories and non-volatile random access memories. Allied Electronics has a large selection of Xicor EEPROMs in 4K, 16K, 64K, and 256K commercial, plastic DIP devices. Also nibble-wide and byte-wide NOVRAMs as well as serial I/Os and potentiometers.

Allied Electronics Order Blank
For Cash, Credit Card or C.O.D. Orders

Send Your Order to: Allied Electronics, 401 East 8th Street, Fort Worth, Texas 76102

No Back Orders Will Be Created On These Type Orders

Please *Print* Name, Address, and Phone Number

Date _____ 19___

Name _____ Phone _____
First Middle Initial Last

Street Address _____ Route _____ Box _____

City _____ State_____ Zip Code [ ][ ][ ][ ][ ] – [ ][ ][ ][ ]

Ship to Another Address? Give directions here:

Name _____
First Middle Initial Last

Shipping Address _____ Route _____ Box _____

City _____ State_____ Zip Code [ ][ ][ ][ ][ ] – [ ][ ][ ][ ]

Depend on Allied to ship your order the best way. Certain heavy items must be shipped Truck. Use the line below for special instructions.

If You Have Moved Since Your Last Order

Print your old address here

Street Address _____

Post Office _____

State_____ Zip Code [ ][ ][ ][ ][ ] – [ ][ ][ ][ ]

Please do not write in this space.

Do Not Write Here	Page No. of Item	Stock No.	Quantity: Foot, Set, Pair, Roll, Pkg. Etc.	Mfr.'s Type	Description	Quantity Shipped	Price Each Foot, Set, Pair, Roll, Pkg. Etc.		Total Price Put Here and Add This Column		Shipping Weight LBS.	Shipping Weight OZ.

MasterCard VISA AMERICAN EXPRESS

Note:
Order the Easy Way... Use Your American Express, VISA or MasterCard Today. Please Remember to Sign Your Name on This Order Form. Thank You.

I.C.A. Number ___ ___ ___ ___
(MasterCard Only—4 Numbers Above Name)

Account Number

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Expiration Date _____

Name (Signature) _____

Enter Amount Enclosed

Note: If you send currency, be sure to register letter. (No stamps please.)

☐ Cash Order $_____

☐ C.O.D. (Minimum $25.00) $_____

☐ Credit Card Order (Be Sure to Sign)

900

			Total LBS.	Total OZS.
Amount for Goods				
Sales Tax or Exempt No. _____				
Handling Charge Strike out if order is $25.00 or More	5	00		
Shipping Charges				
Insurance				
Due Allied From Previous Cash Order			**Please Remit for next Full Pound**	
Total Amount				

Allied Electronics Business Credit Application

$25.00 Minimum Order Required to Open New Accounts

Duns No. _____ Fed. I.D. No. _____ Bus. Lic. No. _____

Business Name _____ Business Phone No. _____

P.O. Box or Street _____ City _____ State _____ Zip _____

☐ Branch ☐ Corporation ☐ Partnership

☐ Division ☐ Proprietorship

☐ Subsidiary of _____

Location _____

Line of Business _____

Other Trade Names _____

☐ Manufacturer ☐ Wholesaler ☐ Retailer

Number of Employees _____ Net Worth _____

Estimated Annual Sales _____

Date Established _____ Former Location _____

Owners or Officers

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

Bank Reference

Account Number _____

Name _____ Phone No. _____

P.O. Box or Street _____ City _____ State _____ Zip _____

Trade References

1. Name _____ Phone No. _____

P.O. Box or Street _____ City _____ State _____ Zip _____

2. Name _____ Phone No. _____

P.O. Box or Street _____ City _____ State _____ Zip _____

3. Name _____ Phone No. _____

P.O. Box or Street _____ City _____ State _____ Zip _____

4. Name _____ Phone No. _____

P.O. Box or Street _____ City _____ State _____ Zip _____

Estimated Monthly Requirements

Amount _____

Individuals to Contact Regarding Payment

Name _____

Name _____

Individuals Who Must Approve Orders

Name _____

Name _____

Name _____

Name _____

Special Billing Instructions

☐ Tax exempt (attach tax exemption certificate).

☐ Ship complete only (payment made on shipment and billing of complete order only).

☐ Partial shipments allowable (payment made on partial shipment and billing of order).

☐ Summary billing required at end of each month.

☐ Do not bill on special voucher.

☐ Bill on special voucher (furnish copies).

☐ Send original and ____ copies of each invoice at time of billing.

Credit Contract

It is agreed that if a line of credit is extended to our organization, payments will be tendered in accordance with Allied Electronics, Inc. selling terms of Net 30 days. Each invoice is subject to a Finance Charge at the current percent rate according to State regulations if not paid within 30 days. Please include copy of Resale/Exempt Certificate with Application. If Applicable.

Signed _____ Title _____ Date _____

Accounts Extended to Businesses Only

AULT INCORPORATED

DURACELL

EAGLE PICHER

EVEREADY

KEYSTONE

Kodak

Panasonic

POWERSONIC

Radio Shack

RAYOVAC

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2

Wallmount Battery Chargers

Advantages

Automatic Dual Voltage (cylical) Models:

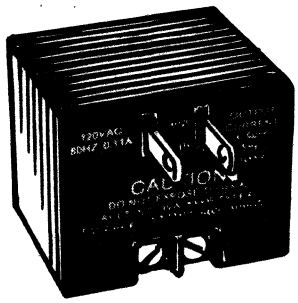
- ► Rapidly recharge batteries without danger of overcharge
- ► For use when batteries are repeatedly being discharged and recharged
- ► Charger is not connected to battery during discharge allowing for remote product use
- ► Typically used for portable instrumentation

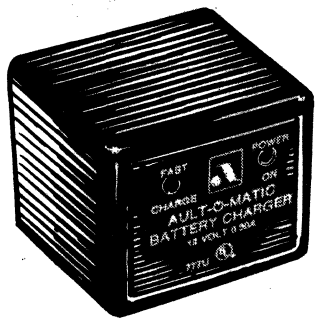
Fixed Voltage (Float) Models:

- ► Provide optimum battery life in standby applications
- ► Maintain fully charged battery at a constant voltage
- ► Used typically in the event of power failure or when charger is always connected to battery during discharge
- ► Some models can be used as a power supply and charger at the same time

Features

- ► Lightweight wall plug-in and desk top styles
- ► Available in automatic dual voltage and fixed voltage models
- ► Available for 6, 12 and 24 volt Gel Cell and Sealed Lead Acid Batteries
- ► Built to UL and CSA standards
- ► Many are designed for medical use—UL 544 Recognized
- ► Thermal overload protected
- ► Available with input and/or output cord(s) and connector
- ► Available with 220 V/50 Hz input for European use
- ► One year warranty



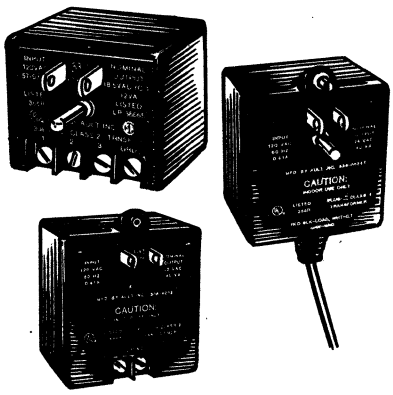


Designed for use with Gel Cell and Sealed Lead Acid Batteries, these Battery Chargers operate as either Automatic Dual Voltage or Fixed Voltage Chargers. Dual voltage chargers are used where the batteries are constantly being discharged and recharged. Fixed voltage chargers are used in battery standby applications.

Stock No.	Mfr.'s Type	Battery Voltage	Battery Type	Battery Capacity	Dual Voltage	Fixed Voltage	Case No.	Input Connection	Output Connection	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
298-4000	5VA-06060-00	6	Gel Cell	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	70.52	61.71	48.48	39.10
298-4005	5VA-06060-07	6	Lead Acid	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	70.52	61.71	48.48	39.10
298-4010	5VF-06060-00	6	All	2-10 AH		X	PS5	Wall Plug In	Screw Terminals	49.72	43.51	34.18	25.10
298-0150	5VA-12050-00	12	Gel Cell	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	70.52	61.71	48.48	39.10
298-4015	5VA-12050-07	12	Lead Acid	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	70.52	61.71	48.48	39.10
298-0140	5VF-12050-00	12	All	2-10 AH		X	PS5	Wall Plug In	Screw Terminals	49.72	43.51	34.18	25.10
298-4020	7VA-12125-00	12*	Gel Cell	10-20 AH	X		7	Wall Plug In	Screw Terminals	126.00	110.25	86.63	57.75
298-4025	7VA-12125-07	12*	Lead Acid	10-20 AH	X		7	Wall Plug In	Screw Terminals	126.00	110.25	86.63	57.75

*Not UL Listed

Wallmount Transformers



External AC to AC transformers are used in a multitude of applications, including:

- ► Modems
- ► Medical Products (UL 544)
- ► Telecommunications Products
- ► Security Systems
- ► LED Displays
- ► Home Computers
- ► Data Communications Products
- ► Microprocessors
- ► Battery Power Systems
- ► Low Voltage Lights
- ► Power Tools

Case Dimensions—Inches (mm)

Size No.	Width (W)	Length (L)	Height (H)
3	2.20 (55.9)	1.88 (47.8)	1.96 (49.8)
TR5	2.72 (69.0)	2.95 (74.9)	1.88 (47.8)
7	2.67 (67.8)	4.72 (119.9)	2.22 (56.4)
PS5	2.72 (69.0)	2.95 (74.9)	1.83 (46.4)

Ault's line of wall plug-in transformers are UL and CSA approved. Use of an external transformer reduces weight and size of the system being powered. Eliminate hazardous voltages at the product being powered thereby minimizing agency approval costs. Used in Data Communications, Telecommunications, Microprocessor Based Systems, Medical Applications and Security Systems among many other uses.

Stock No.	Mfr.'s Type	Special Features	Output VA	Output AC Voltage	Case No.	Output Connection	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
298-0185	308-1107-000		10.0	7.0	3	Screw Terminals	19.20	16.80	13.20	11.90
298-3000	338-1107-000		10.0	7.0	3	7' Cord, Unterminated	19.20	16.80	13.20	11.90
298-3005	308-1051-000		16.0	10.0	3	Screw Terminals	23.20	20.30	15.95	12.80
298-3010	338-1112-000		10.0	12.0	3	7' Cord, Unterminated	28.88	25.27	19.86	17.10
298-0115	308-2012-000		20.0	12.0	3	Screw Terminals	15.80	13.83	10.86	9.10
298-0130	306-4012-000		40.0	12.0	TR5	Screw Terminals	23.80	20.83	16.34	14.10
298-0125	308-2014-000E		20.0	14.0	3	Screw Terminals	15.80	13.83	10.86	9.10
298-0210	306-4014-000E		40.0	14.0	TR5	Screw Terminals	23.80	20.83	16.34	14.10
298-0200	308-2016-000E		20.0	16.0	3	Screw Terminals	15.80	13.83	10.86	9.10
298-3015	306-4016-000E		40.0	16.0	TR5	Screw Terminals	23.80	20.83	16.34	14.10
298-3020	308-1065-010	1,2,T*	18.5	12.0	3	Screw Terminals	27.80	24.33	19.11	17.00
298-3025	338-1065-010	1,2,T*	18.5	12.0	3	7' Cord, T	36.16	31.64	24.86	20.10
298-0205	308-2018-000E		20.0	18.0	3	Screw Terminals	15.80	13.83	10.86	9.10
298-0215	306-4018-000E		40.0	18.0	TR5	Screw Terminals	23.80	20.83	16.34	14.10
298-0220	308-1020-010	1,2,T*	9.6	24.0	3	Screw Terminals	30.04	26.29	20.65	16.60
298-0100	308-1124-000E		10.0	24.0	3	Screw Terminals	19.20	16.80	13.20	11.90
298-0125	308-2024-000E		20.0	24.0	3	Screw Terminals	15.80	13.83	10.86	9.10
298-0135	306-4024-000E		40.0	24.0	TR5	Screw Terminals	23.80	20.83	16.34	14.10

*Special Features: 1 - Ground; 2 - Resettable Fuse; T - Center Tap

Duracell Long-Life Alkaline Batteries

Extra service and long life. Designed for high drain service applications — outperform, outlast standard operating zinc-carbon batteries by up to 100%. Alkaline cells cost less, too. Compare by dividing the initial costs by the many extra hours of service provided.

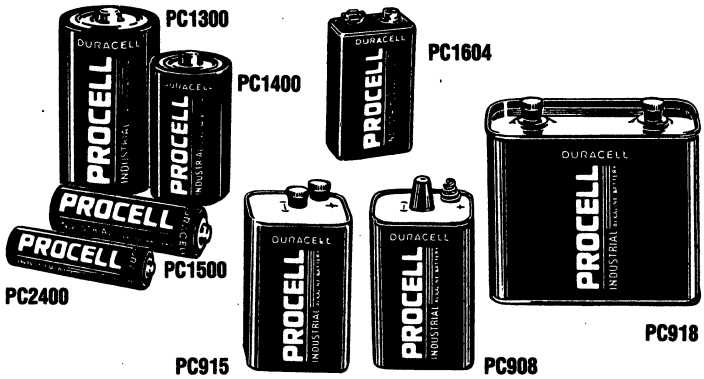
Stock No.	Mfr.'s Type	Size	Volts	MAH	NEDA	EACH
737-0100	MN1300	D	1.5	14,000	13A	1.96
737-0110	MN1400	C	1.5	7,000	14A	1.96
737-0120	MN1500	AA	1.5	2,100	15A	1.36
737-0130	MN1604	Rect.	9.0	550	1604A	3.90
737-0140	MN2400	AAA	1.5	1,000	24A	1.36
737-0150	MN9100	N	1.5	700	91A	1.38
737-0908	MN908*	SQ	6.0	20,000	908A	11.12
737-0918	MN918†	Rect.	6.0	40,000	918A	23.70

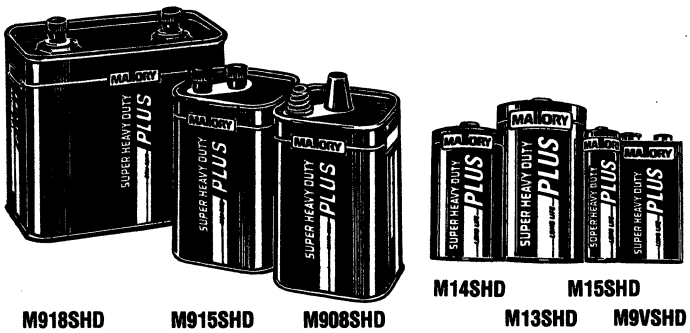
*Spring Terminal. †Screw Terminal.

Procell® Industrial Alkaline Batteries

- Long shelf life with sustained power
- Lasts up to five times longer than regular zinc carbon batteries
- Low battery replacement cost. . .low use cost
- Distinctive industrial label reduced pilferage
- Operate reliably in temperature extremes of –20°F to 160°F
- All Procell Lantern Batteries sealed in steel cases for durability

Stock No.	Mfr.'s Type	Size	Volts	MAH	EACH
737-0500	PC1300	D	1.5	14,000	1.60
737-0510	PC1400	C	1.5	7,000	1.60
737-0520	PC1500	AA	1.5	2,100	1.08
737-0530	PC1604	Rect.	9.0	550	3.16
737-0540	PC2400	AAA	1.5	1,000	1.08
737-0550	PC908	Sq.	6.0	20,000	8.96
737-0560	PC915	Sq.	6.0	20,000	8.98
737-0570	PC918	Rect.	6.0	40,000	18.96
737-0580	PC926	Rect.	12.0	20,000	18.96
737-0590	PC903	Rect.	7.5	40,000	35.20





Super Heavy-Duty Plus® Batteries

The service capacity of a Heavy Duty battery is not a fixed number of ampere-hours because the battery functions at different efficiencies depending upon the conditions imposed upon it. The service varies with current drain, operating schedule, and cutoff voltage. It is also affected by the operating temperature and storage conditions of the battery prior to use.

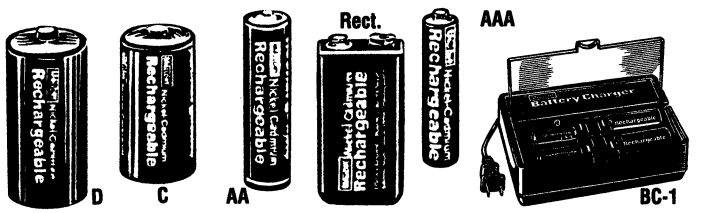
Stock No.	Mfr.'s Type	Size	Terminals	Volts	AH	NEDA	EACH
737-0600	M13SHD	D	—	1.5	†	13D	.72
737-0605	M14SHD	C	—	1.5	†	14D	.72
737-0610	M15SHD	AA	—	1.5	†	15D	.52
737-0615	M9VSHD	Rect.	—	9.0	†	1604D	1.62
737-0660	M908SHD	SQ	Spring	6.0	20	—	4.30
737-0665	M915SHD	SQ	Screw	6.0	20	—	4.70
737-0650	M918SHD	SQ	Screw	6.0	40	—	11.30

†AH will vary according to application.

Nickel-Cadmium Batteries

Stock No.	Mfr.'s Type	Size	Volts	Terminals	NEDA	EACH
737-0700	NC13	D	1.20	1000	10013	6.14
737-0705	NC14	C	1.20	1000	10014	6.14
737-0710	NC15	AA	1.20	500	10015	4.94
737-0715	NC1604	Rect.	7.20	80	11604	12.24
737-0720	NC24	AAA	1.25	225	10024	4.94
737-0790	BC1	†	—	—	†	24.40

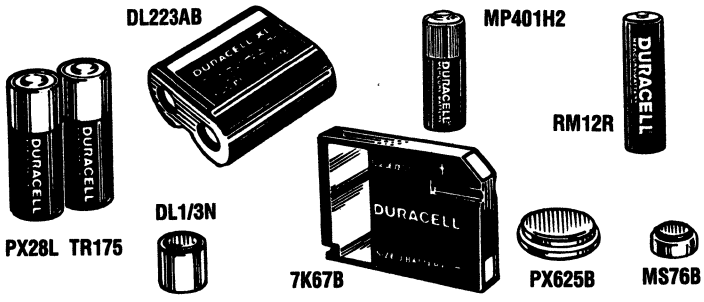
†6.875″ × 4.875″ × 2″ for D, C, AA & 9 V Nickel-Cadmium Batteries Only.



Lithium and Special Applications Batteries

Lithium Batteries

Stock No.	Mfr.'s Type	Size	Volts	MAH	NEDA	EACH
737-0400	PX28L	.512 × .990	6.0	160	5005L	7.78
737-0405	DL223AB	1.368 × .760 × 1.409	6.0	—	—	14.90
737-0407	DL123AB	.665 × 1.338	3.0	—	—	8.10
737-0409	DL245B	.054 × .069 × .025	6.0	—	—	14.90
737-0410	DL1/3N	.457 × .425	3.0	160	500BL	4.38
737-0420	DL1620B	.630 × .079	3.0	60	5009L	1.60
737-0430	DL2016B	.787 × .063	3.0	75	5000LC	1.60
737-0440	DL2025B	.787 × .098	3.0	140	5003LC	1.60
737-0450	DL2032B	.787 × .126	3.0	190	5004LC	1.60
737-0460	DL2420B	.965 × .079	3.0	120	5010L	1.60
737-0470	DL2430B	.965 × .118	3.0	250	5011L	1.60



Special Applications Batteries

Stock No.	Mfr.'s Type	Volts	MAH	Size Dia. × Ht.	System	Primary Usage	NEDA	EACH
737-1005	7K67B	6.00	550	†	Alkaline	Photo/Remote	1412AP	4.00
737-1010	RM12R	1.35	3800	.625 × 1.965	Mercury	Inst./Pager	1113M	8.00
737-1020	MP401H2	1.40	750	Size N	Mercury	Pager/Calculator	910M	4.72
737-1025	TR146X	8.40	575	9V Rect.	Mercury	Medical/Calc.	1604M	6.80
737-1030	TR175	7.00	235	.500 × 1.031	Mercury	Medical/Calc.	1501M	5.90
737-1040	PX625B	1.35	250	.615 × .238	Mercury	Photo	1124MP	2.32
737-1045	MS76B	1.50	180	.455 × .210	Silver Oxide	Photo	1107SO	3.26
737-1050	MS76H6	1.50	180	.455 × .210	Silver Oxide	Photo/Calculator	1184SO	14.16

†1.4906 × .355W × 1.900H.

Special Applications Batteries

Stock No.	Mfr.'s Type	Volts	MAH	Size Dia. × Ht.	System	Primary Usage	NEDA	EACH
737-1055	D303/357B	1.50	180	.455 × .210	Silver Oxide	Hearing Aids	1131SO	1.50
737-1060	D301/386B	1.50	120	.455 × .165	Silver Oxide	Watch/Calculator	1133SO	1.30
737-1065	D389/390B	1.50	70	.455 × .110	Silver Oxide	Watch/Calculator	1138SO	.90
737-1070	D384/392B	1.50	38	.305 × .143	Silver Oxide	Watch/Calculator	1135SO	.80
737-1075	D309/393B	1.50	70	.305 × .210	Silver Oxide	Watch/Calculator	1137SO	1.00
737-1080	D364B	1.50	15	.267 × .084	—	—	—	.80
737-1085	D381/391B	1.50	40	.455 × .081	—	—	—	1.00
—	—	—	—	—	—	—	—	—

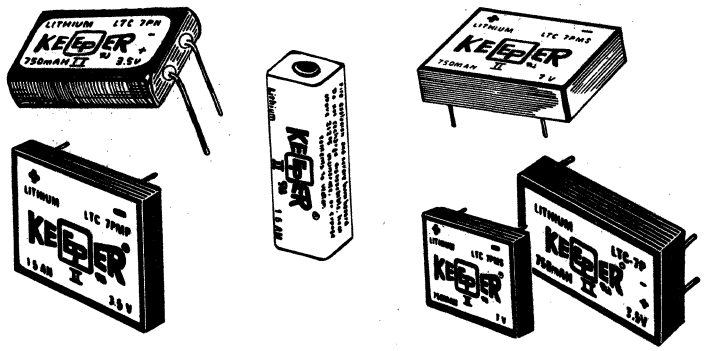
†1.4906 × .355W × 1.900H.

2

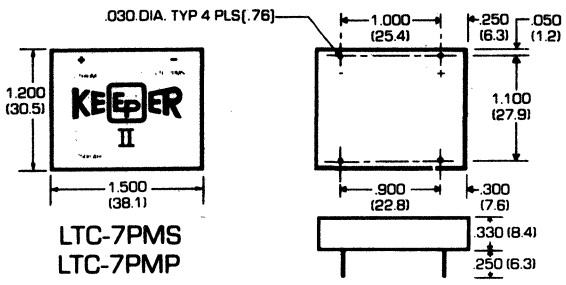
Lithium Batteries

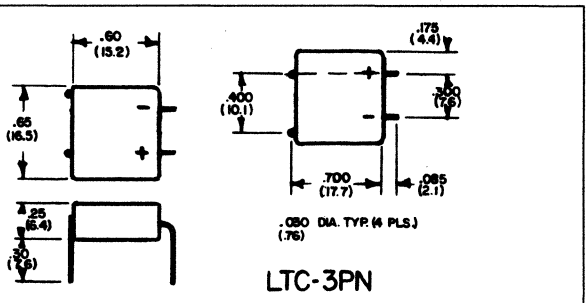
The Keeper® Series — Power On Demand

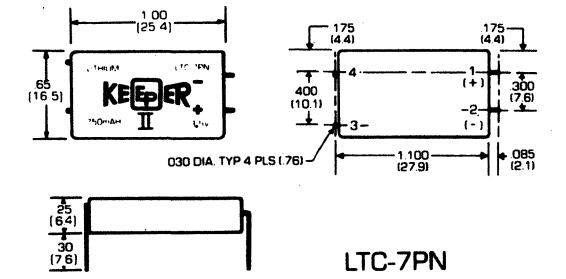
Power characteristics allows Keeper® batteries to be permanently mounted as long-lasting primary cells for improved total system reliability. No recharge circuits or components needed. Direct mount P.C. board; no holder required. Features glass-to-metal seals, hermetic welds, and unique electro-chemistry for a design life of up to ten years. Highest available voltage characteristics; remains flat for the entire battery life. Other features include higher energy density than comparable batteries, non-pressurized design for non-vented applications, limited short circuits by internal design, prismatic design for optimum circuit board space utilization, and stainless steel construction for corrosive resistance, hermetic seal, and structural integrity. Short circuits with no adverse effect. Wave solderable within storage temperature limits. Dip solder processable — polarity keyed and pin-outs are 0.1″ spacing. Nominal drain rates from −73° to +125° C. UL Recognized. Meets Federal shipping regulations.

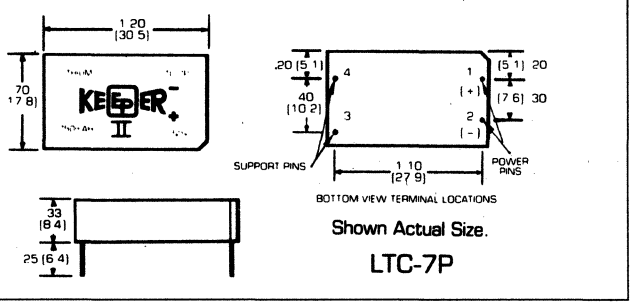


Dimension Specifications









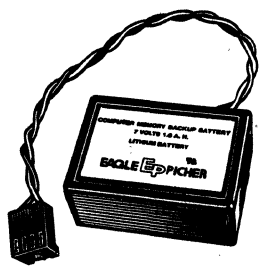
Lithium-thionyl Chloride

Stock No.	Mfr.'s Type	Working Voltage	Capacity @ 350 Hr. Rate 25°C	Length In. (mm)	Width In. (mm)	Thickness In. (mm)	Wt. g	EACH 1-9	10-49	50-99	100-499
710-5010	LTC-3PN*	3.5	350 mAh	.60 (15.22)	.65 (16.50)	.25 (6.35)	4.0	**5.60**	**5.40**	**4.85**	**4.30**
710-5015	LTC-7PN*	3.5	750 mAh	1.00 (25.40)	.65 (16.50)	.25 (6.35)	6.8	**5.80**	**5.60**	**5.03**	**4.45**
710-5020	LTC-7P*	3.5	750 mAh	1.20 (30.50)	.70 (17.80)	.33 (8.40)	9.0	**5.70**	**5.50**	**4.95**	**4.38**
710-5025	LTC-7PMP*	3.5	1500 mAh	1.50 (38.10)	1.20 (30.50)	.33 (8.40)	9.0	**11.80**	**11.40**	**10.23**	**9.07**
710-5030	LTC-7PMS*	7.0	750 mAh	1.50 (38.10)	1.20 (30.50)	.33 (8.40)	19.0	**11.80**	**11.40**	**10.23**	**9.07**
710-5040	LTC-16P†	3.5	1600 mAh	1.44 (36.55)	.53 (13.46)	.53 (13.46)	16.0	**8.00**	**7.72**	**6.93**	**6.15**

*Standard terminal is .03″ (.76 mm) diameter positive and negative. †Terminals .005″ (.127 mm) × .125″ (3.17 mm) tab″.

Computer Memory Backup Battery

Timekeeper® Battery	Fits Computer
EP-5242	AT&T 3B
EP-5242/W	Kapro
EP-5253	IBM PC/AT, PC Limited, AST-286, HP Vectra, NCR-PC8, Samsung 3001, Pro Exec. 286
EP-5257	Tandy 3000, Epson Equity
EP-5280	Compaq Desk Pro 286, Portable 286



Cell Capacity @ 350 Hr. Rate: 1600. **Length:** 1.90″. 3 year warranty.

Stock No.	Mfr.'s Type*	Working Voltage	Moles Conn. or Equal	Pin Polarization 1	2	3	4	Diode	Resistor	Wt.	EACH 1-9	10-49	50-99	100-499
710-3020	EP-5242[1]	3.50	22-41-4033	Neg.	0*	Pos.	X**	N/A	N/A	30	**13.10**	**12.65**	**11.35**	**10.07**
710-3030	EP-5242W[1]	3.50	50-57-9004	Pos.	Key	0*	Neg.	N/A	N/A	30	**13.10**	**12.65**	**11.35**	**10.07**
710-3040	EP-5253[2]	6.80	50-57-9004	Pos.	Key	0*	Neg.	1N914	39K	53	**20.75**	**20.03**	**18.00**	**15.95**
710-3050	EP-5257[2]	6.80	22-01-3047	Pos.	Key	0*	Neg.	1N914	39K	53	**20.75**	**20.03**	**18.00**	**15.95**
710-3060	EP-5280[2]	7.20	22-41-4043	Pos.	Key	0*	Neg.	(2)1N914	N/A	53	**20.75**	**20.03**	**18.00**	**15.95**
710-3000	LTC-16P-CO-F-S7[1]	3.50	22-01-3037	Pos.	Neg.	0*	X**	N/A	N/A	30	**14.80**	**14.28**	**12.83**	**11.38**
710-3015	LTC-16P-CO-F-S11[3]	3.50	None	N/A	N/A	N/A	N/A	N/A	N/A	25	**8.20**	**7.92**	**7.10**	**6.30**

*0 is blank. **3-pin connector. [1] Width: .70″; Thick: .72″. [2] Width: 1.30″; Thick: .70″. [3] Width: .66″; Thick: .70″; Length: 1.86″.

Rechargeable Lead-Calcium Batteries

- ► Electrolyte Non-Gelled — 100% Capacity Delivery First Cycle
- ► No Memory
- ► Lead Calcium Grid
- ► Dual Seal
- ► Stand-By Or Cyclic Service
- ► Maintenance-Free
- ► Rechargeable
- ► Interchangeable
- ► Use In Any Position
- ► Compact and Lightweight
- ► Optional Terminal Orientation Available

Carefree

Stock No.	Mfr.'s Type	Nom. Volt	Standard Terminal	Normal Cap. AH 20 HR.	Dimensions (Inches)				EACH			
					L	W	H	Including Term	1-9	10-49	50-99	100-Up
710-0205	CF2V5	2	B	5.20	2.33	1.06	3.95	4.33	9.10	8.78	7.89	7.00
710-0230	CF2V30	2	B	28.00	3.34	2.15	6.50	6.85	18.46	17.82	16.00	14.19
710-2140	CF2V140	2	**	140.00	7.43	4.52	7.46	8.37	79.72	76.95	69.12	61.29
710-0408	CF4V8	4	C	8.00	4.03	2.00	3.75	3.93	12.45	12.02	10.79	9.75
710-0611	CF6V1/2	6	A	0.45	1.92	1.00	2.00	2.25	7.45	7.19	6.46	5.87
710-0601	CF6V1	6	A	0.90	2.00	1.65	1.97	2.20	9.60	9.27	8.32	7.50
710-0626	CF6V2.6	6	A	2.60	5.30	1.35	2.37	2.56	15.20	14.67	13.18	11.87
710-0604	CF6V4	6	A	4.00	2.76	1.89	4.02	4.22	11.40	11.00	9.88	8.76
710-0653	CF6V5.3	6	C	5.60	5.22	1.85	3.08	3.08	18.20	17.57	15.78	14.19
710-0608	CF6V8	6	C	8.00	6.00	2.00	3.75	3.93	16.25	15.68	14.10	10.06
710-0609	CF6V9	6	*	9.00	4.25	2.75	5.50	5.50	13.90	13.40	12.05	10.12
710-0615	CF6V15	6	C	15.00	3.60	3.34	6.49	6.70	30.35	29.30	26.31	23.68
710-0630	CF6V30	6	C	28.00	6.25	3.35	6.50	6.75	48.40	46.72	41.96	37.81
710-0650	CF6V50	6	**	50.00	7.43	4.52	7.46	8.37	77.80	75.10	67.45	60.75
710-0806	CF8V6	8	C	6.00	3.34	2.15	6.50	6.66	25.17	24.30	21.82	19.68
710-1205	CF12V1/2	12	A	0.45	1.92	2.05	2.00	2.25	15.90	15.35	13.70	12.87
710-1203	CF12V1/2L	12	A	0.45	3.90	1.00	2.00	2.25	15.90	15.35	13.79	12.87
710-1201	CF12V1	12	A	0.90	3.30	2.00	1.97	2.20	19.79	19.10	17.16	16.56
710-1202	CF12V1L	12	A	0.90	4.02	1.65	1.97	2.20	19.79	19.10	17.16	16.56
710-1214	CF12V1.5	12	A	1.50	7.02	1.33	2.40	2.60	25.60	24.71	22.20	20.53
710-1216	CF12V1.5PP	12	***	1.50	3.00	2.26	8.75	N/A	68.80	66.40	59.65	53.75
710-1226	CF12V2.6S1	12	A	2.60	5.28	2.52	2.30	2.48	26.92	25.99	23.34	21.12
710-1204	CF12V4	12	A	4.00	2.76	3.81	4.02	4.22	28.50	22.49	20.20	17.91
710-1251	CF12V5L	12	C	5.20	6.12	2.42	3.94	4.16	26.95	26.01	23.37	21.15
710-1259	CF12V5PP	12	***	5.20	6.12	2.42	6.60	N/A	56.90	54.90	49.35	44.43
710-1253	CF12V5.3	12	C	5.60	5.22	3.73	3.08	3.08	36.90	35.62	31.99	28.81
710-1208	CF12V8	12	C	8.00	6.00	4.03	3.75	3.97	37.40	36.10	32.43	25.31
710-1209	CF12V9	12	*	9.00	5.53	4.25	5.50	5.50	28.75	27.25	24.90	21.87
710-1210	CF12V9L	12	*	9.00	8.52	2.75	5.50	5.50	28.75	27.75	24.90	21.87
710-1291	CF12V9LPP	12	***	9.00	8.52	2.75	5.50	N/A	55.15	53.68	49.55	46.25
710-1215	CF12V15	12	C	15.00	7.22	3.34	6.49	6.70	61.15	59.03	53.02	47.81
710-1220	CF12V20	12	C	22.00	6.51	4.91	6.53	6.75	68.72	66.34	59.58	50.70
710-1230	CF12V30	12	C	28.00	6.72	6.25	6.50	6.75	97.32	93.94	84.38	76.08
710-1231	CF12V30L	12	C	28.00	10.04	4.31	6.50	6.75	104.58	100.95	90.67	81.71
710-1801	CF18V1	18	A	0.90	4.90	2.00	1.97	2.20	29.45	28.43	26.54	25.62
710-2420	CF24V20	24	C	22.00	9.83	6.51	6.53	6.75	145.12	140.08	125.82	113.37
710-2430	CF24V30	24	C	28.00	12.50	6.72	6.50	6.75	195.15	188.38	169.20	152.34

Carefree Magnum

710-0410	CFM4V10	4	C	9.50	4.03	2.00	3.75	3.93	13.70	12.22	11.88	9.30
710-0646	CFM6V4.6	6	A	4.60	2.76	1.89	4.02	4.22	10.25	9.98	8.88	7.69
710-0606	CFM6V6.5	6	C	6.50	6.00	1.34	3.70	3.90	12.25	11.82	10.62	9.12
710-0610	CFM6V10	6	C	9.50	6.00	2.00	3.75	3.93	15.80	15.25	13.70	12.25
710-0612	CFM6V12	6	*	12.00	4.25	2.75	5.50	5.50	19.60	18.72	17.00	14.00
710-0618	CFM6V18	6	C	18.00	3.60	3.34	6.49	6.70	31.65	30.55	27.44	23.35
710-0633	CFM6V33	6	C	33.00	6.25	3.35	6.50	6.75	50.75	48.99	44.00	38.04
710-1246	CFM12V4.6	12	A	4.60	2.76	3.81	4.02	4.22	19.90	18.20	17.25	16.54
710-1262	CFM12V6.2L	12	C	6.20	6.12	2.42	3.94	4.16	27.02	26.08	23.43	21.09
710-1265	CFM12V6.5	12	A	6.50	5.95	2.58	3.75	3.95	23.50	22.70	20.40	17.72
710-1212	CFM12V12	12	*	12.00	5.53	4.25	5.50	5.50	41.35	39.91	35.85	29.53
710-1213	CFM12V12L	12	*	12.00	8.52	2.75	5.50	5.50	41.35	39.91	35.85	29.53
710-1218	CFM12V18	12	C	18.00	7.21	3.34	6.49	6.70	63.85	61.62	55.34	48.27
710-1225	CFM12V25	12	C	25.00	6.51	4.91	6.53	6.75	61.75	59.60	53.53	46.78
710-1233	CFM12V33	12	C	33.00	6.72	6.25	6.50	6.75	102.09	98.55	88.51	80.77
710-1299	CFM12V12LPP	12	***	12.00	8.52	2.75	5.50	N/A	65.10	62.84	56.45	53.90

Carefree UPS

710-2610	CF6V10UPS	6	C	10.00	6.00	2.00	3.75	3.93	20.50	19.79	17.77	13.50
710-2618	CFP6V18UPS	6	P	18.00	3.60	3.34	6.40	7.33	33.30	32.14	28.87	26.05
710-2633	CFP6V33UPS	6	P	33.00	6.25	3.35	6.50	7.34	53.30	51.45	46.21	41.62
710-2660	CFP6V60UPS	6	**	60.00	7.42	4.51	7.42	8.32	88.50	85.43	76.73	65.95
710-2210	CF12V10UPS	12	C	10.00	16.00	4.00	3.75	3.93	41.20	39.77	35.72	28.58
710-2218	CFP12V18UPS	12	P	18.00	7.21	3.34	6.40	7.33	67.20	64.87	58.26	55.18
710-2225	CFP12V25UPS	12	P	25.0	6.51	4.91	6.50	7.37	66.90	64.58	58.05	53.75
710-2233	CFP12V33UPS	12	P	33.0	6.72	6.25	6.40	7.34	108.35	104.59	93.94	87.96

*Standard is recessed terminals, negative is .187" wide × .03" thick; positive is .250" × .03" thick. ** Lead terminals .50" length × .18" width × .92" height with .25" diameter hole through the terminal. ***Standard is a cigarette lighter receptacle, tip is positive, shell is negative.

Carefree Chargers

Stock No.	Mfr.'s Type	Charger Voltage	Normal Current	Terminal Type	EACH		
					1-24	25-99	100-Up
710-7001	PNP694	15.0	500 mA	Cigar Adapter	14.95	13.45	12.25
710-7650	CFC6V500F	6.9	500 mA	Alligator Clip	19.50	17.25	12.95
710-7651	CFC6V500C	7.6	500 mA	Alligator Clip	19.50	17.25	12.95
710-7620	CFC6V2000F	6.9	2 A	Alligator Clip	49.95	44.95	33.50
710-7621	CFC6V2000C	7.6	2 A	Alligator Clip	49.95	44.95	33.50
710-7655	CFC12V500F	13.9	500 mA	Alligator Clip	27.38	24.27	18.25
710-7656	CFC12V500C	15.1	500 mA	Alligator Clip	27.38	24.27	18.25
710-7625	CFC12V2000F	13.9	2 A	Alligator Clip	49.95	44.95	33.50
710-7626	CFC12V2000C	15.1	2 A	Alligator Clip	49.95	44.95	33.50

For Use In:

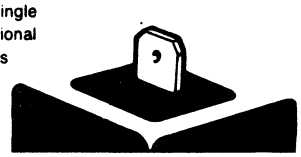
- ► Security Systems
- ► Emergency Lighting Systems
- ► Computer Stand-by
- ► Portable TVs and Radios
- ► Electronic Cash Registers
- ► UPS Systems
- ► Portable Medical Equipment
- ► Portable Tools
- ► Telephone Equipment
- ► Toys
- ► And Many Others

Carefree / Carefree magnum

Terminals

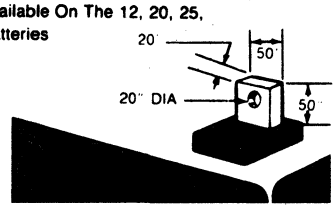
"A" TERMINAL
Tin-Plated Brass, Tab-Type .187" × .031" 15° Standard on .5, 1, 1.5, 2.6, 4, 4.6 AH Batteries Optional On Other Batteries

"B" TERMINAL
Tin-Plated Brass, Tab-Type .250" × .031" 90° Standard on All Single Cell Batteries Optional On Other Batteries



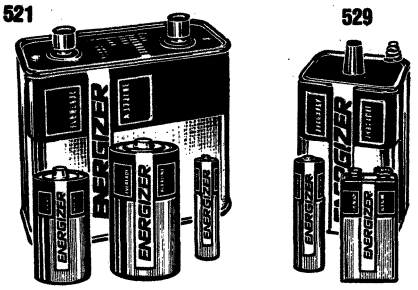
"C" TERMINALS
Tin-Plated Brass, Tab-Type .250" × .031" 15° Standard on 4.5, 5, 5.3, 5.5, 6, 8, 10, 15, 18, 20, 25, 30 and 33 All Batteries Optional On Other Batteries

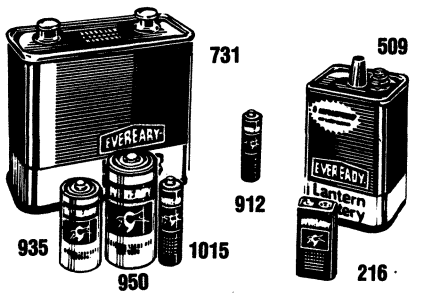
"P" TERMINAL
Cast Lead Available On The 12, 20, 25, 30, 33 AH Batteries



Energizer Alkaline Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Size	Common Use	EACH
729-0304	E90	910A	1.5	N. .455 × 1.13	N	Photo-Cal.	1.45
729-5173	E91	15A	1.5	AA $^{8}/_{16}$ × $1^{31}/_{32}$	AA	Photo-Gen.	1.35
729-0303	E92	24A	1.5	AAA .405 × 1.745	AAA	Photo-Calc.	1.35
729-5172	E93	14A	1.5	C $1^{1}/_{32}$ × $1^{15}/_{16}$	C	Instrument	1.90
729-5171	E95	13A	1.5	D $1^{11}/_{32}$ × $2^{13}/_{32}$	D	Instrument	1.90
729-0522	522	1604A	9.0	$1^{1}/_{32}$ × $^{11}/_{16}$ × $1^{15}/_{16}$	9V	Smoke Alarm	3.75
729-0523	523BP	1306A	4.5	.662 × 1.965	Cylindrical	Photo Smoke	4.15
729-0524	531BP	1307A	4.5	.662 × 2.290	Cylindrical	Photo	4.25
729-0525	532BP	1308A	3.0	.664 × 1.670	Cylindrical	Photo	3.75
729-6004	521	—	6.0	$5^{5}/_{16}$ × $2^{13}/_{16}$ × $4^{7}/_{8}$	Lantern	Lantern	21.75
729-0526	529	—	6.0	$2^{5}/_{8}$ × $2^{5}/_{8}$ × $4^{7}/_{16}$	6 V SQ	Lantern	10.40
729-0527	539BP	—	6.0	$1^{1}/_{32}$ × $^{11}/_{16}$ × $1^{15}/_{16}$	J-Size	Remote Control	3.90





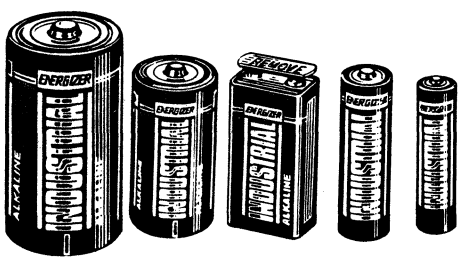
General Purpose Carbon-Zinc Batteries

Long-life carbon-zinc batteries are most popular for portable power. Available in most standard sizes. For use in industrial, electronic, transistor, and many other applications. Specially sealed to provide protection in handling and against corrosive leakage. Sturdy construction. Long dependable service, even over a wide range of temperatures, plus peak performance at all times.

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Size	Common Use	EACH
729-2005	509	908	6.0	$2^{5}/_{8}$ × $2^{5}/_{8}$ × $4^{7}/_{16}$	6V SQ	Lantern	3.96
729-6036	912	24F	1.5	AAA $^{13}/_{32}$ × $1^{3}/_{4}$	AAA	General Purpose	.55
729-6037	935	14F	1.5	C $1^{1}/_{32}$ × $1^{15}/_{16}$	C	General Purpose	.60
729-6038	950	13F	1.5	D $1^{11}/_{32}$ × $2^{13}/_{32}$	D	General Purpose	.60
729-6014	1015	15F	1.5	AA $^{9}/_{16}$ × $1^{31}/_{32}$	AA	Transistor Radio	.55
729-6039	216	1604	9.0	$1^{1}/_{32}$ × $2^{1}/_{32}$ × $1^{28}/_{32}$	9V	Transistor Radio	1.25
729-6002	731	918	6.0	$5^{5}/_{16}$ × $2^{13}/_{16}$ $4^{7}/_{8}$	Lantern	Lantern	10.48

Super Heavy Duty (Zinc Chloride) Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Replaces	Common Use	EACH
729-0781	1215	15D	1.5	AA $^{9}/_{16}$ × $1^{1}/_{32}$	5AA	HD General Purpose	.75
729-0780	1222	1604D	9.0	$1^{1}/_{32}$ × $^{11}/_{16}$ × $1^{15}/_{16}$	D1604	HD General Purpose	2.05
729-0782	1235-2	14D	1.5	C $1^{1}/_{32}$ × $1^{15}/_{16}$	4C	HD General Purpose	1.85
729-0783	1250-2	13D	1.5	D $1^{11}/_{32}$ × $2^{13}/_{32}$	6D	HD General Purpose	1.85
729-0784	1209	908D	6.0	$2^{5}/_{8}$ × $2^{5}/_{8}$ × $4^{13}/_{32}$	944	Lantern	5.15
729-0785	1231	—	6.0	$5^{5}/_{16}$ × $2^{13}/_{16}$ × $4^{7}/_{8}$	TW1X	Lantern	13.60



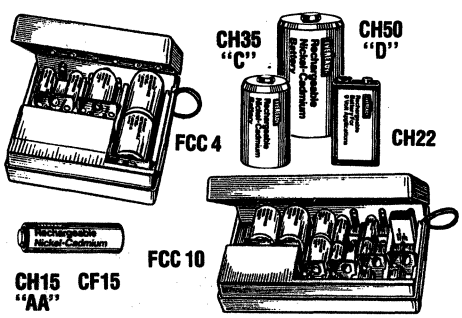
Industrial Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Description	Size	Common Use	EACH
729-4095	EN95	13A	1.5	D Alkaline Battery	D	Industry	1.65
729-4093	EN93	14A	1.5	C Alkaline	C	Industry	1.65
729-4091	EN91	15A	1.5	AA Alkaline	AA	Industry	1.11
729-4092	EN92	24A	1.5	AAA Alkaline	AAA	Industry	1.11
729-4097	EN22	1604A	9.0	9V Alkaline	9V	Industry	3.24
729-5000	EV150	13CD	1.5	D HD Flash Battery	D	Industry	.64
729-4027	EV135	14CD	1.5	C HD Flashlight	C	Industry	.64
729-4099	EV50	13C	1.5	D Flash Battery	D	Industry	.55
729-4098	EV35	14C	1.5	C Flash Battery	C	Industry	.55
729-4096	EV15	13C	1.5	AA Penlite	AA	Industry	.43
729-4090	EV90	908C	6.0	Lantern Battery	6V SQ	Industry	3.36
729-4031	EV31	918C	6.0	6V Carbon Zinc	6V SQ	Industry	9.78
729-4025	EV122	1604CD	9.0	9V Carbon Zinc	9V	Smoke Detector	1.70
729-4026	EV10S	915C	6.0	6V Lantern Battery	6V SQ	Spotlights	4.35

Lithium Batteries

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions Inches	Replaces	Common Use	EACH
729-6010	E-CR2016	5000L	3	.787 × .063	DL2016	Watch-Calculator	1.77
729-6011	E-CR2025	5003L	3	.787 × .098	DL2025	Watch-Calculator	1.77
729-6012	E-CR2032	—	3	.787 × .126	DL2032	Watch-Calculator	1.77

Lithium



Rechargeable Nickel-Cadmium Batteries and Chargers

Batteries can be stored charged or uncharged. Capacity of Nickel-Cadmium batteries is expressed in average ampere hours, and stays relatively fixed over a wide range of discharge currents. Rechargeable batteries actually cost less to use per ampere hour than throwaway batteries. End of cycle life is considered to be the point where the battery no longer provides 80% of rated capacity. One hour recharge system available. Call for information.

Stock No.	Mfr.'s Type	Size	Volts	Capacity	Dimensions Inches	Replaces	EACH
729-6013	CF15	AA	1.2	500mAh	.553 × 1.969	—	6.77
729-6015	CH15	AA	1.2	500mAh	.553 × 1.969	GC3	5.15
729-6017	CH35	C	1.2	1.2Ah	$1^{1}/_{32}$ × $1^{31}/_{32}$	GC2	6.47
729-6018	CH50	D	1.2	1.2Ah	$1^{11}/_{32}$ × $2^{27}/_{64}$	GC1	6.47
729-4022	CH22	7.2	7.2	80mAh	—	—	12.90
729-6008	FCC 4	—	—	1-4 C, D or 1-8 AA, AAA or 1-2 9V	—	—	23.98
729-6009	FCC 10	—	—	1-10 C, D, AA, AAA or 1-2 9V	—	—	33.98

Batteries

All the batteries listed below are guaranteed fresh when they leave our stock and carry additional manufacturer's guarantees. Made to high standards and fully inspected, these batteries are of the highest quality. Equivalent NEDA numbers are included in tables for your convenience.

Stock No.	Mfr.'s Type	NEDA	Volts	Dimensions	Replaces	Common Use	EACH
729-6021	IS6	905	1½	2½ × 6⅝	6 Ign.	Ignition	7.80
729-6022	IF6	905FC	1½	2⅝ × 6¾	5-Tel.	Ignition	7.80
729-6024	A76BP	1166A	1½	11.6 × 5.36mm	—	Photo	1.10
729-0038	E133	1206M	4.2	195 × .67	TR133	Radio/Paging	6.94
729-0039	E133N	1314M	4.05	1.95 × .67	TR133R	Radio/Paging	8.14
729-0045	EV146X	1604M	8.4	1.031 × 66 × 1¾	TR146X	Electric	5.97
729-0048	E164BP	1404M	5.6	.662 × 1.767	TR164	Electric	6.25
729-6029	186BP	1167A	1½	.455 × .165	—	Calculator	1.09
729-6030	189BP	1168A	1½	.455 × .118	—	Calculator	1.09
729-6031	206	1611	9	¾ × 2	M1611	Trans. Radio	3.50
729-6033	EL223ABP	5024LB	6	1.32 × .76 × 1.40	K223L	Electronic	14.90
729-6032	226	1600	9	1 × 1 15/16	P6	Trans. Radio	4.10
729-0790	246	1602	9	1⅜ × 1⅜ × 2¾	2N6	Trans. Radio	5.70
729-6034	266	1605	9	1 13/16 × 1 13/16 × 2 7/16	M1605	Trans. Radio	5.70
729-0791	276	1603	9	2 9/16 × 2 × 3 5/32	D6	Trans. Radio	7.40
729-1000	301BP	1132SO	1.5	4 9/16 × 1 19/32	RW34	Watch	1.19
729-1001	303BP	1130SO	1½	Button Cell	RW22	Watch	1.40
729-1002	343BP	1154M	1½	Button Cell	RW56	Watch	1.15
729-1003	357BP	1131SO	1½	Button Cell	RW42	Watch/Calculator	1.32
729-1004	381BP	117SO	1.5	4 9/16 × 13/16	RW30	Watch	.91
729-1005	386BP	1133SO	1½	Button Cell	RW44	Watch/Calculator	.98
729-0389	389BP	1138SO	1½	Button Cell	RW49	Watch/Calculator	.80
729-1006	391BP	1160SO	1.5	4 9/16 × 13/16	RW40	Watch	1.15
729-1007	392BP	1135SO	1½	Button Cell	RW47	Watch	.60
729-1008	362BP	115850	1.5	Button Cell	D362	Watch/Calculator	.87
729-1009	364BP	117550	1.5	Button Cell	D364	Watch/Calculator	.74
729-1010	396BP	116350	1.5	Button Cell	D396	Watch/Calculator	.89
729-1011	393BP	1137SO	1½	Button Cell	RW48	Watch	.89
729-0017	E401E-2	910M	1.4	.455 × 1.130	RM401	Hearing Aid	3.69
729-0001	E1	1100M	1.4	Button Cell	RM1	Hearing Aid	2.28
729-0030	EP675E-6	1127MD	1.4	Button Cell	MP675A	Hearing Aid	4.45
729-1012	EP401E-2	1118M	1.4	.453 × 1.140	MP401	Port. Dev.	3.69
729-0580	411	208	15	1 1/32 × 5/8 × 1 29/64	U10	Inst.	2.75
729-0590	412	215	22½	1 1/32 × 5/8 × 2	U15	Inst.	3.00
729-1013	413	210	30	1 1/32 × 5/8 × 29/16	U20	Inst.	3.75
729-0610	415	213	45	1 3/64 × 5/8 × 3 11/16	U30	Inst.	6.70
729-1014	416	217	67½	1 21/64 × 63/64 × 3½	UX45	Inst.	8.60
729-0430	417	224	15	15/16 × 31/32 × 19/16	K10	Inst.	11.90
729-1015	420	225	22½	15/16 × 31/32 × 23/16	K15	Inst.	15.00
729-1455	455	201	45	2 31/32 × 1 × 3 11/16	XX30	B Radio	12.60
729-1016	457	203	67½	3 13/16 × 1 3/8 × 2½	K45	B Radio	20.50
729-0670	467	200	67½	2 13/16 × 1 3/8 × 3 45/64	XX45	B Radio	16.50
729-0489	489	728	225	4 11/32 × 2 11/16 × 43/16	XX150	Photo	49.95
729-0640	490	204	90	3 23/32 × 1 3/8 × 3 45/64	V60	Photo	22.00
729-1019	497	741	180	3 × 1 19/32 × 5 5/8	U320	Photo	43.00
729-0690	504	220	15	39/64 × 19/32 × 13/8	Y10	Inst.	3.70
729-0700	505	221	22½	19/32 × 19/32 × 1.975	Y15	Inst.	4.60
729-2005	509	908	6	2⅝ × 2⅝ × 4⅜	F4M	Lant.	3.70
729-1020	A544BP	1414A	6	.510 × .990	PX28	Photo	10.10
729-1022	EPX625BP	1124MP	1.35	.615 × .238	PX625	Photo	2.25
729-1023	EPX640BP	1126MP	1.35	.625 × .440	PX640	Photo	2.70
729-1024	EPX675BP	1123MP	1.35	.455 × .210	PX675	Photo	2.25
729-0090	EPX76BP	110750	1.5	Button Cell	MS76	Electronic	3.15
729-1026	706	902	6	8 5/16 × 2 15/16 × 6 7/16	4F4H	Emergency	29.80
729-1027	711	700	11½	2⅝ × 1 15/16 × 4 1/32	2FH	Glo-Plug	8.20
729-0814	715	903	7½	7¼ × 4 1/16 × 6 7/16	4FSH	Emergency	27.50
729-1028	716	904	9	8 37/64 × 4 1/16 × 7/16	4F6H	Emergency	30.00
729-6002	731	918	6	136 × 73.0 × 125	M918	Lantern	9.80
729-6003	732	926	12	5⅜ × 2 7/8 × 4 15/16	TW2	Lantern	12.20
729-0812	735	900	11½	2⅝ × 2⅝ × 4 15/16	4FM	Glo-Plug	4.80
729-0420	744	6	6	2⅝ × 2⅝ × 3 27/32	F4PI	"A" Radio	5.00
729-0970	763	710	22½	3½ × 2 3/32 × 3 1/16	4156	Instrument	14.10
729-0036	E132	1200M	2.8	17.0 × 33.0	TR132H	Electronic	3.80
729-0037	E132N	1203M	2.7	17.0 × 33.0	R133	Electronic	5.64
729-0040	E134N	1409M	5.4	17.0 × 66.0	TR134R	Electronic	9.55
729-0041	E135N	1505M	6.75	17.0 × 82.6	TR135R	Electronic	11.39
729-0052	EP175	1501M	7	12.6 × 27.8	TR175	Electronic	5.58
729-0053	E177	1606M	9.8	13.9 × 48.5	TR177	Electronic	7.88

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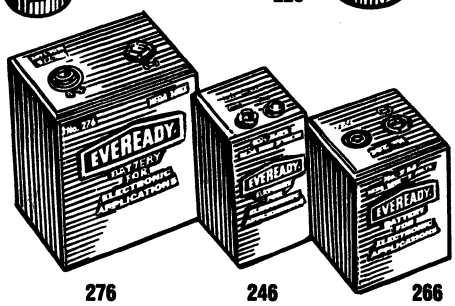

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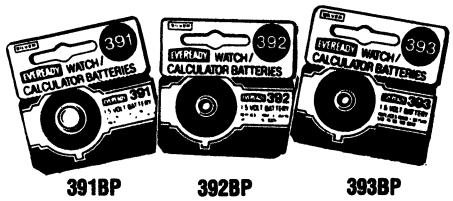

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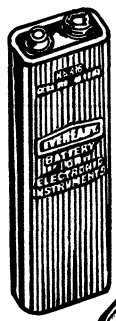

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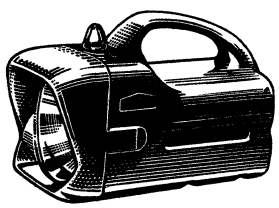
Flashlights and Lanterns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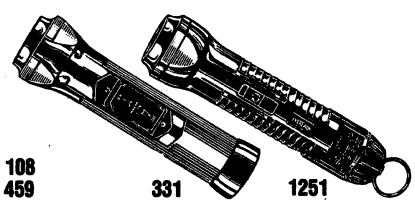
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Stock No.	Mfr.'s Type	Description	EACH
729-0902	330Y	Heavy Duty	2.90
729-0906	331Y	Heavy Duty—with magnet	3.50
729-0907	T251	Industrial—with ring hanger	5.00
729-0908	108	Floating Lantern	7.39
729-0912	209H-S	Halogen Lantern	21.68
729-0914	3251R	Economy Flashlight	1.49
729-0915	4250	2-D Rubber	3.38
729-0901	1259	Industrial Flashlight—Explosion Proof	7.20
729-0903	4251WB-S	Includes D-cells & Krypton Bulb	9.50
729-0904	459	6 V Lantern Explosion Bulb	13.00
729-0909	3231WH	2-C Hospital White	1.70
729-0910	3251WH	2-D Hospital White	1.70
729-0911	6212WH	2-AAA Hospital White	2.40

Flashlight Bulbs

Stock No.	Mfr.'s Type	Primary Purpose	Base†	# Per Pack	Amps	EACH
729-3000	PR2BP-2	2 D-Cell Flashlight	F	10	.50	14.00
729-3002	PR3BP	3 D-Cell Flashlight	F	10	.50	7.50
729-3004	PR4BP	2 C-Cell Flashlight	F	10	.27	7.50
729-3006	13BP	3 D-Cell Flashlight	S	1	.30	.95
729-3008	14BP	2 D-Cell Flashlight	S	1	.30	.95
729-3010	HPR36BP	6 V Lantern	F	10	1.00	41.00
729-3012	KPR-102BP	2 D-Cell (Krpton) Flashlight	F	1	.70	1.45
729-3014	PR2FP	2 D-Cell Flashlight	F	10	.50	6.00
729-3016	PR3FP	3 D-Cell Flashlight	F	10	.50	6.00
729-3018	PR4FP	2 C-Cell Flashlight	F	10	.27	6.00

†S = Screw F = Flanged

2 Ultralife Lithium Power Cell

Lithium delivers twice the life...The Kodak Ultralife power cell is the world's first 9-volt lithium power cell for use in consumer products. Lithium, one of the most reactive metals known...gives the cell greater electrical capacity than conventional carbon-zinc, zinc chloride or alkaline chemistries...a service life twice as long as alkaline batteries.

A unique design maximizes performance...By incorporating flat-folded ribbon electrodes, the entire interior of the cell is utilized. Weight reduction is accomplished by housing the unit in a molded polypropylene case, ultrasonically welded to retain the cell's strength and resist leakage.

UL recognized...The Kodak Ultralife Lithium Power Cell is safe. It features a proprietory safety shutdown mechanism that prevents overheating and venting in case its short circuited.

1200 Miliampere Hour Capacity...The power cell delivers consistent high operating voltages over most of its service life...and over a wide range of loads and duty cycles.

Superior low temperature performance...A unique organic electrolyte system permits improved performance of a broad range of temperatures; from −40°C to 70°C.

Long life, cost effective and reliable performance... Designed to give maximum performance in medium and low rate applications, even higher operating efficiencies are possible in products with high cutoff voltages. The Kodak Ultralife Lithium Power Cell is the 9-volt powerhouse that gives your products maximum power.

Kodak dependability...longer life expectance...consistent discharge characteristics...and superior low-temperature performance. Kodak Ultralife Lithium Power Cell...the powerhouse that outperforms all other conventional 9-volt batteries today.

U9VL

Lithium
9 V
Width: .674″
Height: 1.933″
Length: 1.039″
Weight: 1.35 oz.
mAh Rating: 1,150
Primary Applications: Smoke alarms, security devices, toys, radios
NEDA 1604LC

853-0001. U9VL.....EACH 5.95

Supralife Alkaline Batteries

Improved performance and longer service life...Kodak Supralife Alkaline Batteries are improved. Now they provide even longer service life and more consistent discharge characteristics. Expect every Supralife Battery to last longer than ever...up to 18% longer in AA size.

Unsurpassed shelf life and storage characteristics...Supralife Batteries have excellent shelf life and storage capability. They retain up to 90% of their service life capacity even after four years in storage.

Kodak quality...Improved Kodak Supralife Alkaline Batteries are triple tested to provide the consistent long life you expect from Kodak.

Superior leakage and corrosion resistance...long shelf life...consistent performance...and dependable long service life. Available in D, C, AA, AAA, N and 9-volt sizes.

KD
Alkaline—1.5 V
Diameter: 1.315″
Height: 2.418″
Weight: 4.76 oz.
mAh Rating: 14,800
Primary Applications: Flashlights, radios, cassette players, toys
NEDA 13A

853-0100.....EACH 1.50

KC
Alkaline—1.5 V
Diameter: 1.024″
Height: 1.969″
Weight: 2.29 oz.
mAh Rating: 6,600
Primary Applications: Cassette players, toys, flashlights
NEDA 14A

853-0110.....EACH 1.50

KAA
Alkaline—1.5 V
Diameter: .567″
Height: 1.985″
Weight: .85 oz.
mAh Rating: 2,200
Primary Applications: Photo, toys, radios, cassette players, calculators
NEDA 15A

853-0120.....EACH 1.10

K9V
Alkaline—9 V
Diameter: .674″
Height: 1.910″
Length: 1.036″
Weight: 1.66 oz.
mAh Rating: 500
Primary Applications: Toys, radios, smoke alarms, calculators
NEDA 1604A

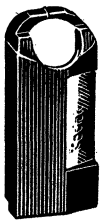
853-0130.....EACH 2.85

K3A
Alkaline—1.5 V
Diameter: .410″
Height: 1.752″
Weight: .42 oz.
mAh Rating: 850
Primary Applications: Photo, toys, radios, cassette players, calculators
NEDA 24A

853-0140.....EACH 1.10

KN
Alkaline—1.5 V
Diameter: .472″
Height: 1.189″
Weight: .32 oz.
mAh Rating: 500
Primary Applications: Photo, pagers, calculators
NEDA 910A

853-0200.....EACH 1.45



KK
Alkaline—4.5 V
Diameter: .453″
Height: 1.614″
Length: .677″
Weight: .48 oz.
mAh Rating: 105
Primary Applications: Photo
NEDA 1313AP

853-0205.....EACH 4.50

KX13
Mercury—1.35 V
Diameter: .630″
Height: .244″
Weight: .14 oz.
mAh Rating: 280
Primary Applications: Photo
NEDA 1114MP

853-0210.....EACH 2.30

K28A
Alkaline—6 V
Diameter: .512″
Height: .988″
Weight: .35 oz.
mAh Rating: 105
Primary Applications: Photo
NEDA 1414A

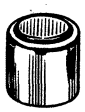
853-0215.....EACH 4.00

KS28
Silver Oxide—6 V
Diameter: .512″
Height: .988″
Weight: .41 oz.
mAh Rating: 160
Primary Applications: Photo
NEDA 1406SOP

853-0220.....EACH 10.10

K28L
Lithuim—6 V
Diameter: .512″
Height: .992″
Weight: .32 oz.
mAh Rating: 160
Primary Applications: Photo
NEDA 1406LC

853-0230.....EACH 7.75



K58L
Lithium—3 V
Diameter: .457″
Height: .425″
Weight: .12 oz.
mAh Rating: 160
Primary Applications: Photo
NEDA 5008L

853-0235.....EACH 4.30

KA76
Alkaline—1.5 V
Diameter: .457″
Height: .213″
Weight: .07 oz.
mAh Rating: 105
Primary Applications: Photo, calculators
NEDA 1166A

853-0240.....EACH 1.15

KS76
Silver Oxide—1.5 V
Diameter: .457″
Height: .213″
Weight: .08 oz.
mAh Rating: 160
Primary Applications: Photo
NEDA 1107SOP

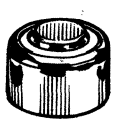
853-0245.....EACH 3.20

K223LA
Lithium—6 V
Width: .762″
Height: 1.418″
Length: 1.374″
Weight: 1.09 oz.
mAh Rating: 1,200
Primary Applications: Photo
NEDA 5024LB

853-0050.....EACH 12.30

KX625
Mercury—1.35 V
Diameter: .630″
Height: .244″
Weight: .15 oz.
mAh Rating: 280
Primary Applications: Photo
NEDA 1124MP

853-0250.....EACH 2.30



KX640
Mercury—1.35 V
Diameter: .646″
Height: .449″
Weight: .30 oz.
mAh Rating: 500
Primary Applications: Photo
NEDA 1126MP

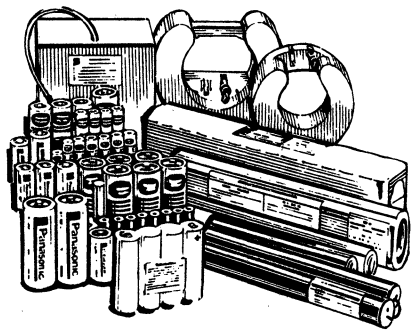
853-0255.....EACH 2.75

KX675
Mercury—1.35 V
Diameter: .457″
Height: .213″
Weight: .10 oz.
mAh Rating: 220
Primary Applications: Photo
NEDA 1128MP

853-0260.....EACH 2.30

Nickel Cadmium Batteries

The most notable characteristic of these batteries is their ability to be repeatedly used for extremely long periods of time (very often more than five years). The perfect portable power source for this age of energy conservation, Ni-Cd batteries retain most of their initial performance throughout their service life, and are used in an increasing number of ways and fields, including factory, office and home automation systems, information network systems, and others. To satisfy these battery requirements, Panasonic places first priority on high product quality to assure high product reliability. Attention to detail is demanded in this severe quality control system that extends from raw and basic materials procurement to parts and even packaging.



Wide Variety of Cells
- ► Standard
- ► Rapid Charge "R"
- ► High Temperature "H" Memory Backup
- ► High Capacity "E"

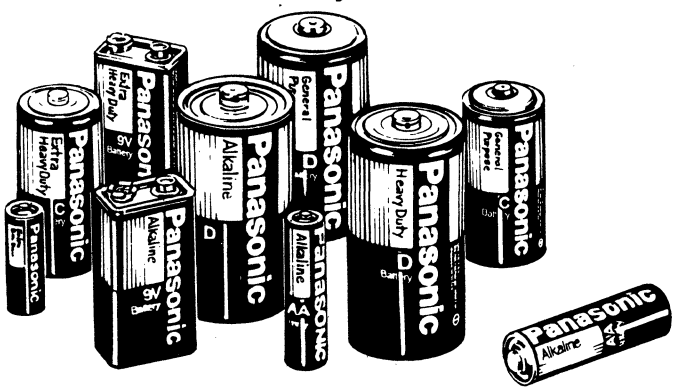
Features
- ► Rechargeable Sealed Nickel Cadmium Alkaline Cell
- ► Long Shelf Life
- ► High-Rate Charging
- ► Reliable, Self-Resealing Vent
- ► Cylindrical Construction

Applications
- ► For Cyclic Use
- ► For Trickle or Float Charge Use

Stock No.	Mfr.'s Type	Size	Nominal Capacity (mAh)	Type*	EACH			
					1-9	10-24	25-49	50-99
884-0860	P-11AA	1/3AA	110	Std.	2.13	1.70	1.55	1.42
884-0808	P-11AAH	1/3AA	110	H	2.31	1.70	1.55	1.42
884-0830	P-15N	N	150	Std.	2.68	2.14	1.95	1.78
884-0790	P-18AAA	AAA	180	Std.	2.63	2.10	1.91	1.75
884-0826	P-25AA	2/3AA	250	Std.	2.55	2.04	1.85	1.75
884-0800	P-50AA	AA	500	Std.	2.43	1.94	1.76	1.62
884-0801	P-50AA/FT	AA	500	Std.	2.43	1.94	1.76	1.62
884-0840	P-50AAH	AA	500	H	2.55	2.04	1.85	1.70
884-0845	P-60AAE	AA	600	E	2.80	2.24	2.04	1.87
884-0806	P-60SC	2/3SC	600	Std.	3.95	3.16	2.91	2.63
884-0805	P-50AA/FT-1†	AA	500	Std.	2.68	2.14	1.95	1.78
884-0880	P-80AAR	5/4AA	750	R	4.33	3.96	3.79	3.64
884-0870	P-130SCR	SC	1300	R	3.83	3.06	2.78	2.55
884-0850	P-150SCE	SC	1500	E	4.65	3.72	3.38	3.10
884-0819	P-180CR	C	1650	R	7.53	6.02	5.47	5.02
884-0820	P-180CH	C	1800	H	7.53	6.02	5.47	5.02
884-0822	P-220CE	C	2200	E	6.40	5.85	5.60	5.38
884-0818	P-400D	D	4000	Std.	12.68	10.14	9.22	8.45
884-0815	P-400DH	D	4000	H	12.68	10.14	9.22	8.45
884-0844	P-440DE	D	4400	E	14.53	11.62	10.56	9.68

*R = Rapid Charge; H = High Temperature; E = High Capacity; † = With Tab.

Alkaline and Zinc Chloride Cylindrical Batteries



Extra Heavy Duty Zinc Chloride (Green)

Stock No.	Mfr.'s Type	Size	Voltage V	Service Life		EACH			
				Test Condition	Duration	1-9	10-24	25-49	50-99
884-5120	UM1NX	D	1.5	3.9 Ω 1H/D, 1.0 V 39 Ω, 4H/D, 0.9 V 2.25 Ω continuous, 0.8 V	18.5 Hrs. 240 Hrs. 360 Min.	.66	.58	.52	.48
884-5125	UM2NX	C	1.5	6.8 Ω, 1H/D, 1.0 V 75 Ω, 4H/D, 0.9 V 4 Ω continuous, 0.8 V	15 Hrs. 200 Hrs. 390 Min.	.45	.40	.36	.33
884-5132	UM3NX	AA	1.5	10 Ω, 1H/D, 0.9 V 75 Ω, 4H/D, 0.9 V 4 Ω continuous, 0.8 V	7.5 Hrs. 65 Hrs.	.35	.28	.25	.23
884-5135	UM4NX	AAA	1.5	5 Ω, 5M/D, 0.9 V 300 Ω, 12H/D, 0.9 V	1.5 Hrs. 120 Hrs.	.20	.18	.16	.15
884-5140	UM5NX	N	1.5	300 Ω, 12H/D, 0.9 V 180 Ω, 1H/D, 5.4 V	85 Hrs. 55 Hrs.	.22	.20	.18	.15
884-5131	006PNX	9V	9.0	900 Ω, 4H/D, 5.4 V 225 Ω continuous 5.4 V	49 Hrs. 8 Hrs.	.93	.82	.74	.67

Heavy Duty: Zinc-Chloride (Blue)

Stock No.	Mfr.'s Type	Size	Voltage V	Service Life		EACH			
				Test Condition	Duration	1-9	10-24	25-49	50-99
884-5114	UM1DX	D	1.5	3.9 Ω, 1H/D, 1.0 V 40 Ω, 4H/D, 0.9 V 2.25 Ω continuous, 0.8 V	12.5 Hrs. 210 Hrs. 336 Hrs.	.50	.44	.40	.36
884-5116	UM2DX	C	1.5	6.8 Ω, 1H/D, 1.0 V 75 Ω, 4H/D, 0.9 V 4 Ω continuous 0.8 V	10.5 Hrs. 165 Hrs. 325 Min.	.35	.31	.28	.25

Heavy Duty: Zinc-Chloride (Blue)

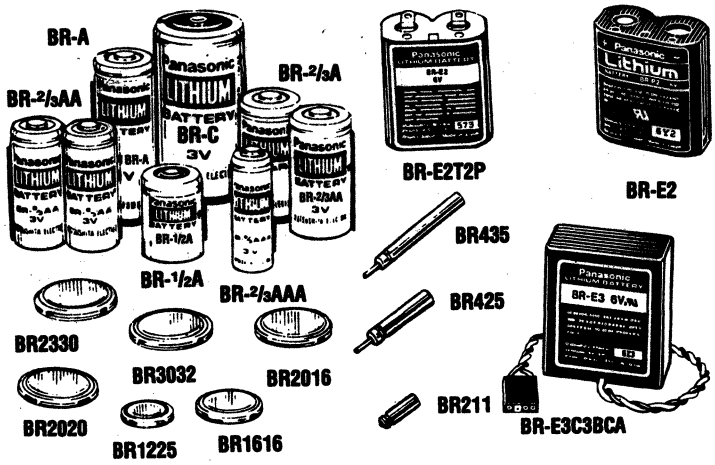
Stock No.	Mfr.'s Type	Size	Voltage V	Service Life		EACH			
				Test Condition	Duration	1-9	10-24	25-49	50-99
884-5129	UM3DX	AA	1.5	10 Ω, 1H/D, 0.9 V 75 Ω, 4H/D, 0.9 V 4 Ω continuous, 0.8 V	6.5 Hrs. 60 Hrs. 1.5 Hr.s	.25	.22	.20	.18
884-5112	006PDX	9V	9.0	180 Ω, 1H/D, 5.4 V 900 Ω, 4H/D, 5.4 V 225 Ω continuous, 5.4 V	7 Hrs. 45 Hrs. 5.2 Hrs.	.70	.62	.56	.51

Alkaline (Black)

Stock No.	Mfr.'s Type	Size	Nominal Voltage (V)	Service Life			EACH			
				Starting Drain (mA)	Load (Ω)	Hours	1-9	10-24	25-49	50-99
884-5171	AM1X	D	1.5	750	2.0	14.5	1.35	1.20	1.08	.98
884-5172	AM2X	C	1.5	380	3.9	10.0	.45	.40	.36	.33
884-5173	AM3X	AA	1.5	150	10.0	11.0	.55	.49	.44	.40

Alkaline (Black)

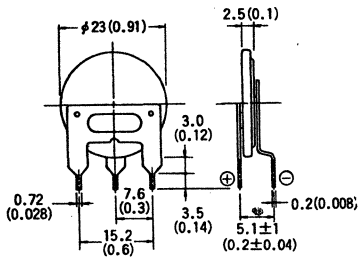
Stock No.	Mfr.'s Type	Size	Nominal Voltage (V)	Service Life			EACH			
				Starting Drain (mA)	Load (Ω)	Hours	1-9	10-24	25-49	50-99
884-5174	AM4X	AAA	1.5	75	20	11.0	.65	.58	.52	.47
884-5175	AM5X	N	1.5	75	20	8.0	.90	.80	.72	.65
884-5130	6AM6	9V	9.0	60	150	11.0	2.75	2.44	2.20	1.80

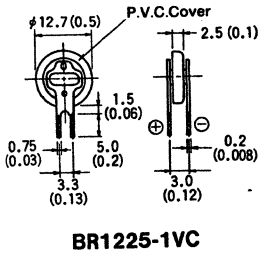


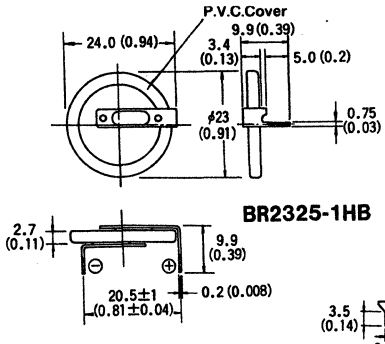
Lithium Batteries

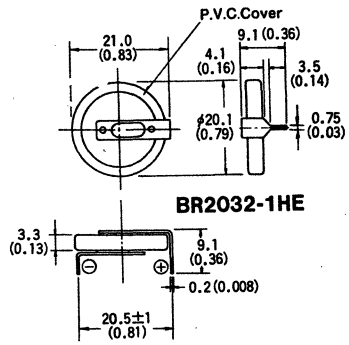
- ► High voltage (3 V)
- ► High energy density
- ► Long shelf life
- ► Stable operation
- ► .5% capacity deterioration per year
- ► Excellent durability
- ► Flat discharge voltage and stable internal impedance
- ► High rate discharge
- ► Wide operating temperatures
- ► Strong leakage resistance
- ► Excellent safety

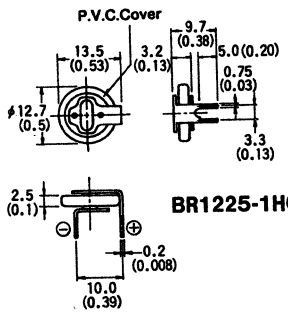
Versatile, long-life Panasonic lithium batteries for leakproof high-energy sources. Designed for a wide range of electronic applications, from cameras and radios to computer memory backup. Safe and chemically and thermally stable. No corrosive liquid or poisonous gas discharge. Two types available: BR (polycarbon monofluoride) provides flat discharge voltage and stable internal impedance. CR (manganese dioxide) gives high discharge rate and high discharge voltage. Panasonic cells are recognized under UL File No. MH12210.

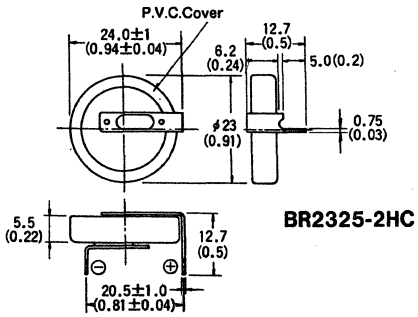












Coin Type

Stock No.	Mfr.'s Type	Terminals	Volt (V)	Cap. (mAh)	EACH 1-9	10-24	25-49	50-99
884-0301	BR-2032	Flat Cnts	3	190.0	1.42	1.29	1.18	1.09
884-0325	BR-2325	Flat Cnts	3	165.0	1.36	1.24	1.13	1.05
884-0320	BR-2320	Flat Cnts	3	110.0	1.36	1.24	1.13	1.05
884-0319	BR-2020	Flat Cnts	3	100.0	1.36	1.24	1.13	1.05
884-0316	BR-2016	Flat Cnts	3	75.0	1.36	1.24	1.13	1.05
884-0317	BR-1616	Flat Cnts	3	48.0	1.36	1.24	1.13	1.05
884-0312	BR-1225	Flat Cnts	3	38.0	1.24	1.13	1.03	.95
884-0330	BR-2330	Flat Cnts	3	255.0	1.66	1.51	1.38	1.28
884-1000	BR-3032	Flat Cnts	3	500.0	3.35	3.00	2.65	2.20
884-0370	CR-2016	Flat Cnts	3	75.0	1.30	1.18	1.08	1.00
884-0375	CR-2330	Flat Cnts	3	260.0	1.82	1.65	1.52	1.40
884-0380	CR-2354	Flat Cnts	3	500.0	1.92	1.75	1.60	1.48
884-0385	CR-2477	Flat Cnts	3	1000.0	4.34	3.95	3.62	3.34

Pin Type

884-0434	BR-425	—	3	25.0	2.20	2.04	1.89	1.74
884-0435	BR-435	—	3	50.0	2.20	2.04	1.89	1.74
884-0439	BR-211	—	3	5.4	2.75	2.60	2.41	2.20

Cylindrical Type

884-0445	CR-2/3A	Flat Cnts	3	1300.0	5.72	5.20	4.77	4.40
884-0300	BR-C	Flat Cnts	3	5000.0	12.94	11.78	10.78	9.95
884-0437	BR-2/3A	Flat Cnts	3	1200.0	4.86	4.42	4.05	3.74
884-0436	BR-1/2A	Flat Cnts	3	650.0	8.54	7.76	7.12	6.57

PC Mountable (Horizontal Mount) Coin Type

Stock No.	Mfr.'s Type	Terminals	Volt (V)	Cap. (mAh)	EACH 1-9	10-24	25-49	50-99
884-0438	BR-2325-1HB	2 Pins	3	165.0	1.88	1.71	1.57	1.45
884-0425	BR-2325-1HG	3 Pins	3	165.0	1.88	1.71	1.57	1.45
884-0432	BR-2032-1HE	2 Pins	3	190.0	1.94	1.76	1.62	1.49
884-0426	BR-1225-1HC	2 Pins	3	38.0	1.88	1.71	1.57	1.47
884-0424	BR-2325-2HC	2 Pins	6	165.0	3.74	3.40	3.12	2.88

PC Mountable (Vertical Mount) Coin Type

884-0430	BR-2325-1VG	3 Pins	3	165.0	1.88	1.71	1.57	1.47
884-0433	BR-1225-1VC	2 Pins	3	38.0	1.88	1.71	1.57	1.47

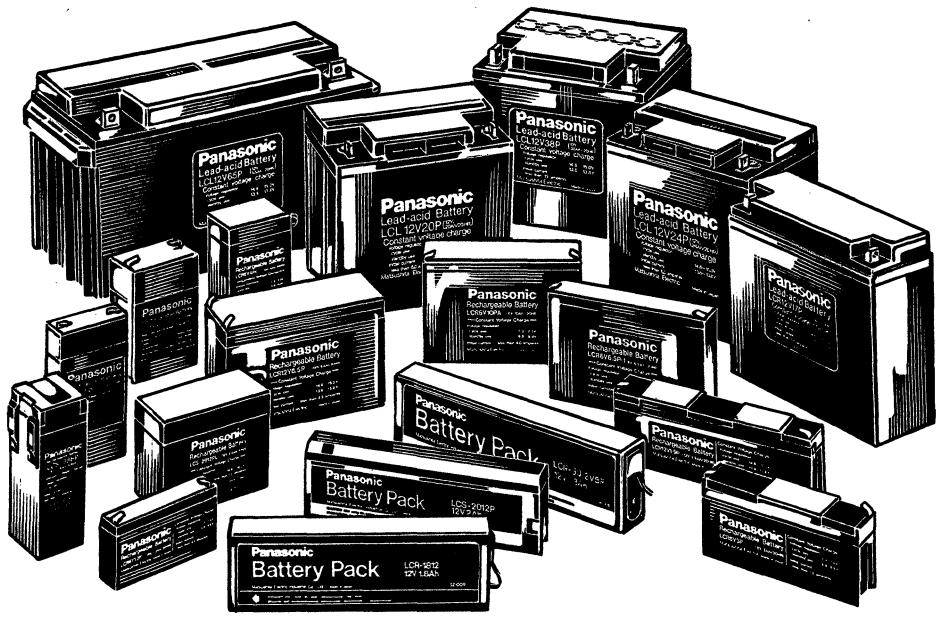
Computer Back-Up Batteries

884-0475	BR-E2	Flat Contact	6	1200.0	11.00	10.00	9.17	8.46
884-0480	BR-E2T2P	Tabs	6	1200.0	11.20	10.18	9.33	8.62
884-0485	BR-E3C3BCA	Wire Leads and Connector	6	1200.0	19.00	17.27	15.83	14.62
884-0490	CR-P2	Flat Contact	6	1300.0	11.50	10.45	9.58	8.85

PC Mountable Cylindrical Type

884-0400	BR-CT2P	Tabs	3	5000.0	13.16	11.96	10.97	10.12
884-0405	BR-CP3P	2 Pins	3	5000.0	13.16	11.96	10.97	10.12
884-0410	BR-2/3AT2SP	Tabs	3	1200.0	5.08	4.62	4.23	3.91
884-0415	BR-2/3AE2SP	3 Pins	3	1200.0	5.08	4.62	4.23	3.91
884-0420	BR-1/2AT2SP	Tabs	3	650.0	8.78	7.98	7.32	6.75

- High Quality
- Sealed Lead Acid Rechargeable Battery System
- Excellent Deep Discharge Recovery
- Long Service Life — Float or Cyclic
- Starved Electrolyte Leakproof Design
- Maintenance-Free Operation
- 100% Factory Tested
- UL Component Recognition
- No Corrosive Gas Generation
- Use for Portable Equipment
- Charge, Discharge, or Store in any Position
- Use for Power Failure Backup, Emergencies
- No Memory Effect
- Approved as "Dry Cell" for Air Shipment By Dept. of Transportation and IATA
- Popular Video & Cellular Phone Batteries



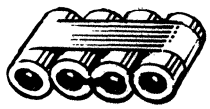
The LCR-Battery is a new type of sealed lead-acid rechargeable battery system developed by Matsushita Battery Industrial Co., Ltd. The lead-calcium rechargeable (LCR) battery, will stand up to tough operating conditions such as overcharge and deep discharge. In field service, troubles due to abnormal, improper operation or misuse are reduced to a minimum. The LCR battery has stable and reliable capacity. It can be easily maintained to permit proper operation of the equipment that it powers. The battery withstands overcharge, overdischarge, vibration and shock, more readily than competitive products, and is capable of extended storage. To assure this high quality and reliability, **LCR batteries are 100% tested on line for voltage, capacity, and seals, And all vents are 100% visually inspected during the final assembly process.** The LCR battery uses an absorbed electrolyte system. All of the electrolyte is absorbed into the positive and negative plates, and the separator material. Coupled with the use of special sealing epoxies, tongue and groove case and cover construction, and long-sealing paths for posts and connectors, the LCR batteries have exceptional leak resistance, **and can be used in any position.** These batteries save installation space, while providing full and reliable power for the equipment, and many have been designed for rapid recharge, or for high power output. As a result, this power is used for applications ranging from VCRs to vacuums, electric tools, engine-start, UPS systems and computers. LCR batteries have exceptional deep discharge recovery and charge acceptance, even after deep or prolonged discharge.

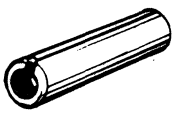
Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal 10 Hour Rate (Ah)	Capacity 20 Hour Rate (Ah)	Dimensions Length In. (mm)	Width In. (mm)	Height In. (mm)	Total Height Incl. Terminals In. (mm)	Weight (Approx.) Lbs. (g)	Std. Terminals or Connectors	EACH 1-9	10-24	25-49	50-99
884-0507	LCR6V1.3P	6	1.2	1.3	3.82 (97)	0.94 (24.0)	1.97 (50.0)	2.16 (56.0)	0.66 (300)	FASTON Type 187	**9.90**	**9.00**	**8.25**	**7.92**
884-0541	LCR6V2.4P	6	2.2	2.4	2.60 (66)	1.30 (33.0)	3.88 (98.5)	4.11 (104.5)	1.15 (520)	FASTON Type 187	**13.56**	**12.33**	**11.30**	**10.43**
884-0515	LCR6V3.4P	6	3.0	3.4	5.28 (134)	1.34 (34.0)	2.36 (60.0)	2.60 (66.0)	1.21 (550)	FASTON Type 187	**13.98**	**12.71**	**11.65**	**10.75**
884-0505	LCR6V3.2P	6	3.0	3.2	2.60 (66)	1.30 (33.0)	4.69 (119.0)	4.92 (125.0)	1.46 (660)	FASTON Type 187	**10.09**	**9.54**	**9.04**	**8.54**
884-0520	LCR6V4P	6	3.7	4.0	2.76 (70)	1.89 (48.0)	4.02 (102.0)	4.25 (108.0)	1.83 (830)	FASTON Type 187	**14.18**	**12.76**	**11.60**	**10.63**
884-0525	LCR6V4PL	6	3.7	4.0	2.76 (70)	1.89 (48.0)	4.02 (102.0)	4.02 (102.0)	1.83 (830)	Wire Leads	**13.56**	**12.33**	**11.30**	**10.43**
884-0535	LCR6V6.5P	6	5.8	6.5	5.95 (151)	1.34 (34.0)	3.70 (94.0)	3.94 (100.0)	2.55 (1150)	FASTON Type 187	**15.40**	**14.00**	**12.90**	**11.98**
884-0540	LCR856P	6	8.5	9.2	4.53 (115)	1.93 (49.0)	4.53 (115.0)	4.53 (115.0)	3.53 (1600)	FASTON Type 250	**20.95**	**18.50**	**18.10**	**17.65**
884-0545	LCR6V10PA	6	8.8	10.0	5.95 (151)	1.97 (50.0)	3.70 (94.0)	3.94 (100.0)	3.83 (1750)	FASTON Type 187	**18.92**	**17.20**	**16.00**	**15.20**
884-0550	LCR12V2.2PF	12	2.0	2.2	6.97 (177)	1.34 (34.0)	2.36 (60.0)	2.60 (66.0)	1.76 (800)	FASTON Type 187	**22.96**	**20.58**	**20.12**	**19.45**
884-0555	LCR12V3.4P	12	3.0	3.4	5.28 (134)	2.64 (67.0)	2.36 (60.0)	2.60 (66.0)	2.65 (1200)	FASTON Type 187	**24.51**	**21.75**	**21.05**	**20.29**
884-0560	LCR12V6.5P	12	5.8	6.5	5.95 (151)	2.54 (64.5)	3.70 (94.0)	3.94 (100.0)	4.85 (2200)	FASTON Type 187	**30.20**	**27.10**	**26.39**	**25.68**
884-0562	LCR12V17AP	12	15.0	17.0	7.13 (181)	3.00 (76.0)	6.58 (167.0)	6.58 (167.0)	13.70 (6.2 kg)	M5 Bolt and Nut Type	**55.60**	**50.55**	**46.33**	**42.77**
884-0564	LCL12V20P	12	18.0	20.0	7.28 (185)	4.92 (125.0)	6.50 (165.0)	6.50 (165.0)	16.51 (7.5 kg)	M5 Bolt and Nut Type	**62.20**	**56.55**	**51.83**	**47.85**
884-0565	LCR12V24P	12	22.0	24.0	4.92 (125)	6.50 (165.0)	6.89 (175.0)	6.89 (175.0)	19.20 (8.7 kg)	M5 Bolt and Nut Type	**81.56**	**73.40**	**66.73**	**61.17**
884-0570	LCL12V38P	12	35.0	38.0	7.76 (197)	6.50 (165.0)	6.88 (175.0)	6.88 (175.0)	28.70 (13.0 kg)	M6 Bolt and Nut Type	**123.20**	**112.06**	**102.67**	**94.77**
884-0580	LCL12V65P	12	57.0	65.0	13.80 (350)	6.54 (166.0)	6.85 (174.0)	6.85 (174.0)	41.90 (19.0 kg)	M6 Bolt and Nut Type	**182.00**	**165.45**	**151.67**	**140.00**

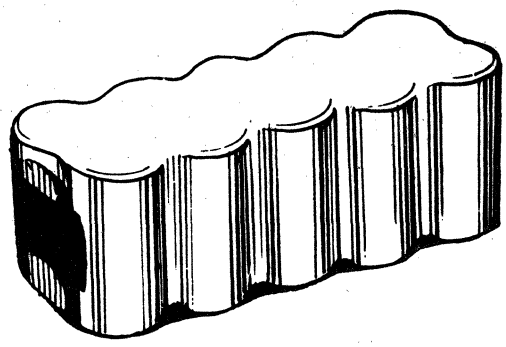
Popular Video and Cellular Phone Batteries

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Nominal 10 Hour Rate (Ah)	Capacity 20 Hour Rate (Ah)	Dimensions Length In. (mm)	Width In. (mm)	Height In. (mm)	Weight (Approx.) Lbs. (g)	Std. Terminals or Connectors	EACH 1-9	10-24	25-49	50-99
884-0597	LCR-1812P	12	1.8	1.90	7.890 (200.5)	.980 (24.80)	2.38 (60.5)	1.54 (700)	DC Plug	**45.20**	**43.50**	**41.80**	**39.70**
884-0596	LCS-2012P	12	2.0	2.10	7.900 (200.7)	.980 (24.80)	2.43 (61.7)	1.54 (700)	Pressure Contact	**50.67**	**45.60**	**41.45**	**38.00**
884-0595	LCS2312PC	12	2.3	2.34	7.165 (182.0)	.939 (23.85)	2.43 (61.7)	1.40 (635)	Pressure Contact	**50.67**	**45.60**	**41.45**	**38.00**

2 Nickel Cadmium Battery Assemblies







Call 1-800-433-5700 For Pricing

Nickel Cadmium Battery Assemblies are packaged to meet your battery power needs. Specify the number of cells, voltage and size requirement, along with the dimensions or description (circular formation, in-line, end-to-end or side-by-side, etc.) of required package size. Your custom battery package will include the basic NiCad battery cell(s) assembled according to your specifications, complete with solder tabs and a tape wrap for rigidity. Color coded wire leads and PVC Shrink Tubing to cover the package are also available. The cost of each NiCad battery package is based upon the number of cells and cost of assembly. Contact your nearest Allied Electronics location for application information, pricing and delivery assistance.

Customer Supplied Drawing Required.

Assembly can be side-by-side, cylindrical, or any other configuration. Allied will issue a custom stock number for each unit.

Battery Packs

1. Packaging Considerations

Ni-Cad cells are frequently used as a battery pack or assembly. There are several items to be considered after the correct cell has been selected, and the number of cells determined, based on the application.

When planning a battery pack, key considerations include:

- **number of cells**
- **intercell connections**
- **configuration**
- **outer package wrap**
- **terminals**

2. Typical Parts for the Battery Pack

(A) Solder terminals and tabs:

High quality nickel plate is used, and formed into the tab shapes.

Material: nickel

Dimensions mm			Applicable battery size	Tab
t	w	l		
0.15	3.6	12.7	AA size or smaller	
0.15	6.4	12.7	SC size	
0.15	6.4	12.7	C size	
0.15	6.4	12.7	D size	

(B) Lead wires:

Lead wires for battery packs usually use heat-resistant vinyl wire conforming to UL1007. Normal color coding is red (+), and black (–). The ends of the wires can be supplied precut, pretinned, or taped. Details are arranged when ordering.

(C) Heat-shrink tube

Heat-shrink tubes made of polyvinylchloride are used on many packs as the external cover. Tube thickness ranges from .05 mm to 0.2 mm depending on battery type and configuration.

(D) Other materials:

Due to the large variation in battery pack requirements, many other types of materials are used in pack construction. This may include various forms of adhesive, insulating material, temperature sensors, thermal protectors and diodes, or special connectors.

3. Inspection of Battery Packs

Battery Packs are subjected to a 100% appearance check and voltage test before shipment.

(A) Appearance check

The following items are checked: scarred or dirty exterior, labeling and external dimensions.

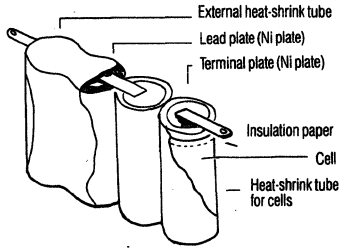
(B) Closed circuit voltage test

Charged batteries are discharged for a brief time with a resistance load at approximately 1 C. The battery voltage is measured during discharge to be sure that it has a voltage of 1.2 V/cell or more.

(C) Open circuit voltage

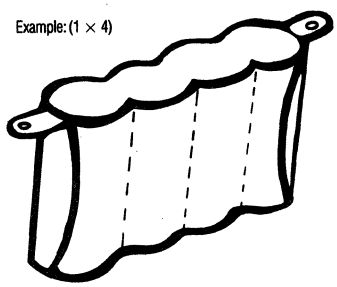
For discharged batteries, open circuit voltage is measured to be sure that it is 1.0 V/cell or more.

4A. Linear Packs



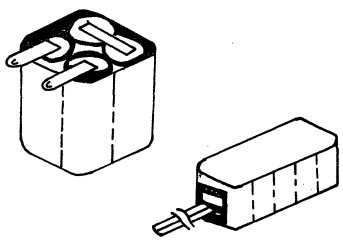
4A. Figure 1

Example: (1 × 4)

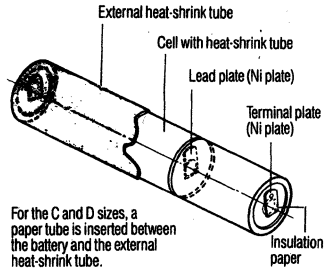


4A. Figure 2

Single cells are connected in 2 to 5 rows and packed in a heat-shrinkable tube
Example: (2 × 2) Example: (2 × 5)

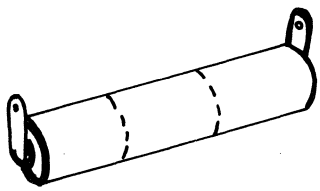


4B. Tubular Packs



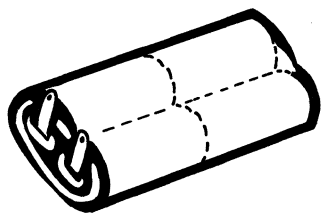
4B. Figure 1

Example: (1 × 3)



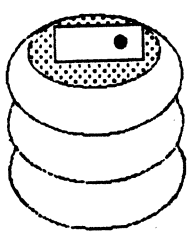
4B. Figure 2

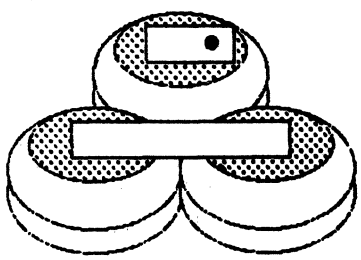
Single cells are connected in 2 to 6 rows and packed in a heat-shrink PVC tube.
Example: (2 × 2)



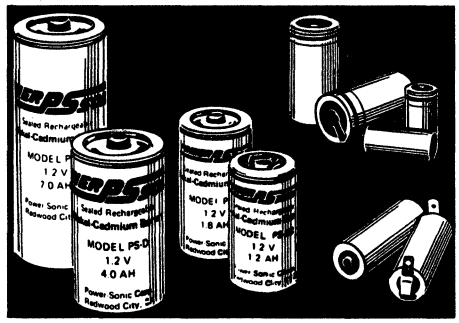
Packaging

POWER-SONIC niCd Button Cells are available with solder tabs. Packaging as assemblies can be done to meet electrical and dimensional requirements. The batteries can be stacked on top of each other, layed side by side, or clustered into groups. The terminations of the packs can be printed circuit board mount pins, solder tabs or wire leads. Each cell pack will be issued a custom part number when ordered. Call Allied for part number, pricing and delivery. A customer supplied drawing may be required. Due to varying customer configurations, these cell packs may not be in Allied stock.





Sealed Rechargeable Nickel Cadmium Batteries



Shipped Discharged
Sealed rechargeable nickel-cadmium batteries are widely used throughout the world in consumer and industrial applications. The positive and negative sintered plate construction offers high discharge rates and stable performance over a wide range of temperatures. The specially designed resealable vent automatically controls cell pressure and thus assures safety and reliability. Cells are tested and electronically selected as to impedance and capacity to provide uniformity—an important feature in cell assemblies.

Operating Temperature Specifications

Standard Cell:		**High Temperature Cell:**	
Standard Charge	0°C to +50°C	Standard Charge	−20°C to +70°C
Quick Charge	+10°C to +50°C	Quick Charge	+10°C to +45°C
Discharge	−20°C to +50°C	Discharge	−20°C to +70°C
Storage	−40°C to +50°C	Storage	−40°C to +70°C

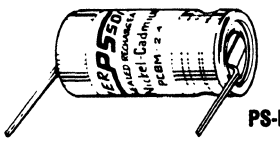
Stock No.	Mfr.'s Type	Nominal Voltage (V)	Capacity 5 Hr. Rate (mAh)	Std. Charge		Quick Charge		Diameter (Max.)		Height (Max.)		Weight		EACH			
				(mA)	(Hrs.)	(mA)	(Hrs.)	Inches	mm	Inches	mm	oz.	g	1-9	10-24	25-49	50-99
621-1000	PS-1/3AA	1.2	110	11	15	28	6.0	0.571	14.5	0.669	17.0	0.25	7	**1.90**	**1.80**	**1.69**	**1.64**
621-1001	PS1/3AA/T	1.2	110	11	15	28	6.0	0.571	14.5	0.669	17.0	0.25	7	**2.16**	**2.05**	**1.92**	**1.87**
621-0830	PS-N	1.2	150	15	15	38	6.0	0.473	12.0	1.142	29.0	0.30	9	**2.33**	**2.21**	**2.08**	**2.01**
621-0831	PS-N/T	1.2	150	15	15	38	6.0	0.473	12.0	1.142	29.0	0.30	9	**2.59**	**2.46**	**2.31**	**2.24**
621-0790	PS-AAA	1.2	180	18	15	45	6.0	0.414	10.5	1.752	44.5	0.35	10	**2.33**	**2.21**	**2.08**	**2.01**
621-0791	PS-AAAT	1.2	180	18	15	45	6.0	0.414	10.5	1.752	44.5	0.35	10	**2.59**	**2.46**	**2.31**	**2.24**
621-1015	PS-2/3AA	1.2	250	25	15	75	4.5	0.571	14.5	1.181	30.0	0.42	12	**1.98**	**1.89**	**1.77**	**1.72**
621-1016	PS-2/3AA/T	1.2	250	25	15	75	4.5	0.571	14.5	1.181	30.0	0.42	12	**2.24**	**2.13**	**2.00**	**1.94**
621-0800	PS-AA	1.2	500	50	15	150	4.5	0.571	14.5	1.988	50.5	0.74	22	**1.81**	**1.72**	**1.62**	**1.57**
621-0801	PS-AA/T	1.2	500	50	15	150	4.5	0.571	14.5	1.988	50.5	0.74	22	**2.07**	**1.97**	**1.85**	**1.79**
621-0850	PS-SC	1.2	1200	120	15	300	6.0	0.906	23.0	1.692	43.0	1.69	48	**3.36**	**3.20**	**3.00**	**2.91**
621-0851	PS-SC/T	1.2	1200	120	15	300	6.0	0.906	23.0	1.692	43.0	1.69	48	**3.62**	**3.44**	**3.23**	**3.13**
621-0820	PS-C	1.2	1800	180	15	—	—	1.024	26.0	1.969	50.0	2.65	75	**5.95**	**5.66**	**5.31**	**5.15**
621-0821	PS-C/T	1.2	1800	180	15	—	—	1.024	26.0	1.969	50.0	2.85	75	**6.21**	**5.90**	**5.54**	**5.37**
621-1040	PS-1/2D	1.2	2200	220	15	—	—	1.300	33.0	1.476	37.5	3.03	86	**7.07**	**6.72**	**6.31**	**6.12**
621-1041	PS-1/2D/T	1.2	2200	220	15	—	—	1.300	33.0	1.476	37.5	3.03	86	**7.33**	**6.97**	**6.54**	**6.34**
621-0810	PS-D	1.2	4000	400	15	—	—	1.339	34.0	2.402	61.5	5.47	155	**10.00**	**9.51**	**8.92**	**8.66**
621-0811	PS-D/T	1.2	4000	400	15	—	—	1.339	34.0	2.402	61.5	5.47	155	**10.26**	**9.75**	**9.15**	**8.88**
621-1050	PS-F	1.2	7000	700	15	—	—	1.339	34.0	3.583	91.5	8.82	250	**17.24**	**16.39**	**15.38**	**14.93**
621-1051	PS-F/T	1.2	7000	700	15	—	—	1.339	34.0	3.583	91.5	8.82	250	**17.50**	**16.64**	**15.62**	**15.15**

"/T" indicates with Tabs

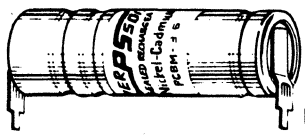
Pager Batteries PS-NP fits Motorola Pagers—Pageboy II, Page Com, Spirit, and Director.

621-1080	PS-NP	1.2	150	15	15	38	6.0	0.473	12.0	1.260	32.0	0.35	10	**3.88**	**3.69**	**3.46**	**3.36**

PCBM—"Printed Circuit Board Memory" Batteries

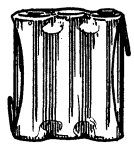


PS-PCBM-2.4



PS-PCBM-3.6

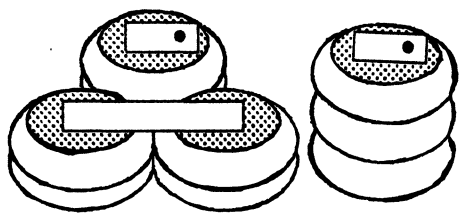
PS-B60/3



PS-AA/3

Stock No.	Mfr.'s Type	Nominal Voltage (V)	Capacity 5 Hr. Rate (mAh)	Trickle Charge		Diameter (Max.)		Height (Max.)		Weight		EACH			
				(mA)	(min. hrs.)	Inches	mm	Inches	mm	oz.	g	1-9	10-24	25-49	50-99
621-1090	PS-PCBM-2.4	2.4	110	3.7	48	0.571	14.5	1.350	34.5	0.53	15.0	**5.09**	**4.84**	**4.54**	**4.40**
621-1095	PS-B60/3	3.6	60	2.1	48	0.650	16.5	0.700	18.0	0.31	9.0	**4.48**	**4.26**	**4.00**	**3.88**
621-1100	PS-PCBM-3.6	3.6	110	3.7	48	0.571	14.5	2.015	52.0	0.79	22.5	**7.24**	**6.89**	**6.46**	**6.27**
622-0073	PS-AA/3	3.6	500	3.7	48	—	—	2.000	50.9	2.25	68.0	**6.00**	**5.25**	**4.60**	**4.25**

Recommendations and Precautions

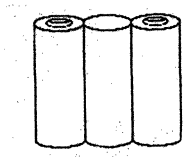


Although POWER-SONIC NiCd Button Cells are delivered in a charged state, there might be a time lapse between our factory charging and the customer discharge. Therefore we recommend batteries to be charged before use. It is not recomended to solder lead wires directly onto battery. Always solder lead wires to solder tabs. POWER-SONIC NiCd Button Cells with tabs can be flow soldered in any state of charge with a maximum of 10 seconds. We do not recommend parallel charging or connection. Parallel charging can produce irregular charging currents and back discharge from one battery to the other. Please avoid short circuit, reverse polarity, do not incinerate or open batteries. Cell components may be harmful to skin and eyes.

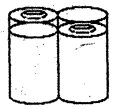
Storage
POWER-SONIC NiCd Button Cells can be stored for years regardless of charge, however, after a long storage period, i.e., over one or two years, it is recommended to recycle (charge/discharge) for three times to restore full capacity. It is recommended to store at room temperature, in a dry and clean environment. Keep away from dirt and moisture.

Stock No.	Mfr.'s Type	Nominal Voltage	Nominal Capacity 5 Hr. Rate (mAh)	End Voltage	Standard Charge			Dimension (mm)		Weight (g)	IEC Standard	EACH			
					Current (mA)	Time (hr)	Max Charging Voltage	Dia. (ϕ)	Height (H)			1-9	10-24	25-49	50-99
621-1105	PS-B60	1.2V	60 mAh	1.0V	6	16	1.5V	15.45 - 0.15	6.20 - 0.60	4	KBL 16/7	**1.20**	**1.11**	**0.96**	**0.90**
621-1110	PS-B100	1.2V	100mAh	1.0V	11	16	1.5V	15.00 - 0.20	7.70 - 0.40	8	—	**1.40**	**1.30**	**1.12**	**1.05**
621-1115	PS-B170	1.2V	170 mAh	1.0V	17	16	1.5V	25.10 - 0.20	6.70 - 0.60	10	KBL 26/7	**1.50**	**1.39**	**1.20**	**1.13**
621-1120	PS-B280	1.2V	280 mAh	1.0V	28	16	1.5V	25.10 - 0.20	9.00 - 0.60	14	KBL 26/9	**1.60**	**1.48**	**1.28**	**1.20**
621-1125	PS-B60/T	1.2V	60 mAh	1.0V	6	16	1.5V	15.45 - 0.15	6.20 - 0.60	5	KBL 16/7	**1.50**	**1.39**	**1.20**	**1.13**
621-1130	PS-B100/T	1.2V	100 mAh	1.0V	11	16	1.5V	15.00 - 0.20	7.70 - 0.40	9	—	**1.70**	**1.57**	**1.36**	**1.28**
621-1135	PS-B170/T	1.2V	170 mAh	1.0V	17	16	1.5V	25.10 - 0.20	6.70 - 0.60	11	KBL 26/7	**1.80**	**1.67**	**1.44**	**1.35**
621-1140	PS-B280/T	1.2V	280 mAh	1.0V	28	16	1.5V	25.10 - 0.20	9.00 - 0.60	15	KBL 26/9	**1.90**	**1.76**	**1.52**	**1.43**

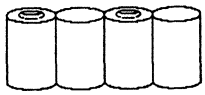
"/T" indicates with Tabs



TAA/3-1
TAA/3-5
1
TAA/3-2
TAA/3-6

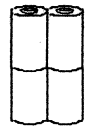


5 T2/3AA/4-5

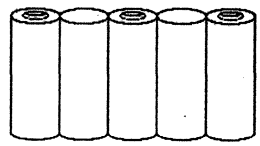


9 T2/3AA/4-3

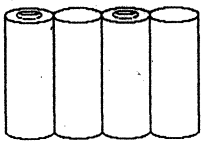
13 TB280/3-5



17 TN/4-3



21 TAA/5-1



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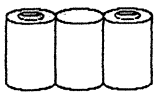
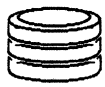
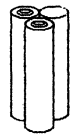


6
T2/3AA/3-5 T2/3AA/3-6
T2/3AA/3-7 T2/3AA/3-8
T2/3AA/3-9



10 TB280/3-1
TB280/3-3 TB280/3-4

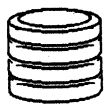
14
TB280/3-6 TB280/3-8



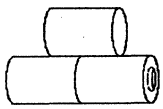
18 TAAA/3-1

TB170/3-1
22

TB280/3-7 TB280/3-9
23



3 TB280/4-2

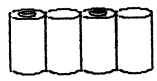


7
T2/3AA/3-12

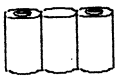
11
TB280/4-1

15
TB170/3-3 TB170/3-4

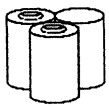
19
TB60/3-1



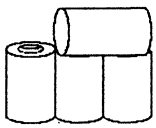
24 TN/4-1



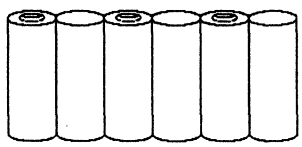
4 TN/3-1



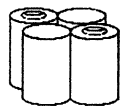
8
T2/3AA/3-10 T2/3AA/3-11



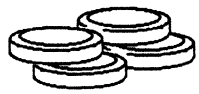
12
T2/3AA/4-9



16
TAA/6-1



20
T2/3AA/4-7 T2/3AA/4-8



25
TB280/4-3

Stock No.	Battery Part No.	Fig.	Manufacturer	For Use In Model	EACH* 1-9
622-0017	TAA/3-1	1	Alaron	WT500, WT700	8.12
622-0017	TAA/3-1	1	A-Phone (MCE)	KD10	8.12
622-0021	TAA/4-1	2	American Telecom	110,138,2110T	10.73
622-0017	TAA/3-1	1	AT&T	200, 250	8.12
622-0036	TB280/4-2	3	AT&T	450, 4000, XC	8.48
622-0001	TN/3-1	4	AT&T	600	9.43
622-0038	T2/3AA/4-5	5	AT&T	800	11.13
622-0005	T2/3AA/3-5	6	AT&T	3000, 8000	8.83
622-0012	T2/3AA/3-12	7	AT&T	3400	11.42
622-0006	T2/3AA/3-6	6	AT&T	3410, 4410, HT5210, HT5310	9.88
622-0028	TB280/3-1	10	AT&T	4000	6.48
622-0010	T2/3AA/3-10	8	AT&T	4400	9.97
622-0020	TAA/3-6	1	AT&T	HT-3400, HT4400, HT4410	9.40
622-0017	TAA/3-1	1	Audiosonic	T120	8.12
622-0017	TAA/3-1	1	Audiovox	AT-11, AT-12, AT-15, AT-20	8.12
622-0005	T2/3AA/3-5	6	Audiovox	AT-14	8.83
622-0013	T2/3AA/4-3	9	Audiovox	AT-21B, AT-22	10.87
622-0021	TAA/4-1	2	Audiovox	AT-22R	10.73
622-0017	TAA/3-1	1	Bell	31001	8.12
622-0018	TAA/3-2	1	Bell	32001, 32011	8.82
622-0028	TB280/3-1	10	Bell South	Vagabond 9812	6.48
622-0029	TB280/3-3	10	Bell South	6000	7.30
622-0035	TB280/4-1	11	Carlton	7010, 7012A	8.82
622-0017	TAA/3-1	1	Cobra	CP15, CP15S, CP99, CP99S, CP100, CP100S, CP110, CP110S, CP120S, CP130S, CP140, CP140S, CP205S, CP260S, CP330, CP330S, CP100SA, CP115S, CP200SA, CP210, CP220, CP477S, CP1105A, CP4403, CP54405C	8.12
622-0017	TAA/3-6	1	Cobra	CP110SA, CP115SA, CP120SA, CP130SA, CP140SA, CP250CM, CP250S, CP301S, CP302S, CP310S, CP320S, CP355S, CP440S, CP443, CP445S, CP447S, CP450S, CP460S	9.40
622-0005	T2/3AA/3-5	6	Cobra	CP86S, CP91R, CP92S, CP93, RP740RA	8.83
622-0008	T2/3AA/3-8	6	Cobra	CP464, CP464S, CP469, CP470, CP470S, CP471S, CP472S, CP473S, CP474S, CP475, CP475S, CP479S, AN8521	9.88
622-0016	T2/3AA/4-9	12	Cobra	CP90R, CP80, CP80S, CP90, CP90S, RP740R, RP740S, RP740SA, RP780SA	12.88
622-0001	TN/3-1	4	Cobra	CP91, RP740SC	9.43
622-0028	TB280/3-1	10	Cobra	CPT120, CPT140	6.48

Stock No.	Battery Part No.	Fig.	Manufacturer	For Use In Model	EACH* 1-9
622-0013	T2/3AA/4-3	9	Cobra	RP780S	10.87
622-0021	TAA/4-1	2	Cobra	CP200	10.73
622-0031	TB280/3-5	13	Cobra	CP469S, CP8521	9.13
622-0017	TAA/3-1	1	Code A Phone	7300	8.12
622-0017	TAA/3-1	1	Comdial	2100T	8.12
622-0008	T2/3AA/3-8	6	Conaire	CPT700	9.88
622-0017	TAA/3-1	1	Conaire	TP-3600	8.12
622-0017	TAA/3-1	1	Cosmo	3000	8.12
622-0028	TB280/3-1	10	Cosmo	5000	6.48
622-0032	TB280/3-6	14	Cosmo	TR30-38	7.60
622-0001	TN/3-1	4	Cybernet	Cybernet Phone	9.43
622-0026	TB170/3-3	15	Cyberex	2200	8.63
622-0023	TAA/6-1	16	Elcom	EMP3000	16.00
622-0005	T2/3AA/3-5	6	Elcon	EPN3000	8.83
622-0003	TN/4-3	17	Electra	1000	14.17
622-0017	TAA/3-1	1	Elite	6060	8.12
622-0017	TAA/3-1	1	Extend-A-Phone	BA300A	8.12
622-0017	TAA/3-1	1	Fanon	FCT200, FCT200R, FCT250, FCT2500, FTC100, FTC150R, FTC200A, FTC200A-2, FTC200S, FTC500S, FRCP-2	8.12
622-0016	T2/3AA/4-9	12	Fanon	FTC150R, FTC150	12.88
622-0017	TAA/3-1	1	Fine	KL700, DP15	8.12
622-0017	TAA/3-1	1	Freedom Phone	FF200, FF250, FF300, FF350, FF400, FF740, FF750, FF1100, FF1725	8.12
622-0013	T2/3AA/4-3	9	Freedom Phone	FF500, FF550, FF555, FF1500, FF3050, FF5000 (SW Bell-FF3000, FF4000)	10.87
622-0018	TAA/3-2	1	Freedom Phone	FF700, FF1700	8.82
622-0004	TAAA/3-1	18	Freedom Phone	FF1000, FF1250, FF2000, FF2500, FF2500II	10.88
622-0003	TN/4-3	17	Freedom Phone	FF3500	14.17
622-0028	TB280/3-1	10	Freedom Phone	(NW-Bell—FF3000, FF4000)	6.48
622-0024	TB60/3-1	9	G.E.	Flip Phone 300	6.42
622-0005	T2/3AA/3-5	6	G.E.	Voyager 700, 2-9520A, 2-9725A, 5-2108	8.83
622-0014	T2/3AA/4-7	20	G.E.	Voyager 1000, Voyager 5-2102, Voyager 7000, 2-9655-A, 5-2104, 9650	11.15
622-0008	T2/3AA/3-8	6	G.E.	2101, 2103, 2184, 2189	9.88
622-0015	T2/3AA/4-8	20	G.E.	2102, 2109	12.30
622-0011	T2/3AA/3-11	8	G.E.	2157	11.45
622-0030	TB280/3-4	10	G.E.	2219, 5-2201B, 9519	7.30

*Call local Allied office for larger quantities. Drawings illustrate cell configuration ONLY. Use cross reference for part numbers.

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

Stock No.	Battery Part No.	Fig.	Manufacturer	For Use In Model	EACH* 1-9
622-0005	T2/3AA/3-5	6	Goldstar	CT-5000A	8.83
622-0017	TAA/3-1	1	Go Phone	GF210	8.12
622-0021	TAA/4-1	2	Go Phone	GF250	10.73
622-0001	TN/3-1	4	GPT	C7	9.43
622-0005	T2/3AA/3-5	6	GPT	6PTC7	8.83
622-0013	T2/3AA/4-3	9	GPT	AT22	10.87
622-0017	TAA/3-1	1	Great	GCL822	8.12
622-0001	T2/3AA/3-5	6	GTE	Solitare 100, Solitare 200, Solitare 1000, Spacemate	8.83
622-0008	T2/3AA/3-8	6	GTE	3150, 31500	9.88
622-0027	TB170/3-4	15	GTE	3100, 3200, 5200, 5300	12.28
622-0001	TN/3-1	4	GTE	Spacemate II, Starmate	9.43
622-0035	TB280/4-1	11	GTS	128B	8.82
622-0017	TAA/3-1	1	Hiphon	3, 4	8.12
622-0001	TN/3-1	4	Hyostar	Starmate	9.43
622-0005	T2/3AA/3-5	6	Hyostar	CQ28Y	8.83
622-0034	TB280/3-8	14	ITT	PC1550	9.37
622-0017	TAA/3-1	1	ITT	PC1600, PC1700, PC1800	8.12
622-0017	TAA/3-1	1	IKKO	KD10	8.12
622-0017	TAA/3-1	1	Key Phone	920-WK, KP6200, KP9100DX, KP6002, 6200DP	8.12
622-0017	TAA/3-1	1	KRACO	KP6001, KP6002, KP6006, KP6200, KP6001-H	8.12
622-0017	TAA/3-1	1	Keyservice	VA7020	8.12
622-0022	TAA/5-1	21	Keyservice	VA4850	13.47
622-0017	TAA/3-1	1	Keytronics	6100P, 9100P	8.12
622-0028	TB280/3-1	10	La Phone	LP889	6.48
622-0017	TAA/3-1	1	MCE	700-1, 700-2, 700-3, 700-4, 700-5	8.12
622-0032	TB280/3-6	14	MCE	7103, 7110, 7112, 7114	7.60
622-0017	TAA/3-1	1	Midland	80-201, 80-204, 80-207, 80-207B, 80-220, 80-275	8.12
622-0013	T2/3AA/4-3	9	Midland	80-210	10.87
622-0016	T2/3AA/4-9	12	Midland	80-200B	12.88
622-0038	T2/3AA/4-5	5	Mura Phone	MP301	11.13
622-0017	TAA/3-1	1	Mura Phone	MP400, MP401	8.12
622-0028	TB280/3-1	10	Mura Phone	MP511	6.48
622-0035	TB280/4-1	11	Mura Phone	MP600, MP601, MP800	8.82
622-0026	TB170/3-3	15	Mura Phone	MP650	8.63
622-0025	TB170/3-1	22	Mura Phone	MP651	5.98
622-0017	TAA/3-1	1	Nomad	200, 250, 400	8.12
622-0036	TB280/4-2	3	Nomad	450, 4000 (White)	8.48
622-0001	TN/3-1	4	Nomad	600, 800	9.43
622-0013	T2/3AA/4-3	9	Nomad	700, 1000	10.87
622-0029	TB280/3-3	10	Nomad	3000	7.30
622-0028	TB280/3-1	10	Nomad	4000 (Beige)	6.48
622-0010	T2/3AA/3-10	8	Nomad	4000A, 4400, 4500, 5300	9.97
622-0029	TB280/3-3	10	Northwestern Bell	Excursion 3000, Excursion 6000	7.30
622-0033	TB280/3-7	23	Northwestern Bell	Sport CO288A	7.95
622-0039	TB280/3-9	23	Northwestern Bell	Sport	10.50
622-0034	TB280/3-8	14	Nippon	580, 584	9.37
622-0003	T2/3AA/4-3	9	Nippon	820	10.87
622-0035	B280/4-1	11	Pacer Phone	8503, 8504, 8513, 8515	8.82
622-0013	T2/3AA/4-3	9	Pacer Phone	8510	10.87
622-0034	TB280/3-8	14	Pacer Phone	CT584	9.37
622-0006	T2/3AA/3-6	6	Pacific Bell	800, 810, 820, 840	9.88
622-0025	TB170/3-1	22	Pacific Bell	Telequest	5.98
622-0017	TAA/3-1	1	Panasonic	KXT800, KXT3815, KXT3821, KXT3845, VA7020	8.12
622-0007	T2/3AA/3-7	6	Panasonic	KXT3800, KXT3822, KXT3823, KXT3832, KXT4200, KX8036A	5.98
622-0037	TB280/3-8	14	Panasonic	KXT3805	9.37
622-0018	TAA/3-2	1	Panasonic	KXT3835, KXT3842	8.82
622-0024	TB60/3-1	19	Panasonic	VA8020, VA8030	6.42
622-0021	TAA/4-1	2	Phone Mate	IQ1120, IQ1121, IQ1140	10.73
622-0014	T2/3AA/4-7	20	Phone Mate	IQ800, IQ4200, IQ4210, IQ4220, IQ8000	11.15
622-0017	TAA/3-1	1	Pierre Cardin	AMMB-9	8.12
622-0028	TB280/3-1	10	Phonetime	889	6.48
622-0017	TAA/3-1	1	Quasar	2100, CX2200	8.12
622-0017	TAA/3-1	1	Q.C.	KP-6002	8.12
622-0017	TAA/3-1	1	Q.T.&T.	QT1600	8.12
622-0017	TAA/3-1	1	Radio Shack	ET268, ET350	8.12
622-0013	T2/3AA/4-3	9	Radio Shack	ET300, ET330, 450, 451	10.87
622-0005	T2/3AA/3-5	6	Radio Shack	ET380, ET381, 552, 553, 556, 560	8.83
622-0033	TB280/3-7	23	Radio Shack	ET390	7.95
622-0028	TB280/3-1	10	Radio Shack	ET395, 544, 547	6.48
622-0009	T2/3AA/3-9	6	Radio Shack	ET415, 455, 43-555	9.77
622-0017	TAA/3-1	1	Remote Phone	RF1000	8.12
622-0017	TAA/3-1	1	Record-A-Call	CAT300, CAT400	8.12
622-0002	TN/4-1	24	Sam Will	CT650	12.22
622-0001	TN/3-1	4	Sanyo	TH500, TH101S, TH1015, TH1015M, TH2000, TH2000S, TH5100, TH5200, 900, CLT6100	9.43
622-0014	T2/3AA/4-7	20	Sanyo	TH1000S	11.15
622-0010	T2/3AA/3-10	8	Sanyo	TH1010, TH1010M	9.97
622-0002	TN/4-1	24	Sanyo	TH5400, TH5500	12.22
622-0004	TAAA/3-1	18	Sanyo	CLT25, CLT30, CLT35	10.88
622-0001	TN/3-1	4	Sears	SR1000, SR2000, 3523403380	9.43
622-0002	TN/4-1	24	Sears	SR3000	12.22
622-0005	T2/3AA/3-5	6	Sentinel	99603	8.83
622-0038	T2/3AA/4-5	5	Sony	SPP-11II	11.13
622-0005	T2/3AA/3-5	6	Sony	STP-22, STP-22H	8.83
622-0029	TB280/3-3	10	Sony	SPP-50, SPP-80	7.30
622-0019	TAA/3-5	1	Sony	SPP-100, SPP110, SPP-150, SPP-200, SPP-300	8.53
622-0004	TAAA/3-1	18	Sound Design	7848, 7890	10.88
622-0001	TN/3-1	4	Sound Design	7878	9.43
622-0035	TB280/4-1	11	Spectra	P210	8.82
622-0003	TN/4-3	17	Super Phone	CT650	14.17
622-0021	TAA/4-1	2	Super Phone	CT505	10.73
622-0021	TAA/4-1	2	Taicom	CGL802	10.73
622-0009	T2/3AA/3-9	6	Tandy	CS0139	9.77
622-0017	TAA/3-1	1	Technidyne	GF210, Go Phone	8.12
622-0021	TAA/4-1	2	Technidyne	GF250	10.73
622-0017	TAA/3-1	1	Teleservices	2110T	8.12
622-0013	T2/3AA/4-3	9	Tel-Mate	19AG2	10.87
622-0005	T2/3AA/3-5	6	Tele Concepts	T-C Phone	8.83
622-0013	T2/3AA/4-3	9	Ultima	1	10.87
622-0009	T2/3AA/3-9	6	Uniden	EX254, EX2600, EX2700, EX8050	9.77
622-0017	TAA/3-1	1	Uniden	EX300, EX500, EX900, EX1000, EX1100, EX1150, EX1500, EX2000, EX2100, EX2101, EX3000, EX3100, EX3201, EX3300, EX3500, EX4000, EX4100, EX4112, EX4500, EX5000, EX6000, EX7000, EX7500, EX7700, BA300, BA300A	8.12
622-0018	TAA/3-2	1	Uniden	EX3101, EX3102, EX3800, EX3810, EX4101, EX4102, EX4800	8.82
622-0032	TB280/3-6	14	Uniden	EX7620	7.60
622-0034	TB280/3-8	14	Uniden	XE200, XE300, XE360, XE400, XE550	9.37
622-0037	TB280/4-3	25	Uniden	XE600, XE700, XE750	14.53
622-0017	TAA/3-1	1	Unisonic	6078	8.12
622-0009	T2/3AA/3-9	6	Unisonic	6080, 6081	9.77
622-0013	T2/3AA/4-3	9	Unitech	CP400R	10.87
622-0002	TN/4-1	24	Unitech	CP2600	12.22
622-0017	TAA/3-1	1	Universal	Tote & Talk, TEL3400, Tote & Talk 2600	8.12
622-0017	TAA/3-1	1	US Tron	Amaz-A-Phone	8.12
622-0017	TAA/3-1	1	Walk & Talk	CP800	8.12
622-0017	TAA/3-1	1	Webcor	512, 516, 576, 584, 587, WP555R, WP575	8.12
622-0005	T2/3AA/3-5	6	Webcor	518	8.83
622-0001	TN/3-1	4	Webcor	778, WP518	9.43
622-0003	TN/4-3	17	Webcor	WP512	14.17
622-0035	TB280/4-1	11	Webcor	WP585	8.82
622-0017	TAA/3-1	1	Westin	727A	8.12
622-0017	TAA/3-1	1	Windsor	CIT-218	8.12

***Call local Allied office for larger quantities. Drawings illustrate cell configuration ONLY. Use cross reference for part numbers.**

2

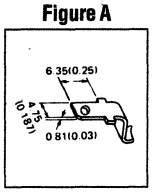
Rechargeable Sealed Lead-Acid Batteries

Battery Breakthrough! Compact and Lightweight with Exclusive Electrolyte That's Sealed, Safe, Maintenance-Free and Takes 500 or More Charge/Discharge Cycles! Ideal for Portable TV, Recorders, VOMs, Burglar/Fire Alarms ... and More!

The very best in reliable, rechargeable, no-maintenance batteries. They outperform and outvalue other systems when used as the power source in almost any portable application. Absolutely safe because a "one-way" relief valve releases any pressure that may build up, then automatically reseals. High-impact polystyrene cases eliminates shorts, rust, fungus or other organic growth. And there's no "memory" problem — these batteries deliver full rated power WHEN YOU NEED IT, regardless of previous use history.

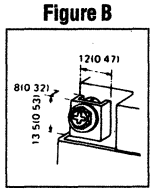
- Truly Leakproof
- Long Lasting
- Use in Any Position
- Long Shelf Life
- No Permanent Cell Reversal
- Usable from −76°F to +140°F
- High Discharge Rate Capability

Figure A



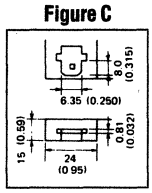
FASTON tabs .187" × .032" mate with AMP. INC. "187" series receptacles or equivalent

Figure B



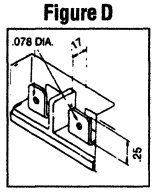
Threaded terminal post with nut and bolt terminal both in 5 mm and 6 mm diameter

Figure C



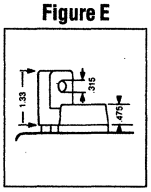
"250" FASTON .250" × .032" mate with AMP. INC. "250" series receptacles or equivalent

Figure D



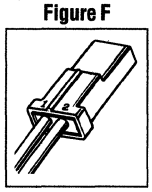
Polarized positive .250" × .032", negative .187" × .032"

Figure E



Heavy duty flag terminals

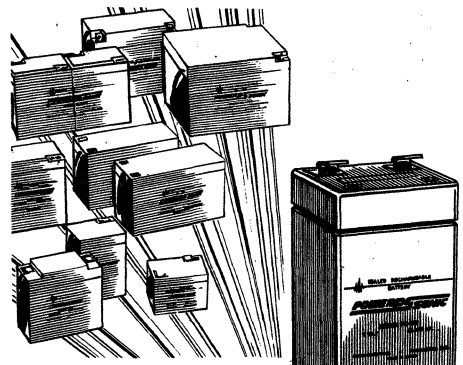
Figure F



Terminated with AMP INC. part number 1-480318-0 and female pin part number 60619-1

Stock No.	Mfr's Type	Nom. V	Rt. Cap.* Amp-Hr.	20-H Dis. Rate mA	Terminal Type	Dimensions						Weight		EACH			
						Length		Width		Height†							
						In.	mm	In.	mm	In.	mm	Lbs.	Kg.	1-9	10-24	25-49	50-99
621-0445	PS-445	4	4.5	225	C	1.93	49	2.09	53	3.86	98	1.50	0.70	**14.25**	**13.50**	**13.25**	**12.75**
621-0490	PS-490	4	9.0	450	C	4.02	102	1.73	44	3.86	98	2.40	1.10	**17.70**	**15.35**	**14.57**	**13.00**
621-0605	PS-605	6	0.5	25	‡	2.24	57	.55	14	1.97	50	0.20	0.09	**9.15**	**8.20**	**7.99**	**7.78**
621-0180	PS-610	6	1.0	50	A	2.00	51	1.65	42	2.20	56	0.62	0.28	**10.50**	**9.40**	**9.15**	**8.90**
621-0190	PS-612	6	1.2	60	A	3.82	97	.94	24	2.13	54	0.64	0.29	**10.75**	**9.65**	**9.35**	**9.10**
621-0200	PS-618	6	2.0	100	A	2.95	75	2.00	51	2.28	58	0.95	0.43	**15.85**	**14.20**	**13.82**	**13.43**
621-0220	PS-626	6	3.0	150	A	5.28	134	1.34	34	2.56	65	1.28	0.58	**14.90**	**13.35**	**13.00**	**12.65**
621-0225	PS-630	6	3.0	150	A	2.60	66	1.30	33	5.00	127	1.50	0.68	**15.25**	**13.65**	**13.25**	**12.90**
621-0240	PS-640F1	6	4.0	200	A	2.76	70	1.89	48	4.02	102	1.92	0.87	**14.00**	**12.55**	**12.22**	**11.88**
621-0241	PS-640WL	6	4.0	200	Wire	2.76	70	1.89	48	4.02	103	1.92	0.87	**14.00**	**12.55**	**12.22**	**11.88**
621-0260	PS-660	6	6.5	325	A	5.95	152	1.34	34	3.86	98	2.60	1.17	**16.40**	**14.70**	**14.32**	**13.93**
621-0665	PS-665	6	6.5	325	D	3.86	98	2.20	56	4.05	103	3.00	1.40	**19.15**	**18.15**	**17.82**	**17.15**
621-0280	PS-682F	6	8.0	400	A	3.86	98	2.20	56	4.65	118	3.30	1.50	**18.25**	**16.35**	**15.92**	**15.48**
621-1283	PS-6100	6	10.0	500	A	5.95	151	2.00	51	3.86	98	4.60	0.35	**21.00**	**18.80**	**18.30**	**17.80**
621-6105	PS-6105	6	10.0	500	D	4.25	108	2.75	70	5.51	140	4.20	0.56	**23.10**	**21.88**	**21.47**	**20.65**
621-6120	PS-6120	6	12.0	600	D	4.25	108	2.75	70	5.51	140	4.60	0.89	**24.75**	**23.45**	**23.02**	**22.15**
621-0380	PS-6200NB	6	20.0	1000	B	6.18	157	3.27	83	4.92	125	8.14	1.30	**51.35**	**45.95**	**44.73**	**43.50**
621-1207	PS-1207	12	0.7	35	F	3.78	96	.98	25	2.42	62	0.77	2.36	**17.75**	**16.83**	**16.52**	**15.90**
621-0402	PS-1212	12	1.2	60	A	3.82	97	1.65	42	2.13	54	1.24	2.40	**18.25**	**16.35**	**15.92**	**15.48**
621-0340	PS-1219	12	1.9	95	A	7.01	178	1.34	34	2.56	65	1.96	1.50	**22.65**	**20.30**	**19.77**	**19.23**
621-0350	PS-1226	12	3.0	200	A	7.68	195	1.85	47	2.95	75	2.90	1.50	**25.60**	**22.90**	**22.29**	**21.68**
621-1230	PS-1230	12	3.0	150	A	5.23	134	2.64	67	2.60	66	2.6	1.2	**25.60**	**24.25**	**23.80**	**22.90**
621-1242	PS-1242	12	4.0	200	A	3.54	90	2.76	70	4.13	105	3.8	1.7	**25.85**	**23.15**	**22.53**	**21.90**
621-0360	PS-1250	12	5.0	250	A	5.94	151	2.56	65	3.89	99	5.20	1.50	**27.50**	**24.60**	**24.20**	**23.80**
621-0365	PS-1265	12	6.5	325	A	5.95	151	2.56	65	3.86	98	5.29	2.10	**29.90**	**26.80**	**26.09**	**25.38**
621-1281	PS-1282L	12	8.0	400	A	7.72	196	2.20	56	4.65	118	6.60	1.90	**37.10**	**33.20**	**32.32**	**31.43**
621-1280	PS-1282S	12	8.0	400	A	4.40	112	3.86	99	4.65	118	6.60	2.10	**37.10**	**33.20**	**32.32**	**31.43**
621-1282	PS-1282L-22	12	8.2	400	F	7.72	196	2.20	56	4.65	118	6.60	3.70	**39.60**	**35.70**	**34.82**	**33.93**
621-0390	PS-12100	12	10.0	500	A	5.95	151	4.00	102	3.86	98	9.20	4.20	**43.65**	**39.10**	**38.06**	**37.03**
621-1212	PS-12120	12	12.0	600	D	5.95	151	3.86	98	3.86	98	8.80	4.00	**49.65**	**47.08**	**46.22**	**44.50**
621-0395	PS-12150	12	15.0	750	C	7.13	181	2.99	76	6.57	167	12.80	5.80	**57.90**	**54.88**	**53.87**	**51.85**
621-0396	PS-12150NB	12	15.0	750	B	7.13	181	2.99	76	6.57	167	12.80	5.80	**57.90**	**54.88**	**53.87**	**51.85**
621-0400	PS-12200	12	20.0	1000	C	6.89	175	6.54	166	4.92	125	17.60	8.00	**79.85**	**71.50**	**69.59**	**67.68**
621-2240	PS-12240NB	12	24.0	1200	B	6.52	166	4.92	125	6.89	175	19.80	9.00	**84.75**	**75.90**	**73.88**	**71.85**
621-1226	PS-12260	12	26.0	1300	C	6.89	175	6.54	166	4.92	125	18.70	8.50	**79.85**	**71.50**	**69.59**	**67.68**
621-1227	PS-12260NB	12	26.0	1300	B	6.89	175	6.54	166	4.92	125	18.70	8.50	**79.85**	**71.50**	**69.59**	**67.68**
621-0403	PS-12300NB	12	30.0	1500	E	7.75	197	5.19	132	7.31	186	21.00	9.50	**72.85**	**65.20**	**63.47**	**61.73**
621-0405	PS-12400NB	12	40.0	2000	B	7.75	197	6.50	165	6.69	176	27.50	12.50	**123.10**	**110.20**	**107.27**	**104.33**
621-6000	PS-12600NB	12	60.0	3000	E	10.25	260	6.60	168	9.45	240	39.70	18.00	**115.60**	**109.55**	**107.53**	**103.50**
621-8000	PS-12800NB	12	80.0	4000	E	9.45	305	6.60	168	94.5	240	50.00	22.70	**147.50**	**139.80**	**137.23**	**132.10**

*Capacity at 20-hour rate. †Height over terminal. ‡Solder Tabs.



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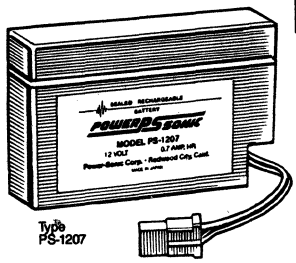

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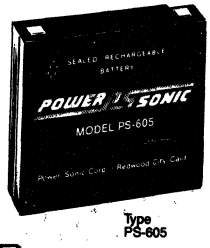

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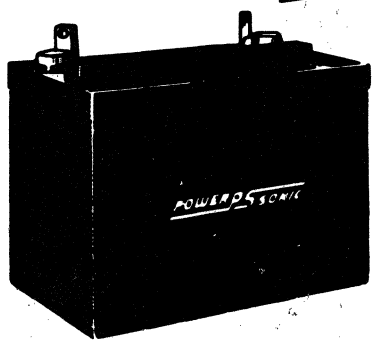
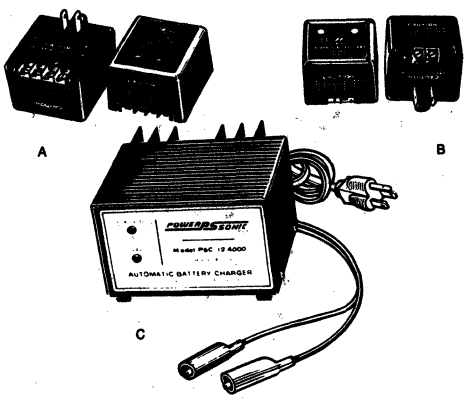


Type PS-12600 PS-12800

Battery Chargers



Electronically Regulated Battery Chargers For Sealed Lead Acid and Gel-Type Batteries

"F" SERIES: Float Chargers. This series of chargers is designed to provide optimum life for batteries used in standby applications where charging is continuous. The chargers deliver a constant voltage of 2.25-2.3 volts/cell which allows the battery to seek its own current level and maintain itself in a fully charged condition. **"A" SERIES: Automatic Dual Rate Chargers.** These chargers sense battery requirements and automatically switch from the fast charge to float mode, or the float to fast charge mode. In the fast charge mode the chargers are capable of recharging batteries in less than 16 hours without any danger of overcharge. LEDs provide indication that the charger is on as well as an indication of the charging mode.

262-0001. Charger leads for below (per set) ..... **EACH 5.00**

Stock No.	Mfr's Type	Fig.	Output Voltage (VDC)		Output Current		Use With Battery		EACH			
			Nom.	Range	Nom.	Max.	Voltage	Capacity	1-9	10-24	25-49	50-99
621-0600	PSC-6250-A	B	6	6.75/7.35	.30A	.60A	6V	1-10AH	**34.40**	**29.80**	**28.93**	**28.05**
621-0650	PSC-12250-A	B	12	13.50/14.70	.25A	.40A	12V	1-6.5AH	**34.40**	**29.80**	**28.93**	**28.05**
621-0670	PSC-6500-A	A	6	6.75/7.35	.60A	.75A	6V	4-10AH	**42.30**	**36.65**	**35.35**	**34.50**
621-0675	PSC-12500-A	A	12	13.50/14.70	.50A	.60A	12V	2-10AH	**42.30**	**36.65**	**35.35**	**34.50**
621-0622	PSC-6250-F	B	6	6.83	.30A	.60A	6V	1-10AH	**28.00**	**24.25**	**23.50**	**22.80**
621-0660	PSC-12250-F	B	12	13.65	.25A	.40A	12V	1-10AH	**28.00**	**24.25**	**23.50**	**22.80**
621-0685	PSC-12500-F	A	12	13.65	.50A	.60A	12V	2-10AH	**29.15**	**25.25**	**24.52**	**23.78**
621-0630	PSC-64000-A	C	6	6.75/7.35	3.50A	4.00A	6V	10-60AH	**107.70**	**93.35**	**90.60**	**87.85**
621-0695	PSC-124000-A	C	12	13.50/14.70	4.00	4.75	12V	10-60AH	**107.70**	**93.35**	**90.60**	**87.85**
621-0700	PSC-121250-A	A	12	13.50/14.70	1.25A	1.50A	12V	6-29AH	**66.45**	**57.60**	**55.75**	**54.10**

Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

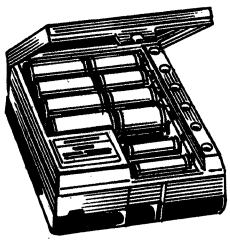
Rechargeable Nickel Cadmium Batteries

Can be charged and discharged up to 500 times to save you both time and money. Top performance no matter how many times it's been recharged. Both "C" and "D" cells are rated 1.25 V, "AA" is rated 1¼ V and sold in packages of 2.

Stock No.	Mfr.'s Type	Size	Wt. Oz.	EACH
910-5175	23-123	"D"	5	6.79*
910-5176	23-124	"C"	2½	6.79*
910-5177	23-125	"AA"	1	4.69*
910-5178	23-126	9 V Rect.	1½	9.95
910-5179	23-127	"AAA"	1	5.39

*Per Pkg. of 2.

Battery Charger

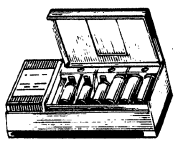


► Automatically Regulated Charging Rate

Type 23-134. Charge up to ten "C", "D" or "AA" batteries at a time in any combination of twos. Also charges up to three 9 V cells. LEDs show when system is charging. UL listed.

910-5180.....EACH 29.95

Nickel-Cadmium "AA" and "AAA" Charger



► Charges Up to 6 Batteries

Type 23-136. Automatically regulated. Charges cells in 14 to 16 hours. See through cover. UL listed.

910-5181.....EACH 11.95

T-Type 9-Volt Battery Clips

Type 270-325. Perfect for replacement use in walkie-talkies, radios, tape players—and battery-powered portable. ½" spacing. Fits transistor radio and other battery holder connectors. Made of sturdy plastic. Offers long life and excellent resistance to battery acid and physical stresses.
910-5205. 5 per Pkg......EACH 1.19

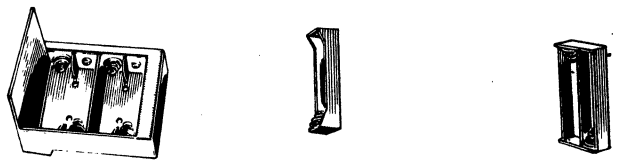
Premium-Quality Alkalines

► Long Shelf Life
► Anti-Corrosion Contacts
► High Output at Low Temperatures
► Cost Less in the Long Run

These exclusive alkalines retain full power during long-term storage and give you top performance even under high current drain. For all standard uses. Non-rechargeable.

Stock No.	Mfr.'s Type	Size	Pkg. Quantity	EACH
910-9015	23-551	"C"	2	2.59
910-9016	23-553	9 V Rect.	Each	1.89
910-9017	23-552	"AA"	4	2.89
910-9018	23-550	"D"	2	2.59
910-9019	23-555	"AAA"	2	1.59
910-9020	23-023	"N"	2	1.59

Battery Holders



Stock No.	Mfr.'s No.	Holds	EACH
910-5182	270-398	2 "AAA"	.69
910-5183	270-391	4 "AA"	1.19
910-5184	270-385	2 "C"	1.19
910-5185	270-390	4 "C"	1.39
910-5186	270-386	2 "D"	1.39
910-5187	270-396	4 "D"	1.49
910-5189	270-401	1 "AA"	.59
910-5190	270-402	1 "C"	.69
910-5191	270-403	1 "D"	.79

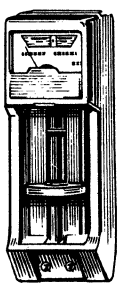
Halogen Flashlight

► Brighter Beam for Better Visibility
► Sturdy Construction for Long Life

300% brighter than ordinary flashlights. Designed for durability, its water-resistant housing and lens are virtually unbreakable. Uses 2 "D" cell batteries.

910-9021. Type 61-2737.....EACH 10.88

Battery Checker



For D/C/9V/AA AAA/N Sizes

Model 22-096. For zinc carbon, alkaline, mercury and nickel-cadmium batteries.

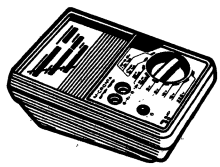
910-2135.....EACH 6.95

Durable All-Purpose 4-Cell Flashlight

Powerful search light beam. Impact and water-resistant housing. Requires 4 "C" cell batteries.

910-9022. Type 68-1040.....EACH 1.98

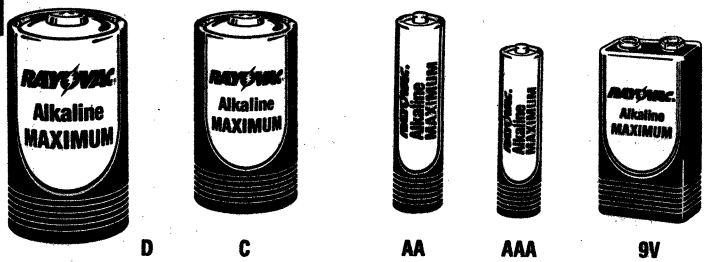
Battery Tester



Accurately measures almost any type of battery under load conditions ranges: 1.5 volts (1-150 mA), 3, 6, 9, 12, 15, 22.5 volts. **Size:** 1¾" × 3½" × 5¼". For battery tests only.

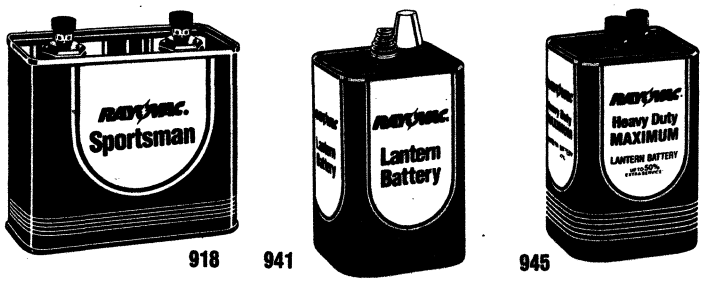
910-9023. Type 22-0032.....EACH 12.95

Alkaline Batteries



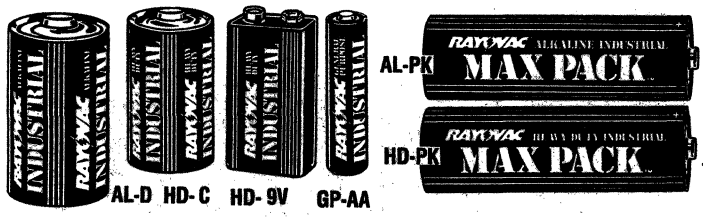
Stock No.	Mfr.'s Type	NEDA	Volts	Size	Common Use	Pack Qty.	EACH 1-99	EACH 100-499
738-0100	813	13A	1.5	D	Instrument	1	1.96	1.63
738-0105	814	14A	1.5	C	Instrument	1	1.96	1.63
738-0110	815	15A	1.5	AA	General	1	1.36	1.14
738-0115	824	24A	1.5	AAA	Calculator	1	1.36	1.14
738-0120	810	910A	1.5	N	Calc./Instr.	1	1.38	1.15
738-0125	A1604-1	1604A	9V	9V	Instrument	1	3.90	3.25

Lantern Batteries



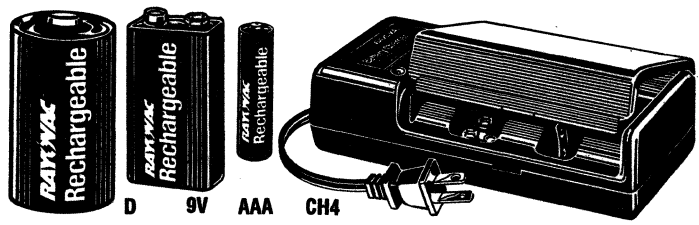
Stock No.	Mfr.'s Type	NEDA	Volts	Size	Common Use	Terminals	EACH 1-99	EACH 100-499
738-0200	941	906	6	Lantern	General	Spring	3.96	3.47
738-0205	942	915	6	Lantern	General	Screw	4.70	4.11
738-0210	944	906D	6	Lantern	Heavy Duty	Spring	5.24	4.59
738-0215	945	—	6	Lantern	Heavy Duty	Screw	5.96	5.22
738-0220	926	926	12	Lantern	General	Screw	13.06	11.43
738-0225	918	918	6	Lantern	General	Screw	10.48	9.17
738-0230	904	904	9	Lantern	Emer. Lights	Screw	33.00	28.88
738-0235	920	920	6	Lantern	Barricade Lights	—	4.70	4.11
738-0240	922	922	12	Lantern	Emer. Lights	Screw	44.00	38.50

Industrial Batteries



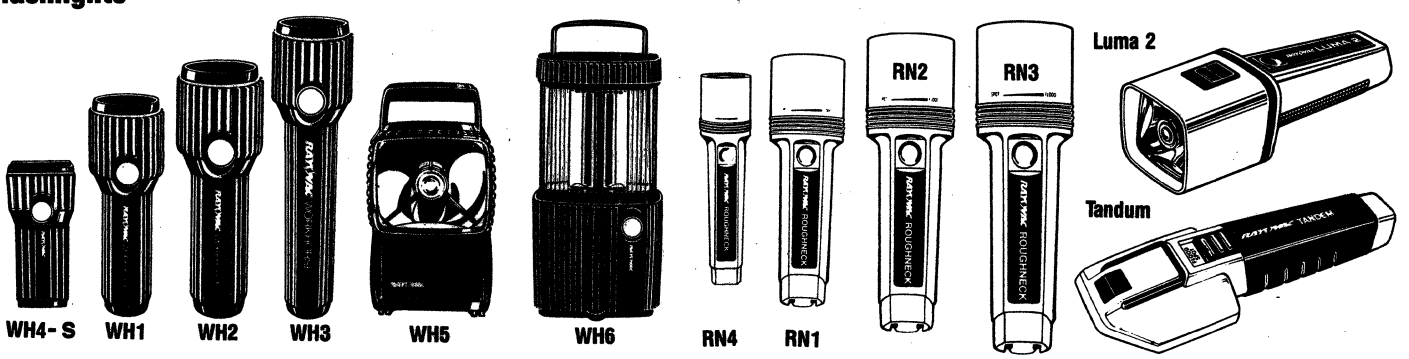
Stock No.	Mfr.'s Type	NEDA	Volts	Size	Type	Pack Qty.	EACH 1-99	EACH 100-499
738-1000	AL-D	13A	1.5	D	Alkaline	6	12.00	10.80
738-1005	AL-C	14A	1.5	C	Alkaline	6	12.00	10.80
738-1010	AL-AA	15A	1.5	AA	Alkaline	8	10.80	9.72
738-1015	AL-9V	1604A	9V	9V	Alkaline	6	23.70	21.33
738-1020	AL-AAA	24A	1.5	AAA	Alkaline	8	10.80	9.72
738-1025	HD-D	13D	1.5	D	Heavy Duty	6	4.65	4.19
738-1030	HD-C	14D	1.5	C	Heavy Duty	6	4.65	4.19
738-1035	HD-AA	15D	1.5	AA	Heavy Duty	8	5.00	4.50
738-1040	HD-9V	1604D	9V	9V	Heavy Duty	6	12.45	11.21
738-1045	GP-D	13F	1.5	D	General Purpose	6	4.05	3.65
738-1050	GP-C	14F	1.5	C	General Purpose	6	4.05	3.65
738-1055	GP-AA	15F	1.5	AA	General Purpose	8	4.20	3.78
738-1060	GP-9V	1604	9V	9V	General Purpose	6	7.35	6.62
738-0070	AL-PK	—	3.0	DD	Alkaline	1	3.78	3.40
738-0075	HD-PK	—	3.0	DD	Heavy Duty	1	1.58	1.42

Rechargeable Nickel-Cadmium Batteries



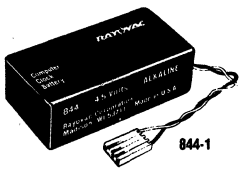
Stock No.	Mfr.'s Type	NEDA	Volts	Size	Common Use	Pack Qty	EACH 1-99	EACH 100-499
738-0300	613-2	—	1.2	D	Rechargeable	2	12.24	10.71
738-0305	614-2	—	1.2	C	Rechargeable	2	12.24	10.71
738-0310	615-2	—	1.2	AA	Rechargeable	2	9.80	8.58
738-0315	604-1	—	9V	9V	Rechargeable	1	12.24	10.71
738-0345	CH4	—	—	—	4 Batt Desktop Chg	1	17.62	—
738-0350	CH8	—	—	—	8 Batt Desktop Chg	1	29.99	—

Flashlights

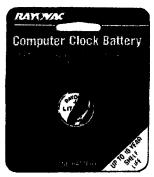


Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-49
738-2001	WH1	Workhorse 2 Cell C size flashlight with krypton bulb	7.38	6.46
738-2002	WH2	Workhorse 2 Cell D size flashlight with krypton bulb	7.88	6.90
738-2003	WH3	Workhorse 3 Cell D size flashlight with krypton bulb	8.88	7.77
738-2004	WH4-S	Workhorse 2 Cell AA size flashlight with krypton bulb	5.08	4.45
738-2005	WH5	Workhorse 6-Volt beam lantern with krypton bulb and flasher	20.94	18.32
738-2006	WH6	Workhorse 6-Volt Fluorescent lantern	39.94	34.95
738-2020	Luma 2	Luma 2 2-Cell C size flashlight with lithium backup	19.99	18.00
738-2030	RN1	Roughneck 2 Cell C size flashlight with krypton bulb	8.51	7.98
738-2035	RN2	Roughneck 2 Cell D size flashlight with krypton bulb	9.08	8.52
738-2040	RN3	Roughneck 3 Cell D size flashlight with krypton bulb	9.57	8.98
738-2045	RN4-S	Roughneck 2 Cell AA size flashlight with 2 AA batteries	7.36	6.91
738-2050	TD2-S	Tandem 2 Cell D size flashlight with 2 heavy duty D batteries	17.99	13.83

Computer Clock Batteries


844-1

PC223A

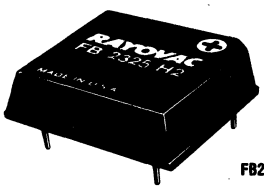


BR2325C-1

Stock No.	Mfr.'s Type	See Note	Volts	Use	EACH	
					1-99	100-499
738-0001	844-1	1	4.5	Computer Clock	18.00	11.00
738-0004	844W-1	2	4.5	Computer Clock	18.00	11.00
738-0002	PC223A-1	3	6.0	IBM PS/2™ Clock	25.00	19.00
738-0003	BR2325C-1	4	3.0	Expansion Boards	1.98	1.32

Note: 1. 844-1 computer clock battery for use in IBM-AT™ compatible 286 and 386 machines. 2. 844W-1 for use with Wyse Computers. 3. PC223A-1 computer clock battery for use in IBM PS/2 machines models 50, 60, 70 and 80. 4. BR2325C-1 coin cell for use in all major add-on cards and slot clocks for IBM-XT™ compatible machines. All battery packaging includes a competitive product cross reference and a list of compatible original equipment manufacturers. IBM-AT, IBM PS/2, and IBM-XT are trademarks of International Business Machines Corporation.

Lifex™ FB Lithium Batteries



FB2325H2

FB1225H2

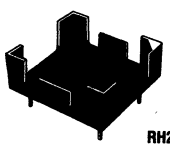
Rigorous testing has proven that LIFEX FB exhibits outstanding shelf life reliability, and up to ten times the shelf life of crimp seal batteries—at any operating and storage temperature.

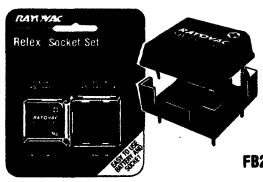
Design Flexibility
- ► **Two cells, individually terminated, you select 3V, ±3V, 6V or redundant configurations**
- ► **A superior alternative to crimp or hermetically sealed batteries**
- ► **Significant cost savings over hermetically sealed cells**

Safe and Easy to Use
- ► **Safe and stable Lithium-Carbon Monofluoride system**
- ► **Reduced potential for inadvertent short circuits**
- ► **Stands up to harsh manufacturing and user environments**
- ► **Ideal for automated placement**

Stock No.	Mfr.'s Type	Voltage (Nominal)		Capacity (mAh)		Maximum Pulse (mA)		EACH	
		Parallel Connection	Series Connection	Parallel Connection	Series Connection	Parallel Connection	Series Connection	1-99	100-499
738-3000	FB1225 H2	3.0	6.0	76	38	16	8	3.89	3.74
738-3005	FB2325 H2	3.0	6.0	330	165	20	10	4.13	3.99

Relex™ Socket


RH23H2



FB235H2R-1

The Relex™ RH23H2 is a printed circuit board mountable battery socket for use with Rayovac FB2325H2 high reliability encapsulated battery. This device provides excellent component retention and a gas-tight, reliable electrical contact. Its self orienting design assures proper polarity installation without desoldering or the use of special tools.

Features
- ► **Improved contact reliability over conventional holders**
- ► **PCB mountable, wave solderable, and process tolerant**
- ► **Self aligning, one way installation**
- ► **Molded in standoff for thorough post reflow cleaning**
- ► **Excellent battery retention in shock and vibration**
- ► **Tin on tin, gas-tight spring contacts**
- ► **Easy hand insertion and removal without desoldering or tools**

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
738-3010	FB2325 H2R-1	High-Reliability Battery Socket and Battery for CMOS Clock and Memory Back-Up.	6.40	6.10

Lithium Cylindrical Cells

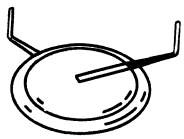
BR2/3A

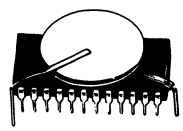
BR2/3AT2

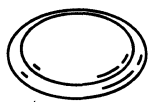
BR2/3AT3R

Stock No.	Mfr.'s Type	Voltage	Capacity (mAh)	Maximum Pulse (mA)	Tab Configuration	EACH	
						1-99	100-499
738-0500	BR2/3A	3.0	1,200	1,000	None	6.40	5.90
738-0502	BR2/3AT2	3.0	1,200	1,000	Two Tabs	5.08	4.23
738-0503	BR2/3AT3R	3.0	1,200	1,000	Two Tabs-3 Pin	5.08	4.23

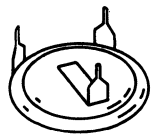
Lifex™ Lithium Coin Cells


BR2325-CO2

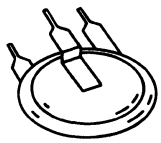

BR2325-CO2 Mounted

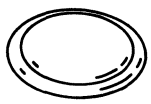

BR2325

BR2325-P2


BR2325-T3

BR2325-T2


BR2325-T3V


BR2335

BR1225

BR1225-T2

Stock No.	Mfr.'s Type	Voltage	Capacity (mAh)	Maximum Pulse (mA)	Tab Configuration	EACH	
						1-99	100-499
738-0504	BR1225	3.0	38	8 mA	None	1.40	.98
738-0506	BR1225-T2	3.0	38	8 mA	Two Tabs	1.84	1.53
738-0508	BR1225-T2V	3.0	38	8 mA	Two Tabs-Vertical	2.18	1.82
738-0510	BR1225-T3	3.0	38	8 mA	Three Tabs	2.18	1.82
738-0512	BR2016	3.0	70	10 mA	None	1.40	.98
738-0514	BR2320	3.0	110	10 mA	None	1.40	.98
738-0516	BR2325	3.0	165	10 mA	None	1.40	.98
738-0518	BR2325-T2	3.0	165	10 mA	Two Tabs	1.98	1.65
738-0520	BR2325-T3	3.0	165	10 mA	Three Tabs	2.34	1.95
738-0522	BR2325-T3V	3.0	165	10 mA	Three Tabs-Vertical	2.34	1.95
738-0524	BR2325-P2	3.0	165	10 mA	Two Pins	2.66	2.22
738-0526	BR2325-CO2	3.0	165	10 mA	Two Pins-Mounted Over RAM Chip	3.18	2.65
738-0528	BR2335	3.0	300	12 mA	None	1.84	1.53

Calculator and Electronic

Packaged As Singles

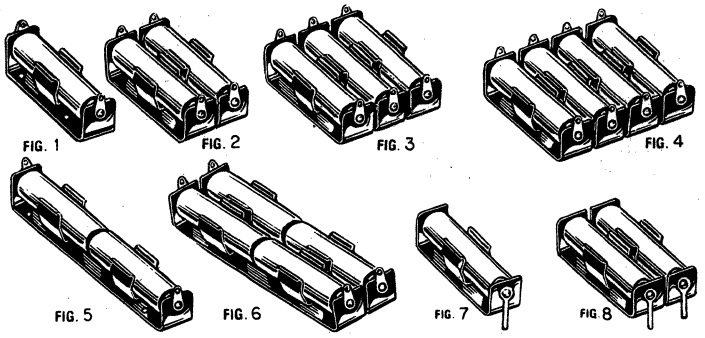
379

BR2016

364

Stock No.	Mfr.'s Type	NEDA	Volts	Carded	Type	Shape	EACH	
							1-99	100-499
738-0400	357	1131SO	1.5	Yes	Silver Oxide	Button	1.46	1.22
738-0410	386	1133SO	1.5	Yes	Silver Oxide	Button	1.08	.90
738-0415	389	1138SO	1.5	Yes	Silver Oxide	Button	.90	.75
738-0420	392	1135SO	1.5	Yes	Silver Oxide	Button	.64	.53
738-0425	393	1137SO	1.5	Yes	Silver Oxide	Button	1.00	.83
738-0430	CR-2025	5003L	3.0	Yes	Lithium	Button	1.50	1.17
738-0435	CR-2032	—	3.0	Yes	Lithium	Button	1.50	1.17

Aluminum Battery Holders



For alkaline, carbon, zinc, mercury, ni-cad, and lithium cells. Brass eyelets are nickel plated. Brass lugs are tin plated. Frame and clip are 2024-ST 4 Aluminum. Moisture proof, resin impregnated, fibre insulating washers. Good electrical contact; low leakage current. Features snap-fit clips.

"AAA" CELL HOLDERS (CELL SIZE .375/.468 O.D. × 1.673/1.752 H)

Stock No.	Mfr.'s Type	Holds No. of Cells	Fig.	EACH 1-19	EACH 20-99	EACH 100-Up
839-2000	137	1	1	.75	.70	.62
839-2001	138	2	2	1.34	1.24	1.12

"AA" CELL HOLDERS (CELL SIZE .531/.565 O.D. × 1.906/1.988 H)

839-2002	139	1	1	.53	.47	.43
839-2003	140	2	2	.97	.89	.87
839-2004	171	3	3	1.53	1.41	1.30
839-2005	182	4	4	2.09	1.85	1.70
839-2006	189	2	5	.81	.75	.69
839-5100	2222**	1	7	.68	.62	.57
839-5105	2223**	2	8	.96	.89	.86

"C" CELL HOLDERS (CELL SIZE .875/1.125 O.D. × 1.875/1.969 H)

839-0173	173	1	1	.62	.58	.53
839-2007	174	2	2*	1.03	.96	.88
839-2008	187	3	3	2.19	2.02	1.86

"D" CELL HOLDERS (CELL SIZE 1.187/1.375 O.D. × 2.312/2.412 H)

839-5070	175	1	1	.68	.62	.57
839-2009	176	2	2*	1.24	1.14	1.05
839-2010	190	3	3	2.69	2.50	2.29
839-2011	186	2	5	1.03	.96	.88
839-2012	200	4	6*	1.97	1.82	1.67

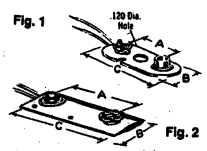
"N" CELL HOLDERS (CELL SIZE .375/.468 O.D. × 1.110/1.189 H)

839-2013	154	1	1	.60	.56	.52
839-2014	155	2	2	1.28	1.18	1.09

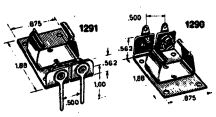
*"C" cell holders—dual #97 clips used; "D" cell holders—dual #98 clips used. **With PC lugs.

Battery Straps

For all standard "9 Volt" batteries (as listed in table below). Corrosion resistant; low electrical contact resistance. Male and female snap contacts are steel, nickel plated. Female contacts are heat treated to spring temper. Maintains constant spring tension. Wires have tinned copper conductors (22 gauge, 7/30 pre-bond with PVC insulation); wire leads firmly soldered to contacts. Rated to 80°C and 150 V. Meets U.L. Style #1568.



Stock No.	Mfr.'s Type	Fig.	A	B	C	Length of Wire 3/8" Strip	EACH 1-19	EACH 20-99	EACH 100-Up
839-2027	68	1	.500	.535	1.020	None	.13	.12	.11
839-2028	72	1	.500	.535	1.020	6.50	.32	.29	.25
839-2029	83	2	.500	.565	.875	6.50	.44	.40	.36

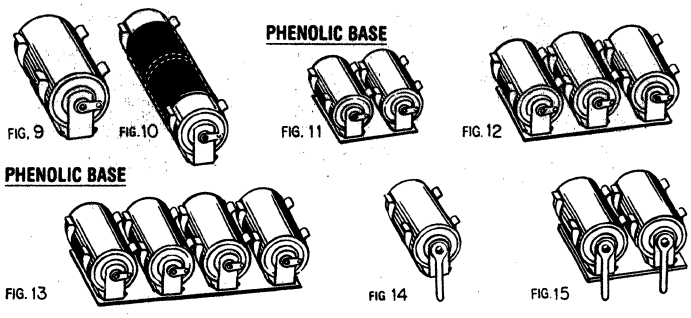


"9 Volt Snap-in Battery Holder

For use with standard "9" volt batteries. Battery snaps in place to insure positive contact. For use where severe shock and vibration occur. Available with standard solder lugs or printed circuit lugs. Aluminum frame; brass hot tin solder and PC lugs; steel nickel plate contacts and clips; resin impregnated fibre insulation.

Stock No.	Mfr.'s Type	EACH 1-19	EACH 20-99	EACH 100-Up
839-4050	1290	.83	.76	.71
839-4055	1291	.85	.79	.73

Steel Battery Holders



► Corrosion Resistant Nickel Plated
► Moisture Proof Resin Impregnated, Fibre Insulating Washers
► Stainless Steel Contacts
► Ideal For Ni-Cad Alkaline, Mercury, Carbon, Zinc and Lithium Cells

Available selection styles accommodate 1 to 4 batteries. Made of rugged, nickel plated steel. Batteries held under constant spring tension for low contact resistance. All contacts fully insulated. Insulator tubes supplied for 2-3-4 cells end to end.

"AA" CELL HOLDERS (CELL SIZE .531/.565 O.D. × 1.906/1.988 H)

Stock No.	Mfr.'s Type	Holds No. of Cells	Fig.	EACH 1-19	EACH 20-99	EACH 100-Up
839-2015	2139	1	9	.69	.62	.58
839-2016	2140	2	11	1.23	1.13	1.04
839-2017	2171	3	12	1.85	1.72	1.57
839-2018	2182	4	13	2.44	2.27	2.08
839-5135	2229*	2	15	1.27	1.18	1.08

"C" CELL HOLDERS (CELL SIZE .875/1.125 O.D. × 1.875/1.969 H)

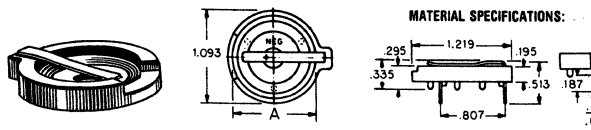
839-2019	2173	1	9	.85	.79	.73
839-2020	2174	2	11	1.63	1.51	1.38
839-2021	2187	3	12	2.42	2.25	2.07
839-2022	2188	4	13	3.21	2.97	2.72

"D" CELL HOLDERS (CELL SIZE 1.187/1.375 O.D. × 2.312/2.412 H)

839-2023	2175	1	9	.98	.89	.83
839-2024	2176	2	11	1.87	1.73	1.59
839-2025	2190	3	12	2.81	2.59	2.39
839-2026	2192	4	13	4.22	3.91	3.60
839-5025	2186	2	10	1.32	1.23	1.12

*With PC lugs.

3 Volt Coin Cell Lithium Holders

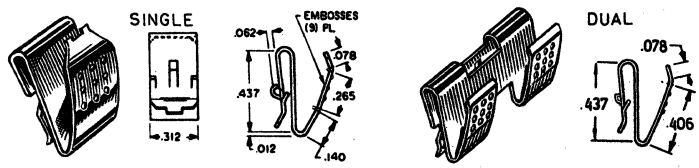


Direct mount to PC boards. Accommodates cells 20-24 mm diameter by 1.5-3.2 mm height. Quick and easy battery insertion and replacement. Made of Noryl #190, U.L. rated 94-0; nickel-plated spring steel contacts. Polarities clearly marked. Designed for better air circulation around battery and to withstand severe shock and vibration. – 50°C to + 145°C operating temperature range.

Stock No.	Mfr.'s Type	A	EACH 1-19	EACH 20-99	EACH 100-Up
839-2030	105	.972	1.16	.99	.84
839-2031	106	.796	1.16	.99	.84
839-2032	107	.911	1.16	.99	.84

Single and Dual "AA" Cell Snap-on Clips

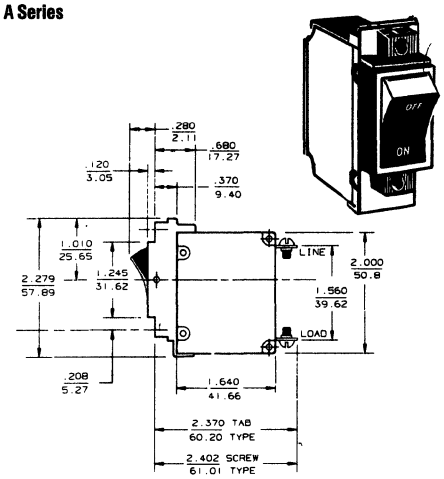
► Ideal For Molded Cases
► Dual Clip Allows Mounting Of 2 Batteries—No Wiring Necessary
► Self-Anchoring—No Need For Special Grooves, Slots, Or Holes



Stock No.	Mfr.'s Type	PER PK./100
839-2033	209 (Single)	8.80
839-2034	210 (Dual)	14.25

Clips over panels .060-.070 thick, and is anchored by sharp barbs. No special grooves, holes, or slots needed. Contact leg utilizes spring-tension for excellent contact. Features snag-free battery insertion. Accommodates any variation of battery length. External solder "ear" holds wire for easy soldering. Snap-On clips made of nickel plated spring-tempered steel. Available in single or dual design.

A Series



VISI-Rocker Circuit Protection

Unique molded-in two-color rocker actuator indicates "tripped" mode when breaker is on or off (per illustrations) series trip, 6-32 threaded mtg. inserts, push on .250 tab terminals. Rated at 250 VAC/65 VDC. Series trip curve-34 (AC-DC tpe) trip point is 135%. Recognized by UL, Inc. and are CSA certified.

Indicate On

Stock No.	Mfr.'s Type	Amps	EACH		
			1-9	10-24	25-49
683-0001	AC1-BO-34-450-1G1-C	5	16.00	14.60	12.97
683-0002	AC1-BO-34-610-1G1-C	10	16.00	14.60	12.97
683-1003	AC1-BO-34-615-1G1-C	15	16.00	14.60	12.97
683-1004	AC1-BO-34-620-1G1-C	20	16.00	14.60	12.97
683-1005	AC1-BO-34-625-1G1-C	25	16.00	14.60	12.97
683-1006	AC1-BO-34-630-1G1-C	30	16.00	14.60	12.97

Indicate Off

683-0007	AF1-BO-34-450-1G1-C	5	16.00	14.60	12.97
683-0008	AF1-BO-34-610-1G1-C	10	16.00	14.60	12.97
683-1009	AF1-BO-34-615-1G1-C	15	16.00	14.60	12.97
683-1010	AF1-BO-34-620-1G1-C	20	16.00	14.60	12.97
683-1011	AF1-BO-34-625-1G1-C	25	16.00	14.60	12.97
683-1012	AF1-BO-34-630-1G1-C	30	16.00	14.60	12.97

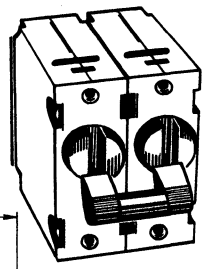
BA and CA Series

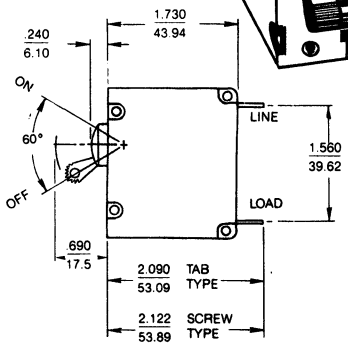
All "B" and "C" series magnetic circuit breakers are recognized by UL, Inc. and are CSA certified. "B" series products are also certified by VDE under VDE registration number 2495 when the "product type" part number ends in "D". "C" series products are designed in accordance with IEC and VDE requirements and are pending international approvals

All products are of a series trip construction, with 6032 threaded mounting inserts, dual "I-O/ON-OFF" markings on a black toggle actuator, and come with .250" tabl (Q.C.) terminals on the "B" series, and 10-32 threaded stud terminals on the "C" series. All units are supplied with an all purpose medium, AC-DC delay curve #34, rated at 277 VAC/65 VDC with trip times as shown below.

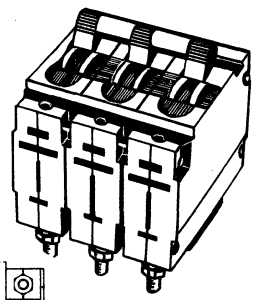
Percentage of rated current with trip time in seconds: 135%—1.8-100; 200%—.60-20; 400%—.15-3; 600%—.03-1.3; 800%—.004-.60; 1000%—.004-.1.

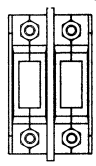
B Series

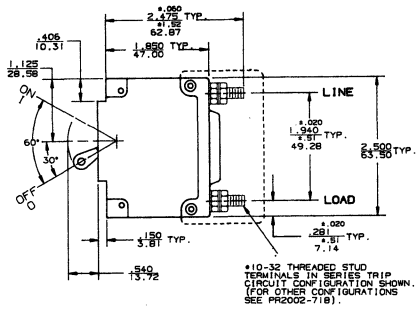




C Series







BA1-Series (1-Pole)

Stock No.	Mfr.'s Type	Amps	EACH		
			1-9	10-24	25-49
683-0013	BA1-BO-34-425-121-D	2.5	14.00	12.70	11.34
683-0014	BA1-BO-34-450-121-D	5.0	14.00	12.70	11.34
683-0015	BA1-BO-34-610-121-D	10.0	14.00	12.70	11.34
683-0016	BA1-BO-34-615-121-D	15.0	14.00	12.70	11.34
683-0017	BA1-BO-34-620-121-D	20.0	14.00	12.70	11.34
683-0018	BA1-BO-34-630-121-C*	30.0	14.00	12.70	11.34
BA2-Series (2-Pole)					
683-0019	BA2-BO-34-450-121-D	5.0	34.25	31.07	26.69
683-0020	BA2-BO-34-610-121-D	10.0	34.25	31.07	26.69
683-0021	BA2-BO-34-615-121-D	15.0	34.25	31.07	26.69
683-0022	BA2-BO-34-620-121-D	20.0	34.25	31.07	26.69
683-0023	BA2-BO-34-630-121-C*	30.0	34.25	31.07	26.69
BA3-Series (3-Pole)					
683-0024	BA3-BO-34-610-121-C*	10.0	57.10	49.82	44.51
683-0025	BA3-BO-34-620-121-C*	20.0	57.10	49.82	44.51
683-0026	BA3-BO-34-630-121-C*	30.0	57.10	49.82	44.51
CA1-Series (1-Pole)					
683-0027	CA1-BO-34-450-121-C	5.0	17.85	15.17	14.12
683-0028	CA1-BO-34-610-121-C	10.0	17.85	15.17	14.12
683-0029	CA1-BO-34-615-121-C	15.0	17.85	15.17	14.12
683-0030	CA1-BO-34-620-121-C	20.0	17.85	15.17	14.12
683-0031	CA1-BO-34-630-121-C	30.0	17.85	15.17	14.12
683-0032	CA1-BO-34-640-121-C	40.0	17.85	15.17	14.12
683-0033	CA1-BO-34-650-121-C	50.0	17.85	15.17	14.12
CA2-Series (2-Pole)					
683-0034	CA2-BO-34-450-121-C	5.0	44.00	37.40	35.01
683-0035	CA2-BO-34-610-121-C	10.0	44.00	37.40	35.01
683-0036	CA2-BO-34-615-121-C	15.0	44.00	37.40	35.01
683-0037	CA2-BO-34-620-121-C	20.0	44.00	37.40	35.01
683-0038	CA2-BO-34-630-121-C	30.0	44.00	37.40	35.01
683-0039	CA2-BO-34-640-121-C	40.0	44.00	37.40	35.01
683-0040	CA2-BO-34-650-121-C	50.0	44.00	37.40	35.01
CA3-Series (3-Pole)					
683-0041	CA3-BO-34-450-121-C	5.0	62.75	53.34	49.85
683-0042	CA3-BO-34-610-121-C	10.0	62.75	53.34	49.85
683-0043	CA3-BO-34-615-121-C	15.0	62.75	53.34	49.85
683-0044	CA3-BO-34-620-121-C	20.0	62.75	53.34	49.85
683-0045	CA3-BO-34-630-121-C	30.0	62.75	53.34	49.85
683-0046	CA3-BO-34-640-121-C	40.0	62.75	53.34	49.85
683-0047	CA3-BO-34-650-121-C	50.0	62.75	53.34	49.85

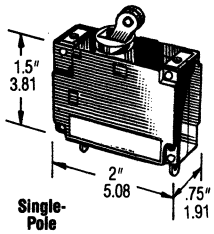
*UL Recognized and CSA Certified Only.

Potter & Brumfield to Heinemann Circuit Breaker Cross Reference

Stock No.	P&B Number	Heinemann Number
989-6532	W67-X2Q1-2-5	JA1-A3-A-5-2
989-6541	W67-X2Q1-2-15	JA1-A3-A-15-2
989-6591	W68-X2Q1-2-10	JA2-A3-A-10-2
989-6601	W68-X2Q1-2-20	JA2-A3-A-20-2
989-6611	W68-X2Q1-2-30	JA2-A3-A-30-2
989-6188	W91-X11-2-10	AM1-A3-A-10-2
989-6193	W91-X11-2-15	AM1-A3-A-15-2
989-6198	W91-X11-2-20	AM1-A3-A-20-2
989-6356	W92-X11-2-20	AM2-A3-A-20-2
989-6366	W92-X11-2-30	AM2-A3-A-30-2
989-6717	W92-X11-2-50	AM2-A3-A-50-2
989-6440	W93-X11-2-30	AM3-A3-A-30-2

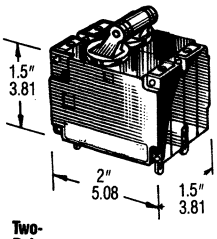
Mini-Mag Hydraulic-Magnetic Circuit Breakers

Rugged construction protects to 30 amps, to 277 volts, 60 Hz AC. Accurately calibrated to carry 100% of rated load and to trip at between 101% and 125% of load. Trip time at 200% of rated load is from 2.2 to 20 seconds. On heavy overloads, a spring-loaded iron piston moves instantly for immedate circuit interruption. Operation unaffected by ambient conditions. Terminals are .250″ Quick Disconnect type. **Humidity Resistance:** per MIL-STD-202. **Dielectric Strength:** 1500 VAC 60 Hz. **Reset Time:** Instantaneous. **Voltage Drop:** less than 1.5 V at 1 A or more. **Shock and Vibration:** tested per MIL-STD-202. **Operating Temperature:** – 40°C to + 85°C. **Insulation Resistance:** 100 megs at 500 VDC. Fungus resistant. **Interruption Capacity:** 5000 amps. **Shipping Weight:** 1 oz. UL recognized and CSA certified.



Single-Pole

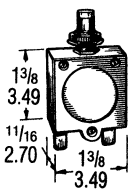
Stock No.	Mfr.'s Type	Amps	EACH 1-24	25-49	50-Up
989-6532	W67-X2Q1-2-5	5	**18.00**	**17.10**	**16.20**
989-6541	W67-X2Q1-2-15	15	**18.00**	**17.10**	**16.10**



Two-Pole

989-6591	W68-X2Q1-2-10	10	**42.85**	**40.71**	**38.57**
989-6601	W68-X2Q1-2-20	20	**42.85**	**40.71**	**38.57**
989-6611	W68-X2Q1-2-30	30	**42.85**	**40.71**	**38.57**

Model W58X Push-To-Reset Type Thermal

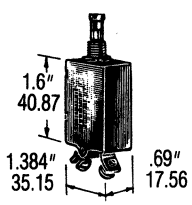


Here's an economical way to get low current protection. Button extends to indicate overload. **Max. Operating Voltage:** 250 VAC and 50 VDC. Carries 100% of rated load with ultimate trip at 145%. **Tripping Time:** for 1 to 4 amps is 10-45 sec. at 200%; 5 amps and up is 6-30 sec. at 200%. **Dielectric Strength:** over 1500 volts RMS. **Voltage Drop:** less than 1½ volts. **Interrupt Capacity:** 2000 A at 50 VDC, 1000 A at 250 VAC. UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH 1-24	25-49	50-Up
989-6486	W58-XB1A4A-1	1	**7.30**	**6.59**	**6.25**
989-6487	W58-XB1A4A-2	2	**7.30**	**6.59**	**6.25**
989-6488	W58-XB1A4A-3	3	**7.30**	**6.59**	**6.25**
989-6490	W58-XB1A4A-5	5	**4.70**	**4.47**	**4.23**
989-6492	W58-XB1A4A-10	10	**4.70**	**4.47**	**4.23**
989-6496	W58-XB1A4A-15	15	**4.70**	**4.47**	**4.23**
989-6501	W58-XB1A4A-20	20	**4.70**	**4.47**	**4.23**

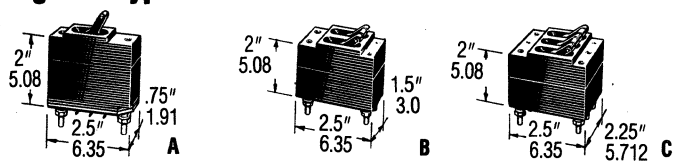
Pushbutton—Model W23

Single-pole with trip-free mechanism. Overload condition extends button, exposing white band for visible trip indication. Meets MIL-STD: 202, method 106—humidity; 202, method 101, test condition B—salt spray. **Endurance Cycling:** 6000 + at 100% rating. 10,000 mechanical cycles. **Max. Operating Voltages:** 50 VDC; 250 VAC (to 400 Hz). **Weight:** less than 2 oz. UL recognized, CSA certified.



Stock No.	Mfr.'s Type	Amps	Trip Time @ 200% Rating	EACH 1-24	25-49	50-Up
989-6064	W23-X1A1G-5	5	6-20 seconds	**14.15**	**13.44**	**12.74**
989-6067	W23-X1A1G-10	10	6-20 seconds	**14.15**	**13.44**	**12.74**
989-6069	W23-X1A1G-15	15	6-20 seconds	**14.15**	**13.44**	**12.74**
989-6073	W23-X1A1G-20	20	6-20 seconds	**14.15**	**13.44**	**12.74**
989-6074	W23-X1A1G-25	25	6-20 seconds	**14.15**	**13.44**	**12.74**
989-6079	W23-X1A1G-30	30	6-20 seconds	**14.15**	**13.44**	**12.74**

Magnetic Type Circuit Breakers



For 60 Hz AC, up to 277 V. Will carry 100% of rated load indefinitely, with ultimate trip at 125%. **Trip Time:** 2.2-20 seconds at 200%. **Interruption Capacity:** 5000 amps at 277 VAC. UL recognized.

Fig. A—Single-Pole AC Type

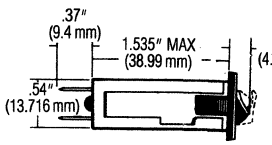
Stock No.	Mfr.'s Type	Amps	EACH 1-24	25-49	50-Up
989-6188	W91-X11-2-10	10	**21.00**	**19.95**	**18.90**
989-6193	W91-X11-2-15	15	**21.00**	**19.95**	**18.90**
989-6198	W91-X11-2-20	20	**21.00**	**19.95**	**18.90**

Fig. B—Two-Pole AC Type

989-6356	W92-X11-2-20	20	**50.35**	**47.83**	**45.32**
989-6366	W92-X11-2-30	30	**50.35**	**47.83**	**45.32**
989-6717	W92-X11-2-50	50	**50.35**	**47.83**	**45.32**

Fig. C—Three-Pole AC Type

989-6440	W93-X11-2-30	30	**78.95**	**75.00**	**71.06**



Fuseholder-Type Thermal Circuit Breaker

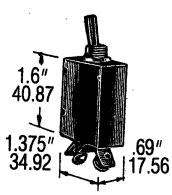
W28 Series. Single pole breakers occupy about the same space as fuseholders. Dielectric strength over 1,500 volts RMS. Max. oper. voltages are 32 VDC, 250 VAC.

Approx. Weight: 0.35 oz. (10 g). UL recognized, CSA certified.

Stock No.	Mfr.'s Type	Amps	Trip Time @ 200% of Load	EACH 1-24	25-49	50-Up
989-6771	W28-XQ1A-1	1	4.5-28 seconds @ + 25°C	**5.50**	**5.23**	**4.95**
989-6702	W28-XQ1A-2	2	4.5-28 seconds @ + 25°C	**5.75**	**5.46**	**5.18**
989-6703	W28-XQ1A-3	3	2.2-15 seconds @ + 25°C	**3.10**	**2.95**	**2.79**
989-6705	W28-XQ1A-5	5	2.2-15 seconds @ + 25°C	**3.10**	**2.95**	**2.79**
989-6707	W28-XQ1A-7	7	2.2-15 seconds @ + 25°C	**3.10**	**2.95**	**2.79**
989-6710	W28-XQ1A-10	10	2.2-15 seconds @ + 25°C	**3.10**	**2.95**	**2.79**
989-6715	W28-XQ1A-15	15	2.2-15 seconds @ + 25°C	**3.10**	**2.95**	**2.79**

Toggle Actuated—Model W31

Single pole with toggle trip lever; trip-free mechanism. Wipe-on make contacts lessen voltage drop. Meets MIL-STD 202, method 106—humidity; 202, method 101, test condition B—salt spray. **Endurance Cycling:** 6000 + at 100% of rating. 10,000 mechanical cycles. **Maximum operating voltages: 50 VDC; 250 VAC (to 400 Hz). Weight:** less than 2 oz. UL recognized, CSA certified.



Stock No.	Mfr.'s Type	Amps	Trip Time @ 200% Rating	EACH 1-24	25-49	50-Up
989-6131	W31-X2M1G-5	5	6-20 seconds	**17.05**	**16.20**	**15.35**
989-6134	W31-X2M1G-10	10	6-20 seconds	**17.05**	**16.20**	**15.35**
989-6137	W31-X2M1G-15	15	6-20 seconds	**17.05**	**16.20**	**15.35**
989-6140	W31-X2M1G-20	20	6-20 seconds	**17.05**	**16.20**	**15.35**
989-6143	W31-X2M1G-25	25	6-20 seconds	**17.05**	**16.20**	**15.35**
989-6146	W31-X2M1G-30	30	6-20 seconds	**17.05**	**16.20**	**15.35**
989-6716	W31-X2M1G-35	35	6-20 seconds	**17.05**	**16.20**	**15.35**

AGC Fast-Acting 1/4" × 1 1/4"

Test Specifications: carry 110%, open at 135% within 1 hour. UL listed 250 V. UL Recognized. 32V.CSA certified. Formerly called 3AG.

Stock No.	Amps	Volts	EACH*		
			1-245	250-495	500-995
740-0120	1/16	250	.90	.76	.70
740-0126	1/8	250	.90	.76	.70
740-0128	3/16	250	.90	.76	.70
740-0106	2/10	250	.90	.76	.70
740-0107	1/4	250	.58	.49	.45
740-0131	3/10	250	.58	.49	.45
740-0132	3/8	250	.58	.49	.45
740-0115	1/2	250	.31	.26	.24
740-0134	6/10	250	.31	.26	.24
740-0130	3/4	250	.31	.26	.24
740-0113	1	250	.32	.26	.24
740-0114	1 1/2	250	.32	.26	.24
740-0115	2	250	.32	.26	.24
740-0116	2 1/2	250	.32	.26	.24
740-0141	3	250	.32	.26	.24
740-0143	4	250	.37	.30	.27
740-0144	5	250	.37	.30	.27
740-0145	6	250	.37	.30	.27
740-0200	7 1/2	32	.49	.41	.39
740-0201	10	250	.49	.41	.39
740-0202	15	32	.49	.41	.39
740-0173	25	32	.49	.41	.39
740-0204	30	32	.49	.41	.39

*Sold in multiples of 5 only.

Type 140 Fuse Kit

- 125 and 250 Volt Small Dimension Fuse Assortment
- Fast Acting and Time Delay Fuses
- 1/4' × 1 1/4" Fuses
- In-Line Fuseholders
- Fuse Clips

Type 140 fuse kit contains the most commonly used fuses. Applications and cross-reference data that comes with the kit helps identify correct fuse replacements. Inventory strips for convenient reordering. 31 different products including: 140 fuses in a range of 1/2 to 30 A, plus 2 fuseholders, fuseclips and one fuse puller. Spaces allow customizing contents by user. Sturdy nylon box with sturdy hinge and positive closure make it ideal for factory or service truck use.

740-9140 ..... **EACH 75.00**

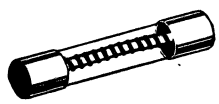
MDA Time-Delay 1/4" × 1 1/4"

High performing ceramic body. UL listed through 10 A, UL recognized 12-20 A.

Stock No.	Amps	Volts	EACH*		
			1-245	250-495	500-995
740-5037	1/8	250	2.88	2.40	2.00
740-5038	1/4	250	1.57	1.31	1.25
740-5039	3/8	250	1.57	1.31	1.25
740-5040	1/2	250	1.57	1.31	1.25
740-5041	3/4	250	1.57	1.31	1.25
740-5042	1	250	1.48	1.24	1.01
740-5043	1 1/4	250	1.48	1.24	1.01
740-5044	1 1/2	250	1.48	1.24	1.01
740-5045	2	250	1.48	1.24	1.01
740-5046	2 1/4	250	1.05	.88	.71
740-5047	3	250	1.05	.88	.71
740-5048	3 2/10	250	1.05	.88	.71
740-5049	4	250	1.05	.88	.71
740-5050	5	250	1.05	.88	.71
740-5051	6	250	1.05	.88	.71
740-5052	7	250	1.05	.88	.71
740-5053	8	250	1.05	.88	.71
740-5054	10	250	1.05	.88	.71
740-5055	12	250	1.05	.88	.71
740-5056	15	250	1.05	.88	.71
740-4057	20	250	1.05	.88	.71

*Sold in multiples of 5 only.

MDL Time-Delay 1/4" × 1 1/4"



Spiral wound construction. Avoid needless blows from starting currents and surges. Several seconds delay at 200%. UL listed. CSA certified.

Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				1-245	250-495	500-995
740-0211	MDL	1/16	250	1.37	1.14	.78
740-0212	MDL	1/10	250	1.37	1.14	.78
740-0213	MDL	1/8	250	1.37	1.14	.78
740-5016	MDL	1/4	250	.94	.79	.68
740-5017	MDL	3/10	250	.94	.79	.68
740-5018	MDL	3/8	250	.94	.79	.68
740-5019	MDL	1/2	250	.84	.70	.58
740-5020	MDL	6/10	250	.84	.70	.58
740-5021	MDL	3/4	250	.84	.70	.58
740-5022	MDL	8/10	250	.84	.70	.58
740-5023	MDL	1	250	.84	.70	.58
740-5024	MDL	1 1/4	250	.82	.69	.56
740-5025	MDL	1 1/2	250	.82	.69	.56
740-5026	MDL	1 6/10	250	.82	.69	.56
740-5027	MDL	2	250	.82	.69	.56
740-5028	MDL	2 1/2	250	.82	.69	.56
740-5029	MDL	3	250	.82	.69	.56
740-5030	MDL	3 2/10	250	.82	.69	.56
740-5031	MDL	4	250	.82	.69	.56
740-5032	MDL	5	250	.82	.69	.56
740-5033	MDL	6 1/4	250	.82	.69	.56
740-5034	MDL	7	250	.82	.69	.56
740-5035	MDL	8	250	.82	.69	.56
740-0243	MDL	10	32	.94	.79	.64
740-0244	MDL	15	32	.94	.79	.64
740-0245	MDL	20	32	.94	.79	.64
740-0247	MDL	30	32	.94	.79	.64

*Sold in multiples of 5 only.

ABC Fast-Acting 1/4" × 1 1/4"

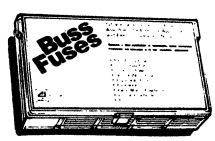
High performing ceramic body. 10,000 amps at 125 V. Carry 110%, open at 135% within 1 hour. UL listed, CSA certified.

Stock No.	Amps	Volts	EACH*		
			1-245	250-495	500-995
740-5003	1/4	250	.73	.61	.48
740-5004	1/2	250	.73	.61	.48
740-5005	3/4	250	.73	.61	.48
740-5006	1	250	.73	.61	.48
740-5007	2	250	.73	.61	.48
740-5008	3	250	.73	.61	.48
740-5009	4	250	.73	.61	.48
740-5010	5	250	.63	.53	.46
740-5011	6	250	.63	.53	.46
740-5012	7	250	.63	.53	.46
740-3020	8	250	.65	.56	.49
740-3030	10	250	.65	.56	.49
740-3040	12	250	.65	.56	.49
740-3050	15	250	.65	.56	.49

*Sold in multiples of 5 only.

Quick-Service Fuse Kit

- One Fuseblock
- Three Fuseholders
- Two Pairs of Fuse Clips
- Five each of 54 different Fuses



A complete assortment of 125 V and 250 V small dimension fuses for repair of both electrical and electronic devices.

740-0270 ..... **EACH 231.00**

MDL-1/8	MDL-1/4	MDL-1/2	MDL-3/4	MDL-1	MDL-1 1/2
MDX-2	MDX-3	MDX-4	MDX-5	MDX-6	MDA-8
MDA-10	MDA-15	MDA-20	MDA-30	AGC-1/8	AGC-1/4
AGC-1/2	AGC-3/4	AGC-1	AGC-1 1/2	AGC-2	AGC-2 1/2
AGC-3	MTH-4	MTH-5	MTH-6	MTH-7	MTH-8
ABC-10	ABC-15	ABC-20	ABC-30	GMA-1/4	GMA-1/2
GMA-1	GMA-2	GMA-3	GMA-4	GMA-6	GMC-1
GMC-2	GMC-3	GMC-4	GMC-6	GVJ-1/2	GVJ-1
GVJ-2	GVJ-3	MDV-1/2	MDV-1	MDV-2	MDV-3

All fuses on this page SOLD EACH, in multiples of 5 only.

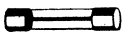
European Standard 5 × 20 mm

250 volt fuses for foreign equipment. Designed to meet IEC specification 127 and IEC Sheet 1.

GDA Quick-Acting High Interrupting Rating

Stock No.	Mfr.'s Type	Rated	EACH		
			1-245	250-495	500-995
740-5155	50 mA	250 V	1.62	1.47	1.35
740-5156	63 mA	250 V	1.62	1.47	1.35
740-5157	80 mA	250 V	1.62	1.47	1.35
740-5158	100 mA	250 V	1.41	1.28	1.18
740-5159	125 mA	250 V	1.62	1.47	1.35
740-5160	160 mA	250 V	1.62	1.47	1.35
740-5161	200 mA	250 V	1.62	1.47	1.35
740-5162	250 mA	250 V	1.41	1.28	1.18
740-5163	315 mA	250 V	1.41	1.28	1.35
740-5164	400 mA	250 V	1.62	1.47	1.35
740-5165	500 mA	250 V	1.26	1.15	1.05
740-5166	630 mA	250 V	1.44	1.31	1.20
740-5167	800 mA	250 V	1.44	1.31	1.20
740-5168	1 A	250 V	1.08	1.01	.90
740-5169	1.25 A	250 V	1.44	1.31	1.20
740-5170	1.6 A	250 V	1.26	1.15	1.05
740-5171	2 A	250 V	1.08	1.01	.90
740-5172	2.5 A	250 V	1.26	1.15	1.05
740-5173	3.15 A	250 V	1.08	1.01	.90
740-5174	4 A	250 V	1.26	1.15	1.05
740-5175	5 A	250 V	1.26	1.15	1.05
GDB Quick-Acting Low Interrupting Rating — Designed to meet IEC Sheet 2					
740-5176	50 mA	250 V	1.94	1.75	1.61
740-5177	63 mA	250 V	1.94	1.75	1.61
740-5178	80 mA	250 V	1.94	1.75	1.61
740-5179	100 mA	250 V	1.69	1.55	1.41
740-5180	125 mA	250 V	1.42	1.30	1.18
740-5181	160 mA	250 V	1.24	1.12	1.03
740-5182	200 mA	250 V	1.24	1.12	1.03
740-5183	250 mA	250 V	1.24	1.12	1.03
740-5184	315 mA	250 V	1.06	.98	.88
740-5185	400 mA	250 V	1.24	1.12	1.03
740-5186	500 mA	250 V	.88	.79	.74
740-5187	630 mA	250 V	.75	.69	.62
740-5188	800 mA	250 V	1.03	.92	.86
740-5189	1A	250 V	.88	.79	.74
740-5190	1.25 A	250 V	1.03	.92	.86
740-5191	1.6 A	250 V	1.03	.82	.86
740-5192	2 A	250 V	.75	.69	.62
740-5193	2.5 A	250 V	1.03	.92	.86
740-5194	3.15 A	250 V	.75	.69	.62
740-5195	4 A	250 V	.88	.79	.74
740-5196	5 A	250 V	.88	.79	.74
740-5197	6.3 A	250 V	.88	.79	.74
GDC Time-Lag — Designed to meet IEC Sheet 3					
740-5198	32 mA	250 V	2.40	2.25	2.00
740-5199	40 mA	250 V	2.40	2.25	2.00
740-5200	50 mA	250 V	2.40	2.25	2.00
740-5201	63 mA	250 V	2.40	2.25	2.00
740-5202	80 mA	250 V	2.40	2.25	2.00
740-5203	100 mA	250 V	1.99	1.78	1.66
740-5204	125 mA	250 V	2.09	1.87	1.74
740-5205	160 mA	250 V	2.28	2.10	1.90
740-5206	200 mA	250 V	1.99	1.78	1.66
740-5207	250 mA	250 V	1.70	1.55	1.42
740-5208	315 mA	250 V	1.70	1.55	1.42
740-5209	400 mA	250 V	1.99	1.78	1.66
740-5210	500 mA	250 V	.91	.84	.76
740-5211	630 mA	250 V	1.08	1.01	.96
740-5212	800 mA	250 V	1.08	1.01	.96
740-5213	1 A	250 V	.91	.84	.76
740-5214	1.25 A	250 V	1.08	1.01	.96
740-5215	1.6 A	250 V	1.08	1.01	.96
740-5216	2 A	250 V	.91	.84	.76
740-5217	2.5 A	250 V	1.08	1.01	.96
740-5218	3.15 A	250 V	.91	.84	.76
740-5219	4 A	250 V	.91	.84	.76
740-5220	5 A	250 V	.91	.84	.76
740-5221	6.3 A	250 V	.91	.84	.76

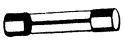
GMA Fast-Acting 5 × 20 mm



Compact high interrupting capacity fuse. UL listed, CSA Certified through 5 amps. UL Recognized through 10 amps.

Stock No.	Amps	Volts	EACH		
			1-245	250-495	500-995
740-3004	63 mA	250	1.29	1.13	1.07
740-5127	100 mA	250	1.10	1.00	.92
740-3005	125 mA	250	1.10	1.00	.92
740-5128	200 mA	250	.57	.52	.47
740-3006	250 mA	250	.57	.52	.47
740-3007	500 mA	250	.57	.52	.47
740-3008	750 mA	250	.57	.52	.47
740-5129	800 mA	250	.57	.52	.47
740-5130	1	250	.57	.52	.47
740-3009	1 1/2	250	.57	.52	.47
740-5131	1 6/10	250	.57	.52	.47
740-3010	2	250	.57	.52	.47
740-3011	2 1/2	250	.57	.52	.47
740-3012	3	250	.57	.52	.47
740-5132	3 1/2	125	.57	.52	.47
740-3013	4	125	.57	.52	.47
740-3014	5	125	.57	.52	.47
740-3015	6	125	.57	.52	.47
740-3016	7	125	.57	.52	.47
740-3017	8	125	.57	.52	.47
740-3018	10	125	.57	.52	.47
740-3019	15	125	.57	.52	.47

GMC Time-Delay 5 × 20 mm



Compact high interrupting capacity fuse. Designed to UL and CSA standards.

Stock No.	Amps	Volts	EACH		
			1-245	250-495	500-995
740-5133	63 mA	250	2.09	1.91	1.74
740-5134	100 mA	250	1.70	1.55	1.42
740-5135	125 mA	250	1.70	1.55	1.42
740-5136	200 mA	250	1.70	1.55	1.42
740-5137	250 mA	250	1.70	1.55	1.42
740-5138	500 mA	250	.91	.83	.76
740-5139	750 mA	250	.91	.83	.76
740-5140	800 mA	250	.91	.83	.76
740-5141	1	250	.91	.83	.76
740-5142	1 1/2	250	.91	.83	.76
740-5143	1 6/10	250	.91	.83	.76
740-5144	2	250	.91	.83	.76
740-5145	2 1/2	250	.91	.83	.76
740-5146	3	250	.91	.83	.76
740-5147	3 1/2	125	.91	.83	.76
740-5148	4	125	.91	.83	.76
740-5149	5	125	.91	.83	.76
740-5150	6	125	.91	.83	.76
740-5151	7	125	.91	.83	.76
740-5152	8	125	.91	.83	.76
740-5153	10	125	.91	.83	.76

GMD Time-Delay 5 × 20 mm

Spiral wound, UL listed, through 3 amps.

Stock No.	Amps	Volts	EACH		
			1-245	250-495	500-995
740-8100	300 mA	250	1.81	1.73	1.61
740-8110	500 mA	250	1.13	.90	.82
740-8115	600 mA	250	1.13	.90	.82
740-8120	750 mA	250	1.13	.90	.82
740-8125	800 mA	250	1.13	.90	.82
740-8130	1	250	1.13	.90	.82
740-8140	1.5	250	1.13	.90	.82
740-8145	1.6	250	1.13	.90	.82
740-8150	2	250	1.13	.90	.82
740-8155	2.5	250	1.13	.90	.82
740-8160	3	250	1.13	.90	.82

HTB International Fuseholders

Knob Type HTB Fuseholder Selection Matrix

Terminal Options: Solder 3/16" Quick-Connect, In-Line	Terminal Options: Solder 3/16" Quick-Connect, Rt. Angle	Terminal Options: 1/4" Quick-Connect, In-Line	Terminal Options: 1/4" Quick-Connect, Rt. Angle	Carrier Options: 1/4" x 1 1/4" ("F" Equals Inches)	Carrier Options: 5mm x 20mm ("28" Equals Metric)	Mounting Hole Options (Nominal Dimensions)
						Note Before Tooling contact Factory for exact dimensions and panel thickness range
HTB-22I	HTB-24I	HTB-26I	HTB-28I	✓		
HTB-22M	HTB-24M	HTB-26M	HTB-28M		✓	
HTB-42I	HTB-44I	HTB-46I	HTB-48I	✓		
HTB-42M	HTB-44M	HTB-46M	HTB-48M		✓	
HTB-62I	HTB-64I	HTB-66I	HTB-68I	✓		
HTB-62M	HTB-64M	HTB-66M	HTB-68M		✓	
HTB-82I	HTB-84I	HTB-86I	HTB-88I	✓		
HTB-82M	HTB-84M	HTB-86M	HTB-88M		✓	

Low Profile Rear Hex Nut — HTB-2 — 2mm Nominal
High Profile Rear Hex Nut — HTB-4
Front Hex Nut — HTB-6
Low Profile Snap-In — HTB-8

Stock No.	Mfr.'s Type	EACH 1-249	250-499	500-999
740-5262	HTB-22I	2.07	1.80	1.55
740-5263	HTB-22M	2.07	1.80	1.55
740-5264	HTB-24I	2.07	1.80	1.55
740-5265	HTB-24M	2.07	1.80	1.55
740-5266	HTB-26I	2.07	1.80	1.55
740-5267	HTB-26M	2.07	1.80	1.55
740-5268	HTB-28I	2.07	1.80	1.55
740-5269	HTB-28M	2.07	1.80	1.55
740-5270	HTB-42I	2.07	1.80	1.55
740-5271	HTB-42M	2.07	1.80	1.55
740-5272	HTB-44I	2.07	1.80	1.55
740-5273	HTB-44M	2.07	1.80	1.55
740-5274	HTB-46I	2.07	1.80	1.55
740-5275	HTB-46M	2.07	1.80	1.55
740-5276	HTB-48I	2.07	1.80	1.55
740-5277	HTB-48M	2.07	1.80	1.55

Stock No.	Mfr.'s Type	EACH 1-249	250-499	500-999
740-5278	HTB-62I	2.38	1.98	1.52
740-5279	HTB-62M	2.38	1.98	1.52
740-5280	HTB-64I	2.38	1.98	1.52
740-5281	HTB-64M	2.38	1.98	1.52
740-5282	HTB-66I	2.38	1.98	1.52
740-5283	HTB-66M	2.38	1.98	1.52
740-5284	HTB-68I	2.38	1.98	1.52
740-5285	HTB-68M	2.38	1.98	1.52
740-5286	HTB-82I	2.38	1.98	1.52
740-5287	HTB-82M	2.38	1.98	1.52
740-5288	HTB-84I	2.38	1.98	1.52
740-5289	HTB-84M	2.38	1.98	1.52
740-5290	HTB-86I	2.38	1.98	1.52
740-5291	HTB-86M	2.38	1.98	1.52
740-5292	HTB-88I	2.38	1.98	1.52
740-5293	HTB-88M	2.38	1.98	1.52

The 32 Models of the Buss HTB fuseholder offer complete design flexibility. Their reduced size permits maximum space utilization. Their appearance is compatible with aesthetically designed equipment. Designed to UL, CSA, SEMKO and VDE standards. The HTB-4 offers high profile while the HTB-2 offers a low profile mounting option. The HTB-6 mounts through rear of panel permitting wire connections to be made to holder before mounting in panel. The HTB-8 provides fast, easy and secure mounting without tools or hardware. Terminal options include in-line or right angle solder 3/16" quick-connect and in-line or right angle 1/4" quick-connect. The HTB will accept both 1/4" x 1 1/4" and 5 mm x 20 mm fuses simply by changing the carriers. 250 volts.

Slotted Type HTB Fuseholder Selection Matrix

All Holders: 3/16" (15.9mm) Diameter Length—1 3/4" (44.5mm) (plus in-line terminal)

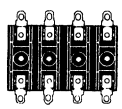
Terminal Options: Solder 3/16" Quick-Connect, In-Line	Terminal Options: Solder 3/16" Quick-Connect, Rt. Angle	Terminal Options: 1/4" Quick-Connect, In-Line	Terminal Options: 1/4" Quick-Connect, Rt. Angle	Carrier Options: 1/4" x 1 1/4" ("F" Equals Inches)	Carrier Options: 5mm x 20mm ("28" Equals Metric)	Mounting Hole Options (Nominal Dimensions)
						Note Before Tooling contact Factory for exact dimensions and panel thickness range
HTB-32I	HTB-34I	HTB-36I	HTB-38I	✓		
HTB-32M	HTB-34M	HTB-36M	HTB-38M		✓	
HTB-52I	HTB-54I	HTB-56I	HTB-58I	✓		
HTB-52M	HTB-54M	HTB-56M	HTB-58M		✓	
HTB-92I	HTB-94I	HTB-96I	HTB-98I	✓		
HTB-92M	HTB-94M	HTB-96M	HTB-98M		✓	

Low Profile Rear Hex Nut — HTB-3
High Profile Rear Hex Nut — HTB-5
Low Profile Snap-In — HTB-9

Stock No.	Mfr.'s Type	EACH 1-249	250-499	500-999
740-4962	HTB-32I	2.38	1.98	1.52
740-4963	HTB-32M	2.38	1.98	1.52
740-4964	HTB-34I	2.38	1.98	1.52
740-4965	HTB-34M	2.38	1.98	1.52
740-4966	HTB-36I	2.38	1.98	1.52
740-4967	HTB-36M	2.38	1.98	1.52
740-4968	HTB-38I	2.38	1.98	1.52
740-4969	HTB-38M	2.38	1.98	1.52
740-4970	HTB-52I	2.38	1.98	1.52
740-4971	HTB-52M	2.38	1.98	1.52
740-4972	HTB-54I	2.38	1.98	1.52
740-4973	HTB-54M	2.38	1.98	1.52

Stock No.	Mfr.'s Type	EACH 1-249	250-499	500-999
740-4974	HTB-56I	2.07	1.80	1.55
740-4975	HTB-56M	2.07	1.80	1.55
740-4976	HTB-58I	2.07	1.80	1.55
740-4977	HTB-58M	2.07	1.80	1.55
740-4978	HTB-92I	2.07	1.80	1.55
740-4979	HTB-92M	2.07	1.80	1.55
740-4980	HTB-94I	2.07	1.80	1.55
740-4981	HTB-94M	2.07	1.80	1.55
740-4982	HTB-96I	2.07	1.80	1.55
740-4983	HTB-96M	2.07	1.80	1.55
740-4984	HTB-98I	2.07	1.80	1.55
740-4985	HTB-98M	2.07	1.80	1.55

S-8000 1/4" x 1 1/4" Fuseblocks



For tight cluster mounting of 1/4" x 1 1/4" fuses. Single-pole to 12 pole units. Break-away design permits fuseblock to be sub-divided by hand. 300 volt rating. UL recognized. CSA certified.

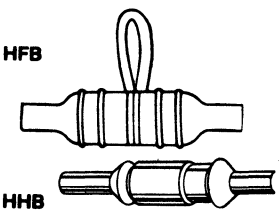
Stock No.	Mfr.'s Type	Description: Terminal	Size	Angle	Rated Amps	EACH 1-249	250-499	500-999
740-5303	S-8001-1	Solder	—	0°	25	.83	.69	.63
740-5304	S-8002-1	Solder	—	40°	25	.83	.69	.63
740-5305	S-8002-12	Solder	—	40°	25	10.92	9.10	6.48
740-5306	S-8101-1	Quick connect	3/16"	0°	15	.94	.78	.65
740-5307	S-8102-1	Quick connect	3/16"	40°	15	.94	.78	.65
740-5308	S-8201-1	Quick connect	1/4"	0°	20	.94	.78	.65
740-5309	S-8202-1	Quick connect	1/4"	40°	20	.94	.78	.65
740-5310	S-8202-12	Quick connect	1/4"	40°	20	10.92	9.10	6.48
740-5311	S-8203-1	Quick connect	1/4"	side	20	1.34	1.12	.93
740-5312	S-8301-1	Screw	—	—	30	1.24	1.04	.95
740-5313	S-8301-12	Screw	—	—	30	17.89	14.91	12.67

HFB-HHB In-Line Fuseholders

Both HFB and HHB feature easy assembly. Rated 30 amps, 32 volts. High visibility yellow bodies with raised letters. Accept #12'—#18' wires.

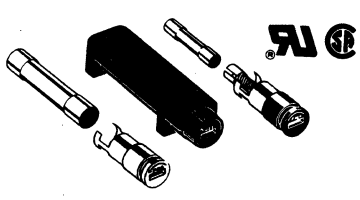
HFB for harsh environments—water, salt spray, ultraviolet, ozone—40°C to 150°C temp. range.

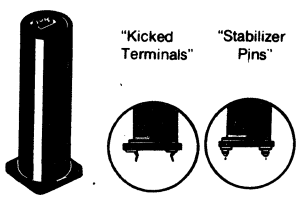
HHB universal holder for normal environments. Accepts 1/4" x 7/8", 1/4" x 1" and 1/4" x 1 1/4" fuses.



Stock No.	Mfr.'s Type	EACH 1-249	250-499	500-999
740-5301	HFB	3.73	3.11	2.59
740-5302	HHB	0.88	0.73	0.61

PC Board Fuseholder

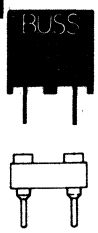




PC board fuseholders do away with assembly, winning and soldering. "Kicked" terminals increase stability. HBH horizontal version; HBV (with stability pins) and HBW vertical models. All take 1/4" x 1 1/4" or 5 x 20 mm fuses. UL-12A @ 250 V. Designed to UL. CSA SEMKO and VDE standards.

Stock No.	Mfr.'s Type	Feature	EACH 1-249	250-499	500-999
740-5295	HBH-I	Horizontal	2.18	2.00	1.82
740-5296	HBH-M	Horizontal	2.18	2.00	1.82
740-5297	HBV-I	Vertical Stability Pins	3.20	2.86	2.50
740-5298	HBV-M	Vertical Stability Pins	3.20	2.86	2.50
740-5299	HBW-I	Vertical	3.20	2.86	2.50
740-5300	HBW-M	Vertical	3.20	2.86	2.50

PC-Tron® PC Board Fuses



The PC-Tron™ subminiature fuse offers high short circuit performance which until now could only be found in much larger glass tube fuses. Due to its unique construction the PC-Tron™ limits the I^2t (energy let-thru) to very low levels. .2″ lead spacing. Auto insertable. Standard wave soldering technique will not affect performance. Optional socket available. Long lead .75″ or Short lead .10″ length.

Interrupting Rating	10,000 amperes @ 125 VAC; 1/2—5 amps, 50 amperes @ 250 VAC; 1/2—3 amps

Stock No.	Amps	Lead Length	Type	EACH*		
				1-245	250-495	500-995
740-5058	1/2	Long	PCB	2.10	1.75	1.45
740-5059	3/4	Long	PCB	2.10	1.75	1.45
740-5060	1	Long	PCB	2.10	1.75	1.45
740-5061	1 1/2	Long	PCB	2.10	1.75	1.45
740-5062	2	Long	PCB	2.10	1.75	1.45
740-5063	2 1/2	Long	PCB	2.10	1.75	1.45
740-5064	3	Long	PCB	2.10	1.75	1.45
740-5065	5	Long	PCD	2.10	1.75	1.45
740-5066	1/2	Short	PCC	2.10	1.75	1.45
740-5067	3/4	Short	PCC	2.10	1.75	1.45
740-5068	1	Short	PCC	2.10	1.75	1.45
740-5069	1 1/2	Short	PCC	2.10	1.75	1.45
740-5070	2	Short	PCC	2.10	1.75	1.45
740-5071	2 1/2	Short	PCC	2.10	1.75	1.45
740-5072	3	Short	PCC	2.10	1.75	1.45
740-5073	5	Short	PCE	2.10	1.75	1.45
740-5074	Optional Socket		PCS	.45	.39	.32

***Sold only in multiples of 5.**

Microtron® Fuses

General Specifications

Typical Opening Times—4 hr. min. @ 100% 5 sec. max. @ 250%

Body Material—High temperature plastic with a U.L. 94VO rating

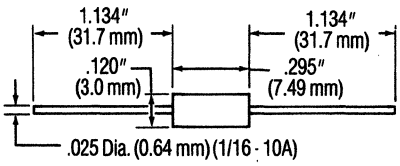
Lead Pull Force—7 lb. minimum

Agency Approvals—U.L. Recognition and CSA Certification

Units Per Reel—2500.

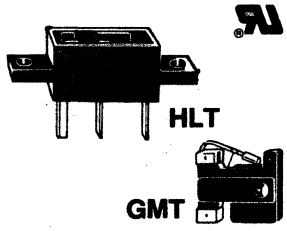
Packaging—Per E.I.A. Standard RS-296-D. All materials are sulfer free to maintain component solderability.

The Microtron Fuses are designed to safely interrupt 50 amperes at 125 VAC. Maximum short circuit current of 300 amperes fault at 125 VAC.



Stock No.	Mfr.'s Type	Resistance Ohms Cold	Amps	EACH	
				1-90	100-240
740-4901	MCR-1/16	7.000	1/16	1.90	1.49
740-4902	MCR-1/8	2.200	1/8	1.90	1.49
740-4903	MCR-1/4	0.600	1/4	1.90	1.49
740-4904	MCR-3/8	0.350	3/8	1.90	1.49
740-4905	MCR-1/2	0.250	1/2	1.90	1.49
740-4906	MCR-3/4	0.150	3/4	1.25	.97
740-4907	MCR-1	0.120	1	1.25	.83
740-4908	MCR-1 1/2	0.070	1 1/2	1.25	1.11
740-4909	MCR-2	0.050	2	1.25	.83
740-4010	MCR-2 1/2	0.043	2 1/2	1.25	1.11
740-4912	MCR-3	0.035	3	1.25	.83
740-4913	MCR-3 1/2	0.026	3 1/2	1.25	1.11
740-4914	MCR-4	0.022	4	1.25	.97
740-4915	MCR-5	0.016	5	1.25	.83
740-4916	MCR-7	0.010	7	1.25	.97
740-4917	MCR-10	0.006	10	1.25	.97

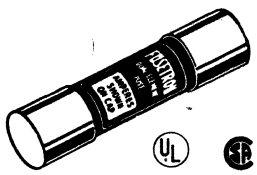
GMT Telecommunication Fuse



For multiple panel mounting in small spaces. Color-coded, spring-loaded flag indicates amp rating, performing visual indication when alarm circuit activates. Opening time @ 100% load is 10 min.; @ 150% load, 5 mins (max.). Amp ratings are 125 Vac, or 60 Vdc. **Size:** 1/4″ × 1 15/32″. HLT holder fits all GMT fuses.

Stock No.	Amps	Color	EACH		
			1-240	250-490	500-990
740-5222	18/100	Yellow	1.75	1.31	1.20
740-5223	1/4	Violet	1.75	1.31	1.20
740-5224	1/2	Red	1.75	1.31	1.20
740-5225	85/100	Black	1.75	1.31	1.20
740-5226	3/4	Brown	1.75	1.31	1.20
740-5227	1	Gray	1.75	1.31	1.20
740-5228	1 1/3	White	1.75	1.31	1.20
740-5229	2	Orange	1.75	1.31	1.20
740-5230	3	Blue	1.75	1.31	1.20
740-5232	7 1/2	Blk-White	1.75	1.31	1.20
740-5233	10	Red-White	1.75	1.31	1.20
740-5234	HLT holder Fits all GMT		2.44	2.03	1.85

FNM Time-Delay 13/32″ × 1 1/2″



Dual elements, in single fiber tube, fuses avoid needless blows from starting currents or surges. Operates only on dangerous overloads, or short circuits. Fuse opening time is 4 hours (min.) @ 110%; 1 hour (max.) at 135% load.

Stock No.	Amps	Volts	EACH		
			1-245	250-495	500-995
740-5235	1/2	250	2.39	1.99	1.86
740-5236	1	250	2.39	1.99	1.86
740-5237	1 6/10	250	2.39	1.99	1.86
740-5238	2	250	2.39	1.99	1.86
740-5239	2 1/2	250	2.39	1.99	1.86
740-5240	3 2/10	250	2.39	1.99	1.86
740-5241	4	250	2.39	1.99	1.86
740-5242	5	250	2.39	1.99	1.86
740-5243	6 1/4	250	2.39	1.99	1.86
740-5244	8	250	2.39	1.99	1.86
740-5245	10	250	2.39	1.99	1.86
740-5246	12	125	2.39	1.99	1.86
740-5247	15	125	2.39	1.99	1.86

KTK-R Fast-Acting 13/32″ × 1 1/2″

Limitron Fast-Acting fuse. UL listed for branch circuit protection. Excellent short circuit protection.

Stock No.	Amps	Volts	EACH		
			1-245	250-495	500-995
740-5248	1/2	600	5.72	4.77	4.39
740-5249	1	600	5.72	4.77	4.39
740-5250	1 1/2	600	5.72	4.77	4.39
740-5251	2	600	5.72	4.77	4.39
740-5252	3	600	5.72	4.77	4.39
740-5253	4	600	5.72	4.77	4.39
740-5254	5	600	5.72	4.77	4.39
740-5255	6	600	5.72	4.77	4.39
740-5256	7	600	5.72	4.77	4.39
740-5257	8	600	5.72	4.77	4.39
740-5258	9	600	5.72	4.77	4.39
740-5259	10	600	5.72	4.77	4.39
740-5260	12	600	5.72	4.77	4.39
740-5261	15	600	5.72	4.77	4.39

Fast Acting Fuses

Type 3AG. For Low Time lag usage. 1¼ × ¼." Maximum 250V. U.L. listed and CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH*		
			1-95	100-495	500-995
845-4001	312.062	1/16	.89	.82	.76
845-4002	312.125	1/8	.89	.82	.76
845-4003	312.175	.175	.86	.79	.73
845-4004	312.187	3/16	.90	.87	.80
845-4005	312.250	1/4	.50	.46	.42
845-4006	312.300	3/10	.51	.47	.43
845-4007	312.375	3/8	.51	.47	.43
845-4008	312.500	1/2	.42	.39	.36
845-4009	312.750	3/4	.42	.39	.36
845-4010	3120001	1	.22	.20	.19
845-4011	31201.5	1 1/2	.22	.20	.19
845-4012	312002	2	.22	.20	.19
845-4013	312003	3	.22	.20	.19
845-4014	312004	4	.35	.32	.29
845-4015	312005	5	.35	.32	.29
845-4016	312006	6	.35	.32	.29
845-4017	312008	8	.48	.44	.40
845-4018	3121.25	1 1/4	.23	.22	.20
845-4019	31202.5	2 1/2	.21	.20	.18
845-4020	312007	7	.36	.33	.30
845-4021	312010	10	.48	.44	.40

*Sold in multiples of 5 only.

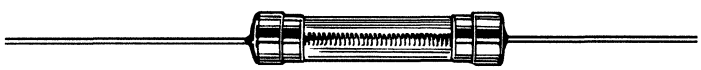
3AB Ceramic Body

250V or less. **Blow Time:** 110% 4 hour minimum; 135% 1 hour maximum; 200% 15 second maximum (1/8-12A); 60 second maximum (15-30A). 1¼ × ¼." U.L. listed thru 15 amps. Certified by CSA thru 15 amps. U.L. recognized, 20-30A.

Stock No.	Mfr.'s Type	Amps	EACH*		
			1-95	100-495	500-995
845-4553	314001	1	.59	.56	.51
845-4022	314002	2	.59	.56	.51
845-4554	314003	3	.59	.56	.51
845-4023	314004	4	.59	.56	.51
845-4555	314005	5	.59	.56	.51
845-4556	314006	6	.53	.48	.44
845-4024	314007	7	.53	.48	.44
845-4557	314008	8	.53	.48	.44
845-4558	314010	10	.53	.48	.44
845-4559	314012	12	.53	.48	.44
845-4560	314015	15	.53	.48	.44
845-4561	314020	20	.79	.73	.66
845-4562	314025	25†	.79	.73	.66
845-4025	314030	30†	.79	.73	.66

*Sold in multiples of 5 only. †125V max.

3AG Pigtail Fuses—250 Volt



Blow Time: 110%, 4 hour minimum; 135%, 1 hour maximum; 200%, 5 second maximum, **Dia.:** .275." **Length:** 1.275." 1½" Pigtails. U.L. listed. CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH*		
			1-95	100-495	500-995
845-4026	318.125	1/8	1.40	1.04	.95
845-4563	318.250	1/4	.68	.65	.62
845-4027	318.375	3/8	.68	.65	.62
845-4028	318.500	1/2	.68	.65	.62
845-4029	318.750	3/4	.68	.65	.62
845-4564	318001	1	.51	.48	.44
845-4030	31801.5	1 1/2	.51	.48	.44
845-4565	318002	2	.51	.48	.44
845-4031	31802.5	2 1/2	.51	.48	.44
845-4566	318003	3	.51	.48	.44
845-4567	318004	4	.55	.51	.46
845-4032	318005	5	.55	.51	.46
845-4033	318006	6	.55	.51	.46
845-4034	318007	7	.55	.51	.46

*Sold in multiples of 5 only.

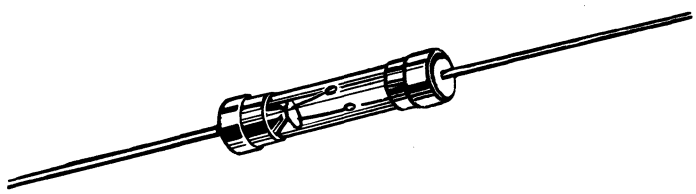
Slow Blo® Fuses

Type 3AG. For circuits with high inductive surge. 1¼ × ¼." Ma. 250V except (†) denotes 32V. U.L. listed and CSA certified. U.L. recognized 8-30A. Thru 7 amps.

Stock No.	Mfr.'s Type	Amps	EACH*		
			1-95	100-495	500-995
845-4035	313.010	1/100	1.65	1.53	1.40
845-4036	313.031	1/32	1.65	1.53	1.40
845-4037	313.062	1/16	1.33	1.22	1.12
845-4038	313.100	1/10	1.33	1.22	1.12
845-4039	313.125	1/8	1.33	1.22	1.12
845-4040	313.150	.150	1.33	1.22	1.12
845-4041	313.175	.175	1.33	1.22	1.12
845-4042	313.187	3/16	1.33	1.22	1.12
845-4043	313.200	2/10	1.33	1.22	1.12
845-4044	313.250	1/4	.91	.84	.78
845-4045	313.300	3/10	.83	.76	.70
845-4046	313.375	3/8	.83	.76	.70
845-4047	313.400	4/10	.83	.76	.70
845-4048	313.500	1/2	.76	.69	.63
845-4049	313.600	6/10	.76	.69	.63
845-4050	313.700	7/10	.76	.69	.63
845-4051	313.750	3/4	.76	.69	.63
845-4052	313.800	8/10	.76	.69	.63
845-4053	313001	1	.76	.69	.63
845-4054	3131.25	1 1/4	.59	.53	.50
845-4055	31301.5	1 1/2	.57	.51	.48
845-4056	31301.6	1 6/10	.59	.53	.50
845-4057	313002	2	.57	.51	.48
845-4058	31302.5	2 1/2	.57	.51	.48
845-4059	313003	3	.57	.51	.48
845-4060	1303.2	3 2/10	.59	.53	.50
845-4061	313004	4	.57	.51	.48
845-4062	313005	5	.57	.51	.48
845-4063	3136.25	6 1/4	.56	.50	.47
845-4064	313007	7	.56	.50	.47
845-4065	313008	3†	.56	.50	.46
845-4066	313010	10†	.75	.72	.62
845-4067	313015	15†	.75	.72	.62
845-4068	313020	20†	.75	.72	.62

*Sold in multiples of 5 only.

3AG Slo Blo® Pigtail Fuses—250 Volt



Blow time: 110%, 4 hour minimum; 135%, 1 hour maximum; 200%, 5 second minimum. **Dia.:** .275." **Length:** 1.275." 1½" Pigtails. U.L. listed CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH*		
			1-95	100-495	500-995
845-4069	315.100	1/10	2.00	1.90	1.80
845-4070	315.250	1/4	1.05	.97	.89
845-4071	315.300	3/10	1.05	.97	.89
845-4072	315.375	3/8	1.05	.97	.89
845-4073	315.500	1/2	.99	.91	.83
845-4074	315.600	6/10	.99	.91	.83
845-4075	315001	1	.99	.91	.83
845-4076	31501.5	1 1/2	.99	.91	.83
845-4077	31501.6	1 6/10	.99	.91	.83
845-4078	315002	2	.99	.91	.83
845-4079	31502.5	2 1/2	.99	.91	.83
845-4080	315003	3	.75	.69	.63
845-4081	315004	4	.73	.67	.63
845-4082	315005	5	.73	.67	.63
845-4083	315007	7	.73	.67	.63

*Sold in multiples of 5 only.

2AG "Fast-Acting" and "Slo-Blo" Fuses

2AG 225000 Series Fast-Acting Fuses

Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				1-95	100-495	500-Up
845-6001	225.125	1/8	250	.62	.56	.51
845-6002	225.250	1/4	250	.62	.56	.51
845-6003	225.375	3/8	250	.62	.56	.51
845-6004	225.500	1/2	250	.19	.18	.17
845-6005	225.750	3/4	250	.19	.18	.17
845-6006	225001	1	250	.19	.18	.17
845-6007	22501.5	1 1/2	250	.19	.18	.17
845-6008	225002	2	250	.19	.18	.17
845-6009	22502.5	2 1/2	250	.19	.18	.17
845-6010	225003	3	250	.19	.18	.17
845-6011	22503.5	3 1/2	250	.19	.18	.17
845-6012	225004	4	125	.19	.18	.17
845-6013	225005	5	125	.19	.18	.17
845-6015	225007	7	125	.19	.18	.17

2AG 224000 Series (Pigtail) Fast-Acting Fuses

Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				1-95	100-495	500-Up
845-6018	224.125	1/8	250	.77	.71	.64
845-6019	225.250	1/4	250	.36	.33	.30
845-6020	225.375	3/8	250	.36	.33	.30
845-6021	224.500	1/2	250	.36	.33	.30
845-6022	224.750	3/4	250	.34	.31	.31
845-6023	224001	1	250	.34	.31	.31
845-6024	22401.5	1 1/2	250	.34	.31	.31
845-6025	224002	2	250	.34	.31	.31
845-6026	22402.5	2 1/2	250	.34	.31	.31
845-6027	224003	3	250	.34	.31	.31
845-6028	22403.5	3 1/2	250	.34	.31	.31
845-6029	224004	4	125	.34	.31	.31
845-2030	224005	5	125	.34	.31	.31
845-6032	224007	7	125	.34	.31	.31

*Sold only in multiples of 5.

2AG 229000 Series Slo-Blo Fuses

Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				1-95	100-495	500-Up
845-6034	229.250	1/4	250	.30	.28	.26
845-6035	229.375	3/8	250	.30	.28	.26
845-6036	229.500	1/2	250	.30	.28	.26
845-6037	229.750	3/4	250	.30	.28	.26
845-6038	229001	1	250	.30	.28	.26
845-6039	22901.5	1 1/2	250	.30	.28	.26
845-6040	229002	2	250	.30	.28	.26
845-6042	22902.5	2 1/2	250	.30	.28	.26
845-6043	229003	3	250	.30	.28	.26
845-6044	22903.5	3 1/2	250	.30	.28	.26
845-6045	229004	4	125	.30	.28	.26
845-6046	229005	5	125	.30	.28	.26
845-6047	229007	7	125	.30	.28	.26
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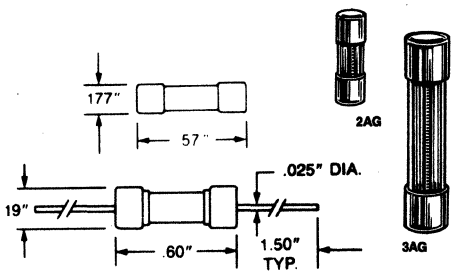
2AG 230000 Series (Pigtail) Slo-Blo Fuses

Stock No.	Mfr.'s Type	Amps	Volts	EACH*		
				1-95	100-495	500-Up
845-6048	230.250	1/4	250	.46	.43	.40
845-6049	230.405	3/8	250	.46	.43	.40
845-6050	230.500	1/2	250	.46	.43	.40
845-6051	230.750	3/4	250	.46	.43	.40
845-6052	230001	1	250	.46	.43	.40
845-6053	23001.5	1 1/2	250	.46	.43	.40
845-6054	230002	2	250	.46	.43	.40
845-6056	23002.50	2 1/2	250	.46	.43	.40
845-6057	230003	3	250	.46	.43	.40
845-6058	23003.5	3 1/2	250	.46	.43	.40
845-6059	230004	4	125	.46	.43	.40
845-6060	230005	5	125	.46	.43	.40
845-6061	230007	7	125	.46	.43	.40
—	—	—	—	—	—	—

*Sold only in multiples of 5.

New 2AG Subminiature Fuses — Small Size With 3AG "Fast-Acting" And "Slo-Blo" Performance. Powerful low-density design is ideal for applications where space is an important factor. The new 2AG Series is less than half the size of the 3AG fuses.

These subminiature fuses offer top quality, reliability, and space-saving protection for your new designs. Available with pigtail leads for direct soldering or for use with #111501 mating PCB fuse clips. The 2AG Series is UL and CSA approved.



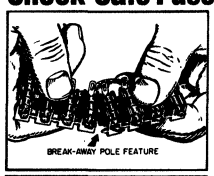
2AG Fast-Acting Type Electrical Characteristics

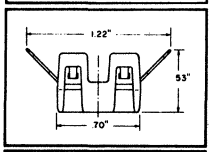
Rating	Blow Time
100%	4 hours, minimum
135%	1 hour, maximum
200%	10 seconds, maximum

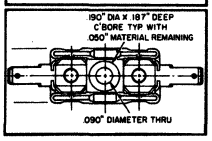
2AG Slo-Blo Type Electrical Characteristics

Rating	Blow Time
110%	4 hours, minimum
135%	1 hour, maximum
200%	3 seconds, minimum
	1 minute, maximum

#286377 2AG Flip-Top, Shock-Safe Fuse Holder







- One Piece Fuse/Clip Terminal Eliminates Resistance Build-Up to Allow For Higher Current Level Operation
- Low Profile Design
- Automatic Self-Alignment of Clip to Fuse
- Individual Pole Barriers Add Clip and Electric Shock Protection
- One Through Eight Pole Break-Away Versatility
- Molded Base with UL-94V0 Flame Rating
- Long Arc Path — 1500 V RMS/min. (7 Amps at 300 V)
- Thermoplastic Glass Reinforced (Black Standard)
- Solder or Quick-Connect Terminals
- UL and CSA Approval Pending

Solder Terminals

Stock No.	Mfr.'s Type	No. of Poles	Overall Width	EACH*		
				1-95	100-495	500-Up
845-6070	254001	1	0.35"	.31	.27	.24
845-6071	254002	2	0.80"	.61	.55	.48
845-6072	254003	3	1.25"	.91	.82	.73
845-6073	254004	4	1.70"	1.21	1.09	.97
845-6074	254005	5	2.15"	1.51	1.36	1.21
845-6075	254006	6	2.60"	1.82	1.63	1.45
845-6076	254007	7	3.05"	2.11	1.90	1.69
845-6077	254008	8	3.50"	2.41	2.17	1.93

0.110" Q.C. Terminals

845-6078	254201	1	0.35"	.31	.27	.24
845-6079	254202	2	0.80"	.61	.55	.48
845-6080	254203	3	1.25"	.91	.82	.73
845-6081	254204	4	1.70"	1.21	1.09	.97
845-6082	254205	5	2.15"	1.51	1.36	1.21
845-6083	254206	6	2.60"	1.82	1.63	1.45
845-6084	254207	7	3.05"	2.11	1.90	1.69
845-6085	254208	8	3.50"	2.41	2.17	1.93

*Sold only in multiples of 5.

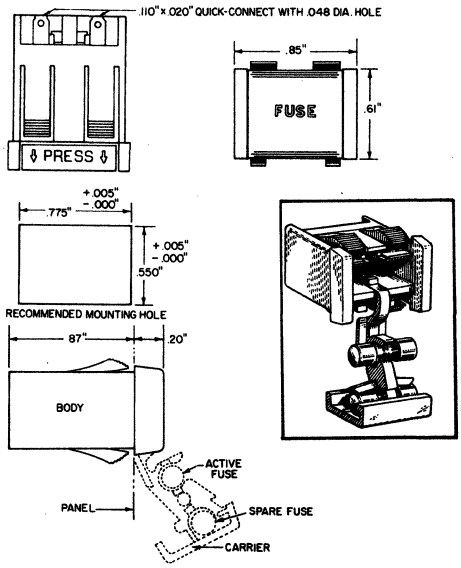
2AG Omni-Block™

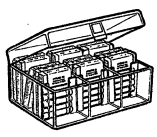
- Meets or Exceeds "IEC" Shock-Safe Standards 65 and 257
- UL and CSA Approvals Pending
- Shock-Safe Design Automatically Extracts, Inserts Fuse from Live Terminals
- Unique Fuse Carrier Holds Spare Fuse
- Permanently Attached Fuse Carrier Eliminates Cover Loss
- Spring Loaded Fuse Carrier Unlocks with Press of Finger—Locks into Place to Prevent Circuit Interruption
- Thermoplastic Glass Reinforced 94V0 Flame Rated, Black Standard

SPECIFICATIONS

- 250 Volts; 7 Amps
- Insulation Resistance: 10K Megohms at 500 VDC
- Contact Resistance: less than .005 Ohm
- Dielectric Strength: 2,500 Volts Minimum
- Ambient Temperature: −40°C to +80°C
- Vibration: 10-55-10 Hz at .06 Double Amplitude (MIL-Std-202)
- Copper Alloy, Tin Plate Terminals

Stock No.	Mfr.'s Type	EACH		
		1-99	100-499	500-Up
845-6086	286377	1.05	.95	.84





Fuse Kit

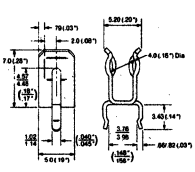
Fuse caddy offers an assortment of most popular industrial 3AG slow blow and regular fuses in an attractive plastic case. Kit contains 15 boxes of 5 fuses each in 1/2, 1, 1 1/2*, 2, 3, and 5 amp. *Slow blow only.

845-9403. Type 094037 ..... **EACH 42.50**

P.C. Board Type For 2AG Fuses

Stock No.	Mfr.'s Type	Clip Material	Finish	Style	EACH		
					1-99	100-499	500-Up
845-6062	111501	Spring Brass	Tin-Plated	Bar	.11	.10	.09

NOTE: Suitable for current levels up to 10 Amperes.



FLQ Midget Fuses

500 V or less. Short circuit rating 10,000 amps. (AC) Dual element, time delay for protection of circuits with Hi Inrush currents. 13/32 x 1 1/2". UL listed and CSA certified.

Stock No.	Mfr.'s Type	Amps	EACH		
			1-99	100-499	500-Up
845-4159	FLQ 1/8	1/8	5.43	4.63	4.21
845-4160	FLQ 1/4	1/4	5.43	4.63	4.21
845-4161	FLQ 1/2	1/2	5.43	4.63	4.21
845-4162	FLQ 1	1	5.43	4.63	4.21
845-4163	FLQ 1 6/10	1 6/10	5.43	4.63	4.21
845-4164	FLQ 2	2	5.43	4.63	4.21
845-4165	FLQ 2 1/2	2 1/2	5.43	4.63	4.21
845-4166	FLQ 3 2/10	3 2/10	5.43	4.63	4.21
845-4167	FLQ 4	4	5.43	4.63	4.21
845-4168	FLQ 5	5	5.43	4.63	4.21
845-4169	FLQ 6 1/4	6 1/4	5.43	4.63	4.21
845-4170	FLQ 8	8	5.43	4.63	4.21
845-4171	FLQ 10	10	5.43	4.63	4.21
845-4172	FLQ 12	12	5.43	4.63	4.21
845-4173	FLQ 15	15	5.43	4.63	4.21

FLM Time Delay Fuses

250 V or less. **Short circuit rating:** 10,000 amps AC. For use in circuits with hi in-rush currents. UL listed and CSA certified.

Stock No.	Amps	EACH		
		1-99	100-499	500-Up
845-4535	1/2	2.10	1.83	1.75
845-4536	1	2.10	1.83	1.75
845-4537	1 6/10	2.10	1.83	1.75
845-4538	2	1.82	1.68	1.63
845-4539	2 1/2	1.82	1.68	1.63
845-4540	3 2/10	1.82	1.68	1.63
845-4541	4	1.82	1.68	1.63
845-4542	5	1.82	1.68	1.63
845-4543	6 1/4	1.82	1.68	1.63
845-4544	8	1.82	1.68	1.63
845-4545	10	1.82	1.68	1.63
845-4546	12	1.82	1.68	1.63
845-4547	15	1.82	1.68	1.63

NLN "One Time" Fuses

250 V or less. **Interrupting rating:** 10,000 amps AC. UL Listed. Class H.

Stock No.	Amps	Size	EACH*		
			1-90	100-490	500-Up
845-4299	1	9/16 x 2	.74	.68	.63
845-4300	2	9/16 x 2	.74	.68	.63
845-4301	6	9/16 x 2	.74	.68	.63
845-4302	10	9/16 x 2	.74	.68	.63
845-4303	15	9/16 x 2	.67	.63	.58
845-4304	20	9/16 x 2	.67	.63	.58
845-4305	25	9/16 x 2	.67	.63	.58
845-4306	30	9/16 x 2	.67	.63	.58
845-4307	35	13/16 x 3	.96	.91	.87
845-4308	40	13/16 x 3	.96	.91	.87
845-4309	45	13/16 x 3	.96	.91	.87
845-4310	50	13/16 x 3	.96	.91	.87
845-4311	60	13/16 x 3	.96	.91	.87

*Sold in multiples of 10 only.

KLB Rectifier Fuses

250 VAC or less. **Interrupting rating:** 200,000 amps AC. **Blow Time:** 100%, 4 hour minimum.

Stock No.	Amps	Fuses Per Pkg.	EACH		
			1-99	100-499	500-Up
845-4191	1	10	4.62	4.00	3.75
845-4192	3	10	4.62	4.00	3.75
845-4193	5	10	4.62	4.00	3.75
845-4194	6	10	4.62	4.00	3.75
845-4195	8	10	4.62	4.00	3.75
845-4196	10	10	4.62	4.00	3.75
845-4197	12	10	4.62	4.00	3.75
845-4198	15	10	4.62	4.00	3.75
845-4199	20	10	4.62	4.00	3.75
845-4200	25	10	4.62	4.00	3.75
845-4201	30	10	4.62	4.00	3.75
845-4202	35	10	14.80	13.50	13.20
845-4203	40	10	14.80	13.50	13.20
845-4204	45	10	14.80	13.50	13.20
845-4205	50	10	14.80	13.50	13.20
845-4206	60	10	14.80	13.50	13.20
845-4207	70	5	19.00	16.25	15.10
845-4208	80	5	19.00	16.25	15.10
845-4209	90	5	19.00	16.25	15.10
845-4210	100	5	19.00	16.25	15.10
845-4211	125	5	19.00	16.25	15.10
845-4212	150	5	19.00	16.25	15.10
845-4213	200	5	19.00	16.25	15.10

FLN-R Slo-Blo® Current Limiting Fuses

For protection against fault currents up to 200,000 amps in motor branch circuitry, transformers, etc. Class RK-5, 250 V or less. UL Listed.

Stock No.	Amps	Size	EACH		
			1-99	100-499	500-Up
845-4514	1	9/16 x 2	2.75	2.65	2.55
845-4515	1 1/4	9/16 x 2	2.75	2.65	2.55
845-4516	1 6/10	9/16 x 2	2.75	2.65	2.55
845-4517	2	9/16 x 2	2.75	2.65	2.55
845-4518	2 1/2	9/16 x 2	2.75	2.65	2.55
845-4519	3 2/10	9/16 x 2	2.53	2.43	2.30
845-4520	4	9/16 x 2	2.53	2.43	2.30
845-4521	5	9/16 x 2	2.53	2.43	2.30
845-4522	6 1/4	9/16 x 2	2.53	2.43	2.30
845-4523	8	9/16 x 2	2.53	2.43	2.30
845-4524	10	9/16 x 2	2.53	2.43	2.30
845-4525	15	9/16 x 2	2.00	1.90	1.80
845-4526	17 1/2	9/16 x 2	2.00	1.90	1.80
845-4527	20	9/16 x 2	2.00	1.90	1.80
845-4528	25	9/16 x 2	2.00	1.90	1.80
845-4529	30	9/16 x 2	2.00	1.90	1.80
845-4530	35	13/16 x 3	3.62	3.42	3.30
845-4531	40	13/16 x 3	3.62	3.42	3.30
845-4532	50	13/16 x 3	3.62	3.42	3.30
845-4533	60	13/16 x 3	3.62	3.42	3.30
845-4534	100	1 1/16 x 5 7/8	8.15	7.61	7.63

FLS-R Slo Blo® Current Limiting Fuses

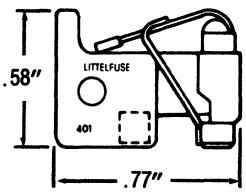
Similar to Type FLN-R but rated at 600 V or less.

Stock No.	Amps	Size	EACH		
			1-99	100-499	500-Up
845-4260	1	13/16 x 5	5.31	4.84	4.46
845-4261	1 1/4	13/16 x 5	5.31	4.84	4.46
845-4262	1 6/10	13/16 x 5	5.31	4.84	4.46
854-4263	2	13/16 x 5	5.31	4.84	4.46
845-4264	2 1/2	13/16 x 5	5.31	4.84	4.46
845-4265	3 2/10	13/16 x 5	4.93	4.57	4.36
845-4266	4	13/16 x 5	4.93	4.57	4.36
845-4267	5	13/16 x 5	4.93	4.57	4.36
845-4268	6 1/4	13/16 x 5	4.93	4.57	4.36
845-4269	8	13/16 x 5	4.93	4.57	4.36
845-4270	9	13/16 x 5	4.93	4.57	4.36
845-4271	10	13/16 x 5	4.93	4.18	3.80
845-4272	15	13/16 x 5	4.20	4.04	3.83
845-4273	20	13/16 x 5	4.20	4.04	3.83
845-4274	25	13/16 x 5	4.20	4.04	3.83
845-4275	30	13/16 x 5	4.20	4.04	3.83
845-4276	35	1 1/16 x 5 1/2	7.53	7.08	6.88
845-4277	40	1 1/16 x 5 1/2	7.53	7.08	6.88
845-4278	50	1 1/16 x 5 1/2	7.53	7.08	6.88
845-4279	60	1 1/16 x 5 1/2	7.55	7.08	6.88
845-4280	100	1 5/16 x 7 7/8	15.59	13.20	12.01

Alarm Indicating Fuses/125 VAC/ 60 VDC

For telecommunications equipment and similar applications.

Color coded by amperage. Blown fuse indicating flag can activate alarm circuit. Multiple panel mounting in limited space. .585 x .775". UL recognized at 60 VDC.



Stock No.	Mfr.'s Type	Amps	Color	EACH*		
				1-90	100-490	500-Up
845-4548	401.180	18/100	Yellow	1.52	1.40	1.26
845-4549	401.250	1/4	Violet	1.52	1.40	1.26
845-4550	401.500	1/2	Red	1.52	1.40	1.26
845-4551	401.650	65/100	Black	1.52	1.40	1.26
845-4552	401.750	3/4	Brown	1.52	1.40	1.26
845-4253	401001	1	Gray	1.52	1.40	1.26
845-4254	4011.33	1 1/3	White	1.52	1.40	1.26
845-4255	401002	2	Orange	1.52	1.40	1.26
845-4256	401003	3	Blue	1.52	1.40	1.26
845-4257	401005	5	Green	1.52	1.40	1.26
845-4258	40107.5	7 1/2	Blk/Wht.	1.52	1.40	1.26
845-4259	401010	10	Red/Wht.	1.52	1.40	1.26

*Sold in multiples of 10 only.

KLK Fast Acting Fuses

600 V or less. Hi-interrupting capacity. For use in circuits with up to 200,000 amps short circuit. 13/32 x 1 1/2. UL Listed and CSA Certified 3/10-30 A.

Stock No.	Amps	EACH		
		1-99	100-499	500-Up
845-4281	1/10	4.38	4.22	4.02
845-4282	1/4	4.38	4.22	4.02
845-4283	3/10	4.38	4.22	4.02
845-4284	1/2	4.38	4.22	4.02
845-4285	3/4	4.38	4.22	4.02
845-4286	1	4.38	4.22	4.02
845-4287	1 1/2	4.38	4.22	4.02
845-4288	2	4.38	4.22	4.02
845-4289	3	4.38	4.22	4.02
845-4290	4	4.38	4.22	4.02
845-4291	5	4.38	4.22	4.02
845-4292	6	4.38	4.22	4.02
845-4293	8	4.38	4.22	4.02
845-4294	10	4.38	4.22	4.02
845-4295	15	4.38	4.22	4.02
845-4296	20	4.83	4.53	4.20
845-4297	25	4.83	4.53	4.20
845-4298	30	4.83	4.53	4.20

3AB Rectifier Fuses

For protection of silicon controlled rectifiers and like solid state devices. **Blow Time:** 110%, 4 hours minimum; 135%, 1 hour maximum; 200%, 5 seconds minimum. **Length:** 1 1/4". 250 V, 20 amps or less. 125 volt, 25-30 amp. UL Listed through 10 amps. UL Recognized 12-30 amps. CSA Certified 1/4-10 amps.

Stock No.	Mfr.'s Type	Amps	EACH*		
			1-20	25-95	100-Up
845-4175	326001	1	1.30	1.19	1.09
845-4176	3261.25	1 1/4	1.30	1.19	1.09
845-4177	326002	2	1.30	1.19	1.09
845-4178	326003	3	.93	.86	.79
845-4179	326004	4	.93	.86	.79
845-4180	326005	5	.93	.86	.79
845-4181	3266.25	6 1/4	.93	.86	.79
845-4182	326007	7	.93	.86	.79
845-4183	326008	8	.93	.86	.79
845-4184	326010	10	.93	.86	.79
845-4186	326012	12	.93	.86	.79
845-4187	326015	15	.93	.86	.79
845-4188	326020	20	.93	.86	.79
845-4189	326025	25	.93	.86	.79
845-4190	326030	30	.93	.86	.79

*Sold in multiples of 5 only.

8AG Instrument Fuses

Type 361. Blow Time: 100%, 4 hours minimum; 200%, 5 second maximum. **Type 362. Blow Time:** 110%, 4 hours minimum; 135%, 1 hour maximum; 200%, 10 second maximum. 1 x 1/4". **Type 362:** UL Listed thru 5 amps and CSA Certified 1/4-5A.

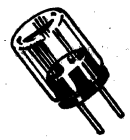
Stock No.	Mfr's. Type	Amps	EACH*		
			1-20	25-95	100-Up
845-4140	361.002	1/500**	5.01	4.59	4.18
845-4568	361.005	1/200**	3.06	2.80	2.55
845-4141	361.010	1/100**	2.96	2.72	2.47
845-4569	361.031	1/32**	2.96	2.72	2.47
845-4570	361.062	1/16**	1.04	.96	.87
845-4571	361.100	1/10**	1.04	.96	.87
845-4572	361.125	1/8**	.71	.65	.59
845-4573	361.250	1/4**	.71	.65	.59
845-4142	361.375	3/8**	.43	.39	.36
845-4574	361.500	1/2**	.43	.39	.36
845-4143	361.750	3/4**	.43	.39	.36
845-4575	361001	1**	.25	.39	.21
845-4576	36101.5	1 1/2**	.25	.23	.21
845-4577	361002	2**	.25	.23	.21
845-4578	361003	3†	.25	.23	.21
845-4144	361004	4†	.25	.23	.21
845-4579	361005	5†	.25	.23	.21
845-4145	362.125	1/8**	.66	.61	.56
845-4146	362.250	1/4**	.42	.38	.35
845-4147	362.500	1/2**	.42	.38	.35
845-4148	362001	1**	.25	.23	.21
845-4149	36201.5	1 1/2†	.25	.23	.21
845-4150	362002	2†	.25	.23	.21
845-4151	36202.5	2 1/2†	.25	.23	.21
845-4152	362003	3†	.19	.17	.16
845-4153	362005	5†	.19	.17	.16
845-4154	362006	6†	.19	.17	.16
845-4155	362008	8•	.19	.17	.16
845-4156	362010	10•	.19	.17	.16
845-4157	362015	15•	.19	.17	.16
845-4158	362020	20•	.19	.17	.16

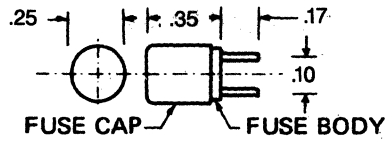
*Sold in multiples of 5 only. **250 V, †125 V, •32 V.

2

Subminiature Microfuses

Only .250″ dia. × .35″ long exclusive of leads. Ideal for printed circuits. Features low resistance and high reliability in ultrafast blowing characteristics. **Series 279000** has 1″ leads for wiring into circuit. Short circuit interrupting capacity 125 volts, 10,000 amps AC. **Series 273000** has .170 leads for plugging into subminiature fuse holder. **Blowing specifications:** 100%—4 hours minimum; 200%—5 second maximum; transparent glass cap. 125 V rating. UL Recognized.





Series 273

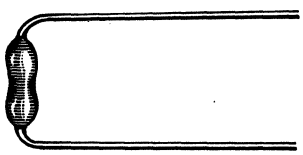
Stock No.	Mfr.'s Type	Amps	EACH* 1-15	20-95	100-195
845-4096	273.002	1/500	4.15	3.86	3.48
845-4097	273.005	1/200	4.15	3.86	3.48
845-4098	273.010	1/100	4.15	3.86	3.48
845-4099	273.015	1/64	4.15	3.86	3.48
845-4100	273.031	1/32	4.15	3.86	3.48
845-0015	273.050	1/20	1.75	1.61	1.47
845-4101	273.062	1/16	1.75	1.61	1.47
845-0017	273.100	1/10	1.75	1.61	1.47
845-4102	273.125	1/8	1.75	1.61	1.47
845-4103	273.200	2/10	1.75	1.61	1.47
845-0023	273.250	1/4	1.75	1.61	1.47
845-4104	273.300	3/10	1.75	1.61	1.47
845-4105	273.400	4/10	1.75	1.61	1.47
845-0027	273.500	1/2	1.75	1.61	1.47
845-4106	273.600	6/10	1.75	1.61	1.47
845-4107	273.700	7/10	1.75	1.61	1.47
845-4108	273.750	3/4	1.75	1.61	1.47
845-4109	273.800	8/10	1.75	1.61	1.47
845-0032	273001	1	1.75	1.61	1.47
845-4110	27301.5	1 1/2	1.75	1.61	1.47
845-0036	273002	2	1.75	1.61	1.47
845-0038	273003	3	1.75	1.61	1.47
845-4111	273004	4	1.75	1.61	1.47
845-0041	273005	5	1.75	1.61	1.47

Series 279

Stock No.	Mfr.'s Type	Amps	EACH* 1-15	20-95	100-195
845-4112	279.002	1/500	4.59	4.26	3.91
845-4113	279.005	1/200	4.59	4.26	3.91
845-4114	279.010	1/100	4.59	4.26	3.91
845-4115	279.015	1/64	4.59	4.26	3.91
845-4116	279.031	1/32	4.59	4.26	3.91
845-4117	279.050	1/20	1.93	1.79	1.65
845-4118	279.062	1/16	1.93	1.79	1.65
845-4119	279.100	1/10	1.93	1.79	1.65
845-4120	279.125	1/8	1.93	1.79	1.65
845-4121	279.200	2/10	1.93	1.79	1.65
845-4122	279.250	1/4	1.93	1.79	1.65
845-4123	279.300	3/10	1.93	1.79	1.65
845-4124	279.400	4/10	1.93	1.79	1.65
845-4125	279.500	1/2	1.93	1.79	1.65
845-4126	279.600	6/10	1.93	1.79	1.65
845-4127	279.700	7/10	1.93	1.79	1.65
845-4128	279.750	3/4	1.93	1.79	1.65
845-4129	279.800	8/10	1.93	1.79	1.65
845-4130	279001	1	1.93	1.79	1.65
845-4131	27901.5	1 1/2	1.93	1.79	1.65
845-4132	279002	2	1.93	1.79	1.65
845-4133	279003	3	1.93	1.79	1.65
845-4134	279004	4	1.93	1.79	1.65
845-4135	279005	5	1.93	1.79	1.65

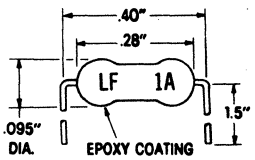
*Sold in multiples of 5 only.

PICO II™ Fast-Acting Subminiature Fuses Radial Leads



NOTE: LF and amperage rating are LASER-MARKED on both sides of all non color-coded PICO II™ fuses.

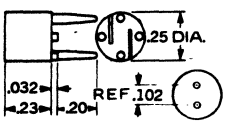
252 000 Series
(Non color-coded)



For circuits of 125 V or less with ampere rating of 1/16 to 15. **Blow Time:** 4 hours minimum at 100% (1/16-15 amps); 5 seconds maximum at 200% (1/16-10 amps); 10 seconds maximum at 200% (12-15 amps). **Body Diameter:** .095″. **Body Length:** .28″. Leads are solder-coated copper, .025″ diameter for 1/16-10 A, .032″ diameter for 12-15 A. LF and amperage rating laser marked on both sides of fuse. UL Recognized. CSA Certified.

Stock No.	Mfr.'s Type	Amps	EACH* 1-15	20-95
845-4084	252.125	1/8	1.09	1.01
845-4085	252.250	1/4	1.01	.93
845-4086	252.375	3/8	1.01	.93
845-4087	252.500	1/2	1.01	.93
845-4088	252.750	3/4	1.01	.93
845-4089	252001	1	.81	.74
845-4090	25201.5	1 1/2	.81	.74
845-4091	252002	2	.81	.74
845-4092	252003	3	.81	.74
845-4093	252004	4	.81	.74
845-4094	252005	5	.81	.74
845-4095	252010	10	.81	.74

***Sold in multiples of 5 only.** Also available in bulk.

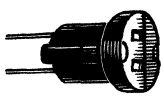


P.C. Mounted Microfuse/ Picofuse Holder

Fuseholder body molded in white acetal resin, terminals are silver plated brass. Rated at 5 amps, 125 volts maximum.

Stock No.	Mfr.'s Type	Mounting	EACH 1-99	100-499	500-Up
845-4136	281005	Vertical	.95	.87	.78

Subminiature Microfuse Holder

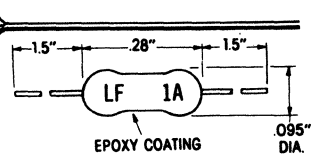


Type 281001. Subminiature holder ideal for chassis mounting. Rated at 5 amps. 125 volts max. With spring nut. **Average shipping weight:** 3 oz.

845-4137. 1-99 ..... **EACH .74**
100-499 ..... **EACH .67** **500-Up** ..... **EACH .60**

Axial-Lead PICO II™ Subminiature Fuses

251 000 Series
(Non color-coded)



NOTE: Leads are solder-coated copper, .025″ diameter for 1/16 — 10A, .032″ diameter for 12 — 15A.

For subminiature circuit protection where short circuit currents may be as high as 300 amperes. Low resistance values, high-speed action, insulated terminations, encapsulated epoxy-coated body. Will withstand vibrations of 10-55 Hz per method 201 of MIL-STD-202, and of 55-2000 Hz at 10 Gs per method 204, test condition C, of MIL-STD-202, and shock of 100 Gs for 6 milliseconds per method 213, test condition I of MIL-STD-202. **Operating ambient temperature:** −55°C to 125°C. At −55°C current carrying capacity is 110% of rating; at 25°C, 100% of rating; at 125°C, 80% of rating. Fuses will withstand an axial pull of 7 pounds. **Voltage Rating:** 125 V on 1/16-10 amps; 32 V on 12-15 amps. **Body Length:** .280″. **Lead Length:** 1.50″. **Body Diameter:** .0955″. **Lead Diameter:** .025″ on 1/16-10 amps; .032 on 12-15 amps.

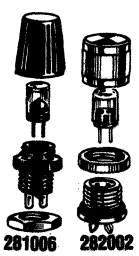
Stock No.	Mfr.'s Type	Amps	EACH* 1-15	20-95	100-195
845-2000	251.062	1/16	.96	.62	.57
845-2001	251.100	1/10	.87	.79	.72
845-2002	251.125	1/8	.87	.79	.72
845-2003	251.250	1/4	.87	.79	.72
845-2004	251.375	3/8	.87	.79	.72
845-2005	251.500	1/2	.87	.79	.72
845-2006	251.750	3/4	.79	.72	.66
845-2007	251001	1	.79	.72	.66
845-2008	25101.5	1 1/2	.79	.72	.66
845-2009	251002	2	.79	.72	.66
845-2010	25102.5	2 1/2	.79	.72	.66
845-2011	251003	3	.79	.72	.66
845-2012	25103.5	3 1/2	.79	.72	.66
845-2013	251004	4	.79	.72	.66
845-2014	251005	5	.79	.72	.66
845-2015	251007	7	.79	.72	.66
845-2016	251010	10	.79	.72	.66
845-2017	251012	12	1.17	1.07	.97
845-2018	251015	15	1.17	1.07	.97

***Sold in multiples of 5 only.**

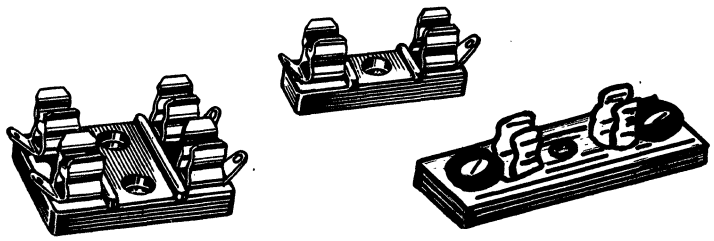
Microfuse Holder

Type 281006. Front panel mount microfuse holder. Body and cap are molded of black phenolic. Heavy duty terminals are electrotin plated brass. Rated 5 amps. 125 volt max. **Type 282002.** Rear panel mount RF shielded microfuse holder. Housing and knob are aluminum. Body is molded of black phenolic. Rated 5 amps. 125 volts max.

Stock No.	Mfr.'s Type	EACH 1-99	100-499
845-4138	281006	2.24	2.01
845-4139	282002	4.17	3.76



3AG Fuse Mountings— Screw Terminals U.L. Recognized



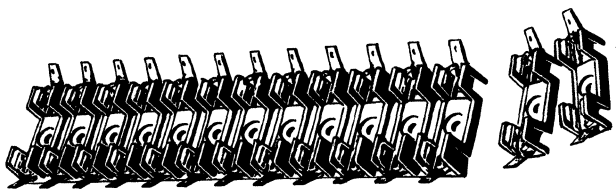
Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-99	100-499	500-999
845-4226	356001	F	1 pole	1.38	1.25	1.10
845-4227	356002	F	2 pole	3.13	2.81	2.50
With Solder Terminals						
845-4228	357001	E	1 pole	.69	.62	.55
845-4229	357002	D	2 pole	1.15	1.04	.92

Type Q Blocks with Quick Connect Terminals
Nickle-plated spring brass clips, tin-plated brass terminals. Molded black phenolic base. Rated for currents up to 15 amps. UL recognized.

845-4231	350327	E*	1 pole 3/16" terminal	.79	.71	.63
845-4232	350328	D*	2 pole 3/16" terminal	1.31	1.19	1.05
845-4233	350329	E*	1 pole 1/4" terminal	.79	.71	.63
845-4234	350330	D*	2 pole 1/4" terminal	1.31	1.19	1.05

*Similar to illustration but with quick connect terminals.

Omni-Block™ Fuse Mountings



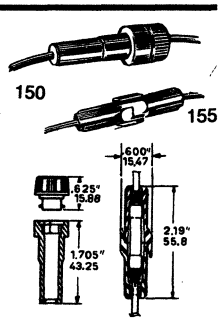
One piece self-aligning fuse clip/terminal design. Breakaway poles for easier stocking and ordering. Protective pole barriers surround each clip to provide greater protection against clip damage and electrical shock. Low profile design. UL recognized and CSA certified at 300 V. Molded of glass filled polyester. UL 94 VO flammability rating. **Clip/terminal:** High tensile spring brass, electro-tin plated. Standard gray color.

Stock No.	Mfr.'s Type	Terminals	Poles	EACH 1-99	100-499	500-999
845-3001	354001	Solder	1	.44	.39	.35
845-3002	354002	Solder	2	.78	.70	.62
845-3012	354012	Solder	12	4.83	4.35	3.86
845-4220	354601	Q.C. 3/16"	1	.41	.37	.33
845-4221	354602	Q.C. 3/16"	2	.78	.70	.62
845-4222	354612	Q.C. 3/16"	12	4.83	4.35	3.86
845-4223	354801	Q.C. 1/4"	1	.44	.39	.35
845-4224	354802	Q.C. 1/4"	2	.84	.75	.67
845-4225	354812	Q.C. 1/4"	12	4.83	4.35	3.36

NOTE: Q.C. —Quick Connect Blocks in black, red, white, blue, green and yellow available on special order from factory.

Universal In-Line Fuseholders

TYPE 155-100. Supplied with an 8" loop of #14 AWG red vinyl insulated wire and two springs: one long spring for fuses through SFE9 and one short spring for SFE14 and SFE20. **TYPE 150-145.** Supplied with a 15" loop of #14 AWG red vinyl insulated wire and three springs of different lengths to accommodate different sizes of 1/4" fuses.



Stock No.	Mfr.'s Type	EACH 1-99	100-499	500-999
845-0100	155-100	.84	.76	.67
845-0145	150-145	1.57	1.41	1.25

Bakelite In-Line Fuseholders

Assembled with 19" lead and fuse as listed.

Stock No.	Mfr.'s Type	Fuse Type	EACH 1-99	100-499	500-999
845-4250	155009A	SFE9	1.34	1.21	1.07
845-4251	155014A	SFE14	1.34	1.21	1.07
845-4252	155020A	SFE20	1.34	1.21	1.07

Fuse Clips

Fits SFE, 3AG, 8AG and 3AB fuses. Spring brass except (*) Beryllium copper.

Stock No.	Mfr.'s Type	Fig.	For	EACH 1-99	100-499	500-999
845-4235	101001	C	3AG	.08	.07	.06
845-4236	101002	A	3AG	.12	.10	.09
845-4237	101003	B	3AG	.12	.10	.09
845-0868	102071	D	3AG	.12	.11	.10
845-0869	102074	D	3AG	.12	.11	.10
845-4238	102078	E	3AG	.15	.14	.13
845-4239	105002	A	5AG	.17	.16	.15
845-4240	121001*	C	3AG	.20	.19	.17
845-4241	121002*	A	3AG	.20	.19	.17
845-4242	121004*	B	3AG	.34	.31	.28
845-4243	122083*	D	3AG	.31	.28	.25
845-4244	122087*	D	3AG	.31	.28	.25
845-4245	122090*	F	3AG	.25	.23	.21
845-4247	127002*	A	9/16"	1.26	1.15	1.05

Shock-Safe Fuseholders

For 1/4 × 1 1/4" fuses. UL recognized and CSA certified (20 A, 300 V). Designed to meet International Electrotechnical Commission specifications 65 and 257. Eliminates any possibility of electrical shock. Terminals accept solder of 3/16" female connector.

Low Profile

Extends to .16" from panel. Screwdriver slot knob.

Stock No.	Mfr.'s Type	Bottom Terminal	EACH 1-99	100-499	500-999
845-4214	345601	Rt. angle	1.39	1.25	1.11
845-4215	345611	Straight	1.39	1.25	1.11

High Profile

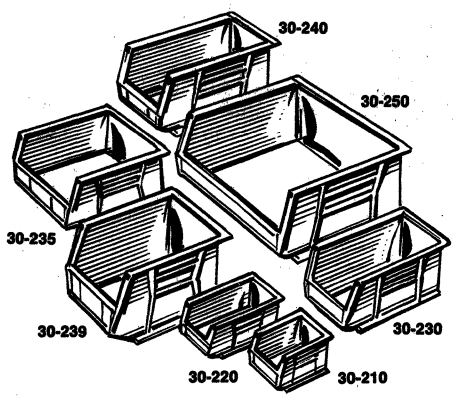
Screwdriver slot knob. Less space behind panel.

Stock No.	Mfr.'s Type	Bottom Terminal	EACH 1-99	100-499	500-999
845-4216	345602	Rt. angle	1.39	1.25	1.11
845-4217	345612	Straight	1.39	1.25	1.11

Finger Grip

Finger grip style knobs.

Stock No.	Mfr.'s Type	Bottom Terminal	EACH 1-99	100-499	500-999
845-4218	345603	Rt. angle	1.39	1.25	1.11
845-4219	345613	Straight	1.39	1.25	1.11



AkroBins

Designed to organize and concentrate storage. AkroBins can be stacked, suspended from special louvered hanging panels, or stored on standard 36″ shelving. Stocked in a heavy-duty polypropylene, yellow. Also available from factory in red and blue. Lids and dividers available (see below).

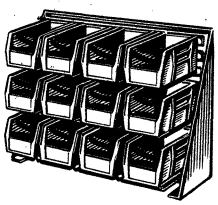
Cabinets

Stock No.	Mfr.'s Type	Inside Dimensions L″	Inside Dimensions W″	Inside Dimensions H″	Outside Dimensions L″	Outside Dimensions W″	Outside Dimensions H″	EACH
723-3021	30-210	4 3/4	3 7/16	2 13/16	5 3/8	4 1/8	3	**.90**
723-3022	30-220	6 3/4	3 7/16	2 13/16	7 3/8	4 1/8	3	**1.63**
723-3023	30-230	10 1/4	4 3/8	4 3/4	10 7/8	5 1/2	5	**4.06**
723-3025	30-235	10 1/4	10	4 3/4	10 7/8	11	5	**6.25**
723-3026	30-239	10	6 9/16	6 3/4	10 3/4	8 1/4	7	**6.75**
723-3024	30-240	14	6 9/16	6 3/4	14 3/4	8 1/4	7	**8.00**
723-3027	30-250	14	14 3/4	6 3/4	14 3/4	16 1/2	7	**11.23**

Lids

Made of see-through crystal styrene to keep contents dust-free and protected.

Stock No.	Mfr.'s Type	Fits Bin No.	EACH
723-2021	30-211	30-210	**.69**
723-2022	30-221	30-220	**.78**
723-2023	30-231	30-230	**1.54**

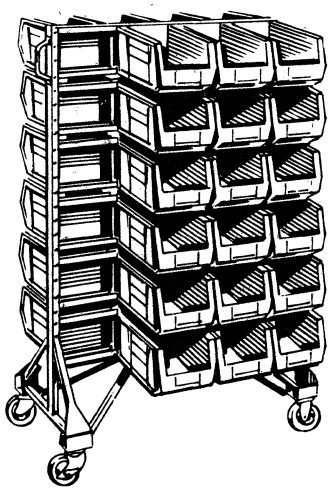


Bench Rack

Holds 24 AkroBins Models 30-210 or 30-220, or 12 Akro Bins Model 30-230 for convenient storage. Bins suspended from louvers on the all-steel rack for quick, easy removal. Made of 16-gauge steel, grey baked enamel finish. Bolted-on side supports. **Dimensions:** 27 3/4 × 8 × 21″. **Weight:** 17 lbs.

723-9860. Model 98-600 ..... **EACH 39.63**

Double Bin Rack Assemblies



Stationary or mobile double-sides rack accommodates up to 192 AkroBins. This versatile storage rack system makes organization of part, components, hardware, etc., convenient. Simple to use bins are easy to remove, access, or relocate (bins must be ordered separately). Rack is made of heavy-duty all-steel construction with an enamel finish. **Dimensions:** 57 × 36 × 20″. **Load capacity:** 1,000 lbs.

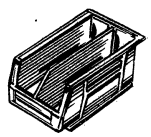
Stock No.	Mfr.'s Type	Description	Accommodates Bin No.	Accommodates Qty.	Shpg. Wt. Rack Only	EACH
723-3001	30-012	12-Rail Bin Rack	30-210 30-220 30-239 30-240 30-250	192 192 48 48 24	52 lbs.	**142.91**
723-3005	30-016	16-Rail Bin Rack	30-230 30-235	96 48	63 lbs.	**162.93**

Mobile Kit. Converts stationary bin rack to a mobile rack.

Stock No.	Mfr.'s Type	Description	EACH
723-3042	30-424	4 casters, handle	**83.64**

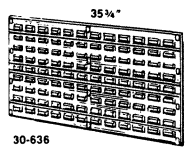
Dividers

Stock No.	Mfr.'s Type	Fits Bin No.	PER PK/6
723-4400	40-210	30-210	**3.98**
723-4410	40-220	30-220	**4.28**
723-4420	40-230	30-230, 30-235	**7.25**
723-4430	40-239	30-239	**8.23**
723-4440	40-245	30-240, 30-250	**10.03**



Divide bins front-to-back with these precision-molded bin dividers. Allows for better organization of contents and a more efficient use of space.

Louvered Panels



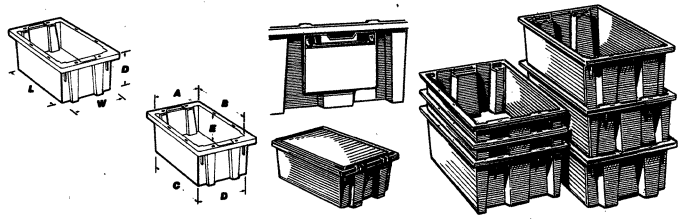
Universal hanging surface for all AkroBins, Flat-surface mount; free-standing capabilities. Slotted holes 3/4L × 3/8H × 8″W at 6″ centers for simple installation. 16-gauge cold-rolled steel, grey baked enamel finish. **Size:** 19 × 35 3/4″.

Stock No.	Mfr.'s Type	Dimensions (W × H) (″)	Wt. Lbs.	EACH
723-3061	30-618	18 × 19	23	**18.36**
723-3063	30-636	35 3/4 × 19	47	**25.63**

Akro-N.S.T. Nest, stack, tote containers.

Features

- **Molded of high density polyethylene, FDA approved.**
- **Won't rust, corrode or bend out of shape.**
- **Comfortable grab handles for easy carrying.**
- **Containers nest and stack.**



Containers*

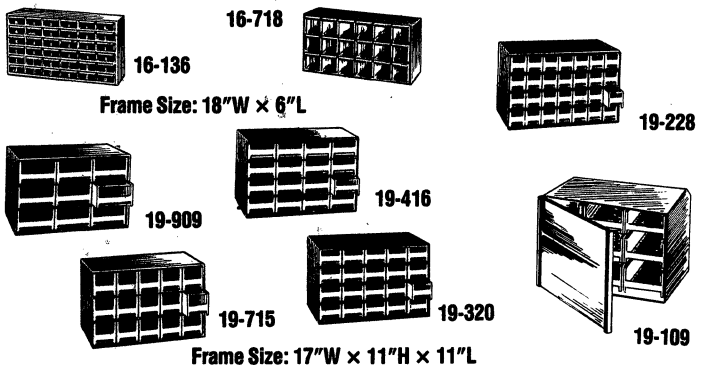
Stock No.	Mfr.'s Type	Outside Dimensions L″ × W″ × D″	Inside Dimensions A	Inside Dimensions B	Inside Dimensions C	Inside Dimensions D	Inside Dimensions E	EACH
723-3518	35-180	18 × 11 × 6	10	17	16 3/8	9 3/8	5 7/8	**9.15**
723-3519	35-190	19 1/2 × 15 1/2 × 10	14 1/2	18 1/2	17 1/2	13 1/2	9 7/8	**17.09**
723-3523	35-230	23 1/2 × 19 1/2 × 13	18 1/4	22 1/4	20 7/8	16 7/8	12 7/8	**25.63**

Accessories*

Stock No.	Mfr.'s Type	Description	Fits Mfr.'s Type	EACH
723-3581	35-181	Lid	35-180	**5.69**
723-3591	35-191	Lid	35-190	**7.65**
723-3531	35-231	Lid	35-230	**11.38**
723-3510	35-010	Label Holder	All	**1.48**

*Stocked in Gray. Blue and Red available from factory upon request.

Modular Cabinet



Stores small parts, electronic components and anything else you need to locate instantly. Cabinets can be stacked horizontally or vertically wall mounted or placed on carts or shelves. Heavy duty steel frame with charcoal gray baked enamel finish, steel drawer supports, nesting "feet" for stability in stacking. Molded styrene drawers have transparent windows (models 16-136 and 16-718 in ABS plastic frames have all transparent drawers) and retaining tab to hold drawers open.

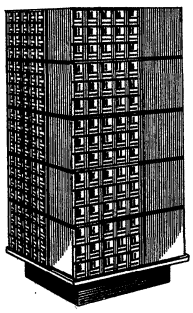
Stock No.	Mfr.'s Type	Cabinet Size W	H	D	Drawers Per Cabinet	Drawer Dimensions W	H	D	EACH
723-1713	16-136	18	9 1/2	6	36	2 5/8	1 1/8	5 3/4	38.53
723-1701	16-718	18	9	6	18	2 5/8	2 1/2	5 3/4	38.53
723-1990	19-909	17	11	11	9	5 3/16	3 1/16	10 9/16	72.09
723-1971	19-715	17	11	11	15	3 2/16	3 1/16	10 9/16	72.09
723-1941	19-416	17	11	11	16	4	2 1/8	10 9/16	72.09
723-1932	19-320	17	11	11	20	3 2/16	2 1/8	10 9/16	72.09
723-1922	19-228	17	11	11	28	2 3/16	2 1/16	10 9/16	72.09
723-1910	19-109	17	11	11	9	5 3/16	3 1/16	10 9/16	97.43

Cross Dividers

Stock No.	Mfr.'s Type	Fits Cabinet	PER PKG/25*
723-4050	40-901	16-718	5.16
723-4090	40-501	16-136	2.72
723-4220	40-228	19-228	8.04
723-4230	40-320	19-320	5.16
723-4240	40-416	19-416	6.31
723-4310	40-715	19-715	7.68
723-4330	40-909	19-909	8.27

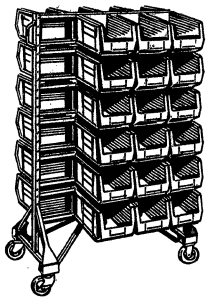
*Sold per package of 25 only.

Storage-Go-Round



Unique concept in storage systems. Combine up to 20 Modular Cabinets on a turntable base for a complete 360° rotating storage center. Stabilizer clips hold it all in place. Assembled size is 31" W x 60" H x 31" D (comes unassembled). The Storage-Go-Round package includes base and clips only. Cabinets need to be ordered separately. **Shipping Weight:** 37 lbs.

723-9832. Model 98-320 ..... **EACH 216.95**



Double Bin Rack Assemblies

Stationary or mobile double-sides rack accommodates up to 192 AkroBins. This versatile storage rack system makes organization of part, components, hardware, etc., convenient. Simple to use bins are easy to remove, access, or relocate (bins must be ordered separately). Rack is made of heavy-duty all-steel construction with an enamel finish. **Dimensions:** 57 x 36 x 20". **Load Capacity:** 1,000 lbs.

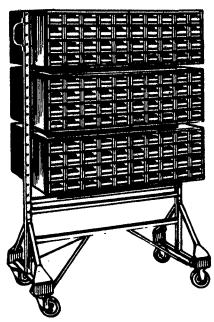
Mobile Kit. Converts stationary bin rack to a mobile rack.

Stock No.	Mfr.'s Type	Description	EACH
723-3042	30-424	4 casters, handle	69.43

Stationary Bin Rack

Stock No.	Mfr.'s Type	Description	Accommodates Bin No.	Qty.	Shpg. Wt. Rack Only	EACH
723-3001	30-012	12-Rail Bin Rack	30-210 30-220 30-239 30-240 30-250	192 192 48 48 24	52 lbs.	142.91
723-3005	30-016	16-Rail Bin Rack	30-230 30-235	96 48	63 lbs.	165.83

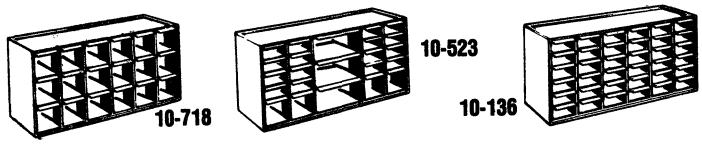
Mobile Modular Cabinet Rack



A 4-wheel, completely mobile rack—stores up to 1/2 ton of small parts! Can accommodate up to 12 multi-drawer cabinets. Modular Suspension Straps mount the cabinets securely onto the rack. Double-sided heavy-duty steel rack measures 36" L x 24" W x 57" H. Each rack features reinforced braces and 4" rubber wheel casters. Rear casters lock to prevent rolling.

Stock No.	Mfr.'s Type	Description	EACH
723-3001	30-012	12 Rail Rack	142.91
723-3042	30-424	4 Casters and Handle	69.43
723-9840	98-400	2 Suspension Straps	8.59

Stackable Plastic Frame Cabinets

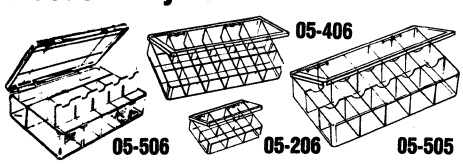


Series 2000. Stackable storage cabinets feature see-through styrene drawers, a polystyrene frame, pedestal base and recessed tray tops for stacking, and keyhole slots for wall mounting. Drawers have stop-tabs to prevent content spillage and come with dividers. Frame is lightweight, virtually unbreakable. **Dimensions:** 18 1/4 x 8 5/8 x 6 3/8".

Stock No.	Mfr.'s Type	No. of Drawers	Storage Capacity	EACH
723-1071	10-718	18	682 cu."	21.65
723-1052	10-523	23*	685 cu."	21.65
723-1013	10-136	36†	663 cu."	21.65

*16 full size, 4 double deep, 3 double-wide double-deep. †Drawers do not have dividers.

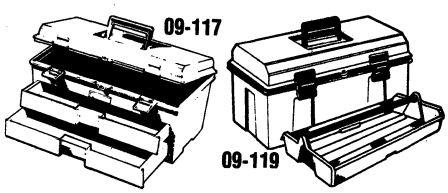
Plastic Utility Boxes



Made of molded styrene. Permanent partitions and removable segmented dividers (Model 05-206 — 6 permanently molded-in compartments).

Stock No.	Mfr.'s Type	Outside Dimensions (W x L x H)	No. of Compartments	EACH
723-0520	05-206	4 3/8 x 2 5/8 x 1"	6 equal	.94
723-0540	05-406	8 1/2 x 4 3/4 x 1 1/2"	6-18	2.80
723-0550	05-505	11 1/2 x 6 1/2 x 2 3/8"	5-15	4.69
723-0506	05-506	11 1/2 x 6/2 x 2 3/8"	6-11	4.69

Plastic Tool Box



Tough, polypropylene tool boxes feature a handsome textured finish that will not rust, corrode, or chip. They are impervious to gasoline and other common chemicals.

Stock No.	Mfr.'s Type	Dimensions (L x W x H)	EACH
723-9217	09-117	17 x 10 x 7 3/4"	35.04
723-9019	09-119	19 x 9 1/2 x 8 1/2"	26.92
723-0945	09-459	19 x 9 1/2 x 9 3/4"	35.04

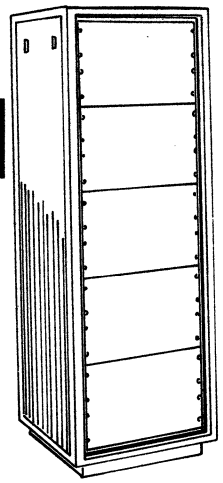
09 Series Tool Boxes

09-012 09-113 09-116

Made of tough polypropylene. Features lift-out trays, full interlocking hinges (Model 09-012 has a living hinge and no tray), sure-lock latches, and a deep main storage compartment. Model 09-116 also has padlock eyes.

Stock No.	Mfr.'s Type	Color	Dimensions (L x W x H)	Storage Capacity	EACH
723-0912	09-012	Red	12 x 6 x 4"	160 cu."	2.80
723-0913	09-113	Red	13 x 7 x 6"	405 cu."	9.54
723-9900	09-116	Gray	16 x 8 x 7"	630 cu."	16.12

3

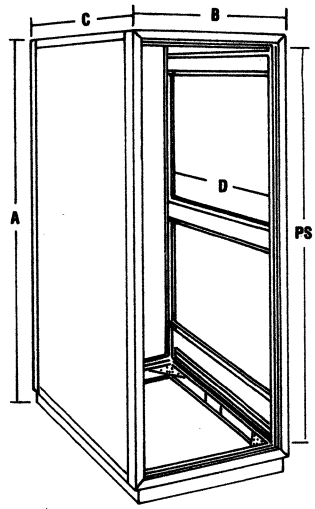


The All-American Rack

Design Features

- **Frame: Heavy-duty aluminum alloy extrusions, aluminum corner brackets. Steel supports.**
- **Pontoon: 14 guage steel. 1" diameter knock-out holes for cable access. Caster brackets for RC-7758 casters and RL-7766 or RL-7767 levelers.**
- **Removable Sides: 18 gauge steel.**
- **Shipped completely assembled.**
- **Mounting Rails: Two pairs of fully adjustable panel mounting rails tapped 10-32 on E.I.A. universal spacing.**
- **Rear Door: Spring loaded pin hinges allow easy removal. Can be mounted left or right. Fitted with cam lock.**
- **Finish: White textured (WH) frame. Sand textured (S) sides, door and top.**

The All-American Rack features a unique combination of steel and aluminum components which provide an optimum blend of strength and economy. The frame is constructed of heavy-duty aluminum extrusions with die-cast aluminum corner brackets and steel supports. The sides, top and doors can be removed from the outside in seconds to provide complete interior accessibility. Available in five panel heights and a choice of 24" or 30" depths, the All-American Rack also offers a wide range of accessories including plexiglass doors for front or rear. An Add-A-Rack system, used to combine two or more racks into one integral system, is also available. For complete engineering data, Form No. AA-87, and to order, contact your local Allied facility.



Stock No.	Mfr.'s Type	Panel Space PS	Outside Height A	Outside Width B	Outside Depth C	Clear Inside Depth D	Clear Top Opening	Weight (lbs.)	EACH
736Q0412	AA-16412	42"	48 13/16"	23 5/8"	26 1/2"	24"	19 × 21 7/8"	155	**869.30**
736Q0413	AA-16413	52 1/2"	59 5/16"	23 5/8"	26 1/2"	24"	19 × 21 7/8"	174	**910.80**
736Q0414	AA-16414	61 1/4"	68 1/16"	23 5/8"	26 1/2"	24"	19 × 21 7/8"	196	**965.05**
736Q0415	AA-16415	70"	76 13/16"	23 5/8"	26 1/2"	24"	19 × 21 7/8"	212	**1019.25**
736Q0416	AA-16416	78 3/4"	85 9/16"	23 5/8"	26 1/2"	24"	19 × 21 7/8"	228	**1108.00**
736Q0422	AA-16422	42"	48 13/16"	23 5/8"	31 3/4"	29 1/4"	19 × 21 7/8"	170	**908.25**
736Q0423	AA-16423	52 1/2"	59 5/8"	23 5/8"	31 3/4"	29 1/4"	19 × 21 7/8"	191	**980.40**
736Q0424	AA-16424	61 1/4"	68 1/16"	23 5/8"	31 3/4"	29 1/4"	19 × 21 7/8"	215	**1036.30**
736Q0425	AA-16425	70"	76 13/16"	23 5/8"	31 3/4"	29 1/4"	19 × 21 7/8"	233	**1092.25**
736Q0426	AA-16426	78 3/4"	85 9/16"	23 5/8"	31 3/4"	29 1/4"	19 × 21 7/8"	250	**1159.10**

NOTE: Rear door provided. Optional doors can be used front or rear.

Add-A-Rack System
Used to combine two or more racks into one integral system. Available in all sizes. A wide range of standard Designer Series accessories are compatible with the All-American Rack.

Optional Accessories

Stock No.	Mfr.'s Type*	Stock No.	Mfr.'s Type†	Fits	EACH
736Q0722	AA-16722*	**736-0727**	AA-16702†	AA-16412, AA-16422	**242.50**
736Q0723	AA-16723*	**736-0728**	AA-16703†	AA-16413, AA-16423	**261.40**
736Q0724	AA-16724*	**736-0729**	AA-16704†	AA-16414, AA-16424	**279.95**
736Q0725	AA-16725*	**736-0730**	AA-16706†	AA-16416, AA-16426	**298.55**

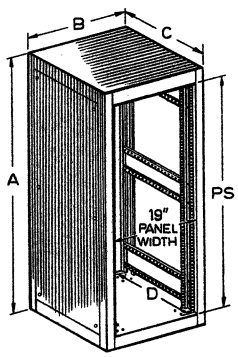
*Plexiglass Doors. †Steel Doors.

Economizer Cabinets

- **The stiffest welded frame in the Bud line at an incredible low price.**
- **Removable sides for easy access.**
- **Fully adjustable, top of the line mounting rails for fast accessory installation.**
- **19" equipment can also be mounted from rear.**
- **Optional Trim Kit as shown above on blue unit.**
- **Accepts the complete line of Bud standard accessory items.**
- **Stocked in all 5 heights and 3 depths.**

DESIGN FEATURES. Welded Frame: 14 gauge steel vertical rails. 16 gauge solid top and bottom. Uniquely designed, 16 gauge rail supports. **Furnished complete** with sides, rear door and one pair of panel mounting rails. **Panel Mounting Rails:** 12 gauge steel. Fully adjustable, tapped 10-32 in front on E.I.A. universal spacing. Separate .281" diameter holes provided for mounting accessories. **Rear Door:** 20 gauge steel. Opens 180° to completely clear rear panel space. Can be hinged left or right. Key lock is standard. **Side Panels:** 20 gauge steel. Removable from outside for easy access. **Bottom:** Pierced for RC-7758 casters. Four 1.109" knockouts for cable access. **Finishes:** Sand Textured (S) and Royal Blue Textured (RB) are standard. Available in other standard Bud finishes at no extra charge.

Stock No.	Mfr.'s Type	Panel Space PS	Outside Height A	Outside Width B	Outside Depth C	Clear Inside Depth D	Est. Weight (lbs.)	EACH
736Q9620	ER-16502	42"	47 5/16"	22"	18 1/2"	17"	110	**445.80**
736Q9621	ER-16503	52 1/2"	57 13/16"	22"	18 1/2"	17"	124	**464.70**
736Q9622	ER-16504	61 1/4"	66 9/16"	22"	18 1/2"	17"	139	**492.55**
736Q9623	ER-16505	70"	75 5/16"	22"	18 1/2"	17"	151	**528.60**
736Q9624	ER-16506	78 3/4"	84 1/16"	22"	18 1/2"	17"	163	**551.25**
736Q9625	ER-16512	42"	47 5/16"	22"	25 1/2"	24"	128	**478.35**
786Q9626	ER-16513	52 1/2"	57 13/16"	22"	25 1/2"	24"	145	**499.20**
736Q9627	ER-16514	61 1/4"	66 9/16"	22"	25 1/2"	24"	162	**531.60**
736Q9628	ER-16515	70"	75 5/16"	22"	25 1/2"	24"	175	**570.30**
736Q9629	ER-16516	78 3/4"	84 1/16"	22"	25 1/2"	24"	189	**588.90**
736Q9630	ER-16522	42"	47 5/16"	22"	30 3/4"	29 1/4"	143	**509.15**
736Q9631	ER-16523	52 1/2"	57 13/16"	22"	30 3/4"	29 1/4"	160	**532.65**
736Q9632	ER-16524	61 1/4"	66 9/16"	22"	30 3/4"	29 1/4"	180	**568.70**
736Q9633	ER-16525	70"	75 13/16"	22"	30 3/4"	29 1/4"	194	**609.60**
736Q9634	ER-16526	78 3/4"	84 1/16"	22"	30 3/4"	29 1/4"	209	**635.60**



Optional Accessories

Trim Kit includes brushed, etched and clear anodized aluminum cowl extrusion and two vertical extrusions with black vinyl inserts. Double-sided tape for mounting is affixed to back of extrusions.

Mounting Rails. One pair of mounting rails is provided. Some accessories may require two set of rails. Refer to accessory chart to order extra sets.

Doors. Rear door provided. Optional plexiglass and steel doors are available.

Add-A-Rack system. Used to combine two or more racks into one integral system. Available in all sizes.

The complete line of Bud standard accessories are compatible with the new Economizer Rack.

Trim Kit

Stock No.	Mfr.'s Type	Fits Panel Space	EACH
736Q9600	ER-16542	42"	**80.30**
736Q9601	ER-16543	52 1/2"	**88.53**
736Q9602	ER-16544	61 1/4"	**92.05**
736Q9603	ER-16545	70"	**98.25**
736Q9604	ER-16546	78 3/4"	**102.90**

Steel Door

736Q9610	ER-16532	42"	**123.40**
736Q9611	ER-16533	52 1/2"	**132.15**
736Q9612	ER-16534	61 1/4"	**149.30**
736Q9613	ER-16535	70"	**157.95**
736Q9614	ER-16536	78 3/4"	**163.50**

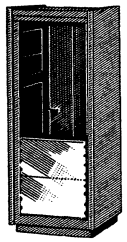
Mounting Rails

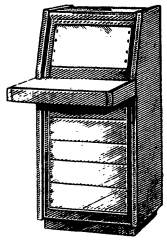
Stock No.	Mfr.'s Type	Fits Panel Space	EACH
736Q9605	PMR-9450	42"	**52.00**
736Q9606	PMR-9451	52 1/2"	**57.55**
736Q9607	PMR-9452	61 1/4"	**64.30**
736Q9608	PMR-9453	70"	**70.30**
736Q9609	PMR-9454	78 3/4"	**74.65**

Plexiglass Doortrim Kit

736Q9163	V-9063-A	42"	**303.05**
736Q9164	V-9064-A	52 1/2"	**315.05**
736Q9165	V-9065-A	61 1/4"	**390.70**
736Q9166	V-9066-A	70"	**390.70**
736Q1967	V-9067-A	78 3/4"	**410.15**

Series 2000 Upright Cabinet Racks





14 gauge steel frame, all-welded construction. Doors are 20-gauge; sides and tops are 18 gauge steel. "U" braces welded to the sides of the frame add strength and rigidity. Braces also support the vertical mounting rails which can be adjusted horizontally. Front and rear panel mounting rails tapped to 10-32, base bracket for casters. Completely assembled. **Finishes:** Royal blue (RB) or gray textured (GT) enamel with a clear anodized aluminum extrusion. Available on Special Order with louvered sides and door and with 24″ width panel space.

Stock No.	Mfr.'s Type†	Ht. In.	P.S.* In.	Depth In.	Wt. lbs.	EACH 1-2	EACH 3-4	EACH 5-Up
736Q3949	E-2000	30 1/4	21	23 7/8	119	652.70	609.15	543.90
736Q3954	E-2001	40 3/4	31 1/2	23 7/8	141	699.30	652.75	582.80
736Q3962	E-2003	51 1/4	42	23 7/8	168	788.20	735.65	656.80
736Q3966	E-2004	61 3/4	52 1/2	23 7/8	195	870.40	812.30	725.30
736Q3974	E-2005	70 1/2	61 1/4	23 7/8	216	952.30	888.85	793.60
736Q3979	E-2006	79 1/4	70	23 7/8	233	999.05	932.40	832.50
736Q4010	E-2010	44 1/4	35	27 3/8	159	754.80	704.55	629.05
736Q4017	E-2011	51 1/4	42	27 3/8	179	830.25	774.85	691.80
736Q4021	E-2012	61 3/4	52 1/2	27 3/8	215	931.85	869.75	776.55
736Q4027	E-2013	70 1/2	61 1/4	27 3/8	234	985.80	920.10	821.50
736Q4030	E-2014	79 1/4	70	27 3/8	244	1021.15	953.10	851.00
736Q4034	E-2015	88	78 3/4	27 3/8	268	1105.60	1031.85	921.30

*Panel Space. †When ordering, specify color suffix; if none is given (RB) will be sent. White (WH) panels are recommended with gray or blue racks (elsewhere in this section).

Inclined panel racks with solid sides and door

Positioned 20° off vertical for extra viewing comfort. Front vertical and inclined panel section, plus rear are adjustable from front to rear.

Stock No.	Mfr.'s Type‡	Ht. In.	W. In.	* In.	† In.	Wt. lbs.	EACH 1-2	EACH 3-4	EACH 5-Up
736Q7102	SE-2064	51 1/4	24 3/16	10 1/2	29 3/4	163	826.90	771.70	689.05
736Q7110	SE-2065	51 1/4	24 3/16	15 3/4	24 1/2	161	826.90	771.70	689.05
736Q7122	SE-2066	51 1/4	24 3/16	17 1/2	22 3/4	164	826.90	771.70	689.05

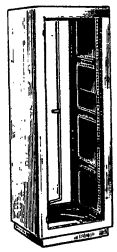
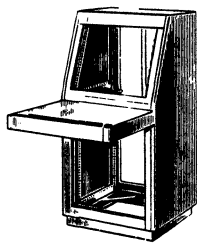
*Inclined panel space. †Vertical panel space. ‡See above for information on ordering color.

White Formica top. **Finish:** Gray (GT), royal blue (RB).

Stock No.	Mfr.'s Type†	W. In.	Dp. In.	H. In.	† In.	Wt. lbs.	EACH 1-2	EACH 3-4	EACH 5-Up
736Q3700	DT-2960	24 3/16	19 1/2	3 1/16	21 1/4	29	189.65	170.70	151.70
736Q3703	DT-2962	24 3/16	19 1/2	3 1/16	24 3/4	30	202.85	182.55	162.30

†Supporting channel. ‡When ordering, specify color suffix; if none is given (RB) will be sent.

Series 60 Upright Cabinet Racks

All-welded frame construction of 14-gauge steel. Doors are 20-gauge; sides and tops are 18 gauge steel. "U" braces welded to the frame add strength and rigidity. Braces also support the vertical mounting rails which can be adjusted horizontally. Front and rear panel mounting rails tapped to 10-32; base bracket for casters. **Finishes:** Units immediately available in royal blue textured (RB) and gray textured (GT). Available on Special Order with louvered sides and door and with 24″ width panel space.

Stock No.	Mfr.'s Type†	Ht. In.	P.S.* In.	Depth In.	Wt. lbs.	EACH 1-2	EACH 3-4	EACH 5-Up
736Q8905	60-2301	40 1/8	31 1/2	22	137	672.70	627.90	560.65
736Q8910	60-2302	50 5/8	42	22	162	761.50	710.70	634.55
736Q8915	60-2303	61 1/8	52 1/2	22	189	832.45	776.95	693.70
736Q8920	60-2304	69 7/8	61 1/4	22	215	903.45	843.20	827.20
736Q8925	60-2305	78 5/8	70	22	227	963.50	899.30	802.95
736Q8935	60-2307	29 5/8	21	25 1/2	123	641.60	598.80	534.60
736Q8945	60-2308	40 1/8	31 1/2	25 1/2	145	689.75	643.70	574.75
736Q8955	60-2311	69 7/8	61 1/4	25 1/2	216	925.70	863.95	771.40
736Q8960	60-2312	78 5/8	70	25 1/2	231	979.10	913.80	815.90
736Q8970	60-2313	87 3/8	78 3/4	25 1/2	263	1063.30	992.45	886.10

*Panel Space. †When ordering, specify color suffix; if none is given (RB) will be sent.

Series 60 Inclined Panel Racks

Accept 19″ panels. Assembled. Front rails drilled, tapped at 10-32 E.I.A. spacing. Welded frame of 14 gauge steel; sides, door of 18 gauge steel. Inclined panel slanted. Inclined panel slanted 20°.

Stock No.	Mfr.'s Type‡	I.P.* In.	V.P.† In.	Wt. lbs.	EACH 1-2	EACH 3-4	EACH 5-Up
736Q8975	60-2330	10 1/2	29 3/4	155	765.85	714.85	638.25
736Q8980	60-2331	15 3/4	24 1/2	156	765.85	714.85	638.25

*Inclined top panel height. †Vertical panel height. ‡See above for information of ordering color.

Desk Tops

Fits all Series 60 cabinet racks. Easy to install. Bolt pre-drilled, full-length support channels to cabinet rack's mounting rails. **Finishes:** Royal blue textured (RB), gray textured (GT). **Top surface:** antique white Formica, 24 1/8″W × 19 1/2″D × 3 1/16″H.

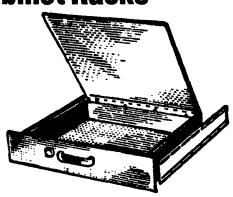
Stock No.	Mfr.'s Type‡	Depth In.	Support Channel	Wt. lbs.	EACH 1-2	EACH 3-4	EACH 5-Up
736Q9001	60-2360	21	21 1/4″	26	173.20	161.25	144.30
736Q9003	60-2362	23	24 3/4″	26	181.85	169.70	151.50

‡When ordering, specify color suffix.

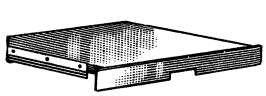
Accessories for 60 and 2000 Series Cabinet Racks

Desk Top Drawer

Type 60-2363. Front panel height, 3 1/2″. Hinged panel top is Formica bonded to aluminum. Front panel latch locks and releases drawer and top. Mount to "U" braces in cabinet. **Panel Finishes:** White textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Size inside:** 16 9/16″ × 3″ × 14 7/8″. **Weight:** 19 lbs.



736Q9019. 1-2.....EACH 201.70
3-4.....EACH 188.25 5-Up.....EACH 168.05



Sliding Desk Tops

Type 60-2361. 13/4″ panel space and 15 1/8″ × 17 5/8″ inside. Working area, 11″ × 17 5/8″. Formica surface. **Panel Finishes:** White textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Weight:** 9 1/4 lbs.

736Q9006. 1-2.....EACH 97.45
3-4.....EACH 90.95 5-Up.....EACH 81.20

Swivel Truck Casters

Type RC-7756. Rugged ball-bearing casters designed for deluxe-type relay racks. Support up to 500 lbs. distributed on four casters. Rugged, long-wearing wheels made from highgrade hard rubber. **Height:** 2 5/8″. **Weight:** 2 lbs.

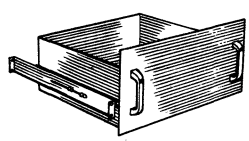
736-6000. 1-5.....PKG/4 18.40
6-49.....PKG/4 15.20 50-Up.....PKG/4 13.60

Type RC-7758. Heavy-duty casters with very sturdy construction for heavy loads. For use with Mfr.'s Series 60 cabinets. Ball bearing wheels are hard tread composition for longer wear, self-lubricating for convenience. **Wheel diameter:** 2 1/2″. **Height:** 3 1/4″. **Weight:** 4 1/2 lbs.

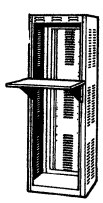
736-6001. 1-5.....PKG/4 49.20
6-49.....PKG/4 41.00 50-Up.....PKG/4 37.00

Adjustable Slide Drawer

Type D-1721. 19″ panel space. **Front panel:** 8 3/4″ high. Slide mechanism adjusts from 16 1/2″ to 24 1/4″; can be installed in cabinet with depth up to 25 1/2″. **Size inside:** 16 5/8″ × 6 3/8″ × 16 3/16″. **Finishes:** Gray textured (GT) and Royal Blue (RB). Specify color suffix when ordering. **Weight:** 19 1/2 lbs.



736Q9100. 1-9.....EACH 165.70
10-14.....EACH 149.15 15-Up.....EACH 132.55



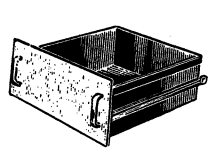
Shelf Assembly

19″ panel space. Can be attached over panel; mounting brackets slip into slides. Shelf, 16 gauge steel; supports, 1/8″ steel. **Height:** 7 1/8″. **Finishes:** Gray textured (GT) and Royal blue (RB).

Stock Number Gray Texture	Stock Number Royal Blue	Mfr.'s Type	W. In.	Depth In.	Wt. lbs.	EACH 1-24	EACH 25-34	EACH 35-Up
736-6565	736-6560	SA-1719	22	16	13 1/4	59.60	53.65	47.70
736-6575	736-6570	SA-1720	22	20	15 1/4	63.20	56.90	50.55

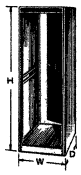
Drawer

Type 60-2368. Slides out 16″. 18-gauge steel with 11-gauge panel, brackets. **Size inside:** 16 9/16″ × 6 5/16″ × 19 3/16″. 8 3/4″ panel space. **Panel Finishes:** White Textured (WH) and Metallic Gray (MG). Specify color suffix when ordering. **Weight:** 24 1/2 lbs.



736Q9060. 1-2.....EACH 178.30
3-4.....EACH 166.45 5-Up.....EACH 148.65

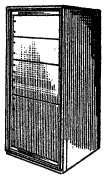
Valurack Series Cabinet Racks

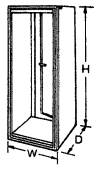


The ValuRack Series is available in four heights with 30-inch depth and accepts a wide range of accessories. The front is stylishly framed by rigid vinyl trim with black vinyl inserts and nameplate. Shipped unassembled in two cartons with hardware furnished, cabinets can be assembled quickly and no special tools are required. **Includes:** One pair adjustable mounting rails attached to horizontal rail supports. Tapped 10-32 E.I.A. universal spacing. Rear door fitted with cam lock and flush handle. Can be hinged left or right. Caster mounting brackets drilled to accommodate RC-7758 or RL-7768 adjustable levelers. 20 gauge door, 18 gauge sides, 16 gauge top and bottom. Royal Blue texture finish.

Stock No.	Mfr.'s Type	Panel Height	Outside H×W×D	Inside D×W	Weight Lbs.	EACH 1-2	EACH 3-4	EACH 5-7
736Q2781	KDR-2852	52 1/2"	58 3/16 × 22 × 32 3/8"	29 1/4 × 17 15/16"	155	588.20	549.00	490.00
736Q2779	KDR-2861	61 1/4"	66 15/16 × 22 × 32 3/8"	29 1/4 × 17 15/16"	174	614.10	573.15	511.75
736Q2780	KDR-2870	70"	75 11/16 × 22 × 32 3/8"	29 1/4 × 17 15/16"	193	679.95	634.55	566.55
736Q2782	KDR-2877	77"	82 11/16 × 22 × 32 3/8"	29 1/4 × 17 15/16"	208	707.60	660.25	589.50

Classic II Cabinet Racks



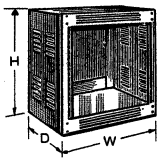


Shipped completely assembled, ready for component installation. Takes standard 19" panels. Side panels and door are 20 gauge steel; top and bottom 16 gauge steel; uprights, 14 gauge steel. Double rimmed brushed aluminum extrusion. Width and depth are 22". **FINISHES: Specify either gray textured (GT) or royal blue textured (RB).** Available on special order with 24" panel space.

Stock No.	Mfr.'s Type	Panel Space	Height	Wt. Lbs.	EACH 1-2*
736Q9402	AGR9302	42"	47 5/16"	138	643.70
736Q9403	AGR9303	52 1/2"	57 13/16"	154	694.75
736Q9404	AGR9304	61 1/4"	66 9/16"	172	747.90
736Q9406	AGR9306	77"	82 5/16"	196	859.10

*Contact Allied for higher quantity prices and other sizes.

Heavy-Duty Cabinet Racks

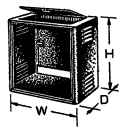


For use where more strength and depth is needed; clear inside depth of 16 1/16"; 22" wide (24" width available on special order). Hinged removable rear door. Louvered sides and 2 1/2 × 17 1/2" rear bottom vent. Metallic Gray finish.

Stock No. (LG)	Mfr.'s Type	Ht. (In.)	Panel Ht. (In.)	Wt., Lbs.	Price Code
736-3082	CR-1736	24 1/2	19 1/4	47	A
736-3090	CR-1737	31 1/2	26 1/4	56	B
736Q3102	CR-1738	40 1/4	35	67	C

Price Code	EACH 1-9	EACH 10-14	EACH 15-19	EACH 20-24
A	180.50	162.45	144.40	125.00
B	193.80	174.40	155.05	144.65
C	238.25	214.45	190.60	175.40

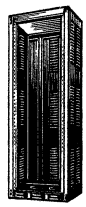
Deluxe Cabinet Racks



The "workhorse" of economy-type housings. This welded steel cabinet rack has contoured front uprights—recommended for use as an enclosure for instrumentation. Hinged top with flush lift handle. Clear inside depth. 14 13/16". **Metallic Gray finish.**

Stock No. LG	Mfr.'s Type	Ht. (In.)	Panel Space (In.)	Wt., Lbs.	EACH 1-9
736Q3052	1726	8 3/16	7	28	108.15
736Q3132	1741	10 9/16	8 3/4	30	118.65
736Q3122	1740	12 5/16	10 1/2	34	122.05
736Q3142	1742	14 1/16	12 1/4	37	131.15
736Q3112	1739	15 13/16	14	40	165.70
736Q3152	1743	19 5/16	17 1/2	47	174.35
736Q3072	1728	33 5/16	31 1/2	68	205.25
736Q3162	1744	28 1/16	26 1/4	58	192.65
736Q3062	1727	22 13/16	21	51	187.05
736Q3172	1745	36 13/16	35	78	215.10

Deluxe Enclosed Relay Racks

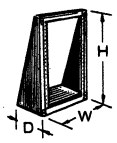


Suitable for use in a variety of lab, industrial and commercial applications. Doors have 2 snap-action catches: 16-ga steel with 7/64" panel supports. Casters can be mounted on base. For 19" panels. Available in Royal Blue (RB) or Metallic Gray (MG).

Stock No. (RB)	Stock No. (LG)	Mfr.'s Type	Overall Size Inches	Panel Ht.	Wt. Lbs.	EACH 1-9
736Q3184	736Q3182	CR-1771	47 5/16 × 22 × 17 1/8	42	85	311.10
736Q3194	736Q3192	CR-1772	66 9/16 × 22 × 17 1/8	61 1/4	111	365.65
736Q3224	736Q3222	CR-1780	75 5/16 × 22 × 17 1/8	70	121	426.20
736Q3264	736Q3262	CR-2075	75 5/16 × 22 × 22 1/8	70	142	496.25

*Contact Allied for higher quantity prices and other sizes.

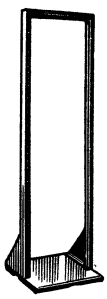
Desk-Type Relay Racks



Have chassis-type base. Supporting angles assure steadiness. Mfr.'s Type RR-1248; 24 × 20 3/8 × 12" overall, 21" panel ht.; Type RR-1249; 31 × 20 3/8 × 12" overall, 28" panel ht. **In Black Textured or Metallic Gray (MG).**

Stock No. (LG)	Stock No. (RB)	Mfr.'s Type	Wt. Lbs.	EACH 1-14	EACH 15-24	EACH 25-34
736-6200	736-6301	RR-1248	15	66.70	60.05	54.00
736-6203	736-6311	RR-1249	18	73.00	65.70	60.00

Open Type Relay Racks



RR-1363, 1264, 1364, 1366. Uprights 7/64" steel channels 3" deep. Has chassis type base. Takes RC7756 swivel truck casters, available on this page. **RR-1369** is extra sturdy with 8" deep welded U member. Panel mounting rails tapped 10-32. 12-ga. steel. Chassis type base will accept casters. Racks may be bolted together.

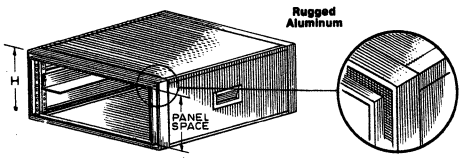
Stock No. (BT)	Stock No. (LG)	Mfr.'s Type	Panel Space Inches	Overall H×W Inches	Wt. Lbs.	EACH 1-9	EACH 10-14
736Q6350	736Q6352	1363	36 3/4 × 19	40 7/8 × 19 7/8	36	131.85	118.65
736Q6330	736Q6332	1264	66 1/2 × 19	70 7/8 × 19 7/8	46	145.25	130.75
736Q6360	736Q6362	1364	71 3/4 × 19	75 7/8 × 19 7/8	48	147.70	132.95
736Q6370	736Q6372	1366	77 × 19	81 7/64 × 21	49	151.05	135.95
736Q6380	736Q6382	1369	77 × 19	80 3/8 × 21	104	289.20	260.30

Chassis Mounting Brackets

Durable, heavy-gauge steel brackets accept chassis 3" high. Black finish. Sold in pairs.

Stock No.	Mfr.'s Type	Ht. In.	Depth In.	Wt. Lbs.	PER PAIR 1-5	PER PAIR 6-49	PER PAIR 50-Up
736-4505	MB-460	6 1/2	13	2 1/2	16.80	14.05	12.65

Classic II Cabinets

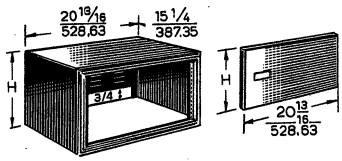


Combine rectlinear outlines with innovative features to meet critical engineering demands. Double rim 6063-T5 aluminum frame around front of cabinet. Sides, top and bottom are .060 aluminum. Front and rear mounting rails tapped 10-32 with W.E. spacing. Accept standard 19" panels. Panel-to-panel depth. 20 9/16". Heavy-duty aluminum handle at each end for convenient portability. Vinyl textured finish provides attractive appearance and extra durability. Chassis support is 16-gauge steel. Overall depth, 21 7/16". Royal Blue Textured. *Panel space.

Stock No. (RB)	Mfr.'s Type	Size In. Ht.	Size In. PS*	Wt. Lbs.	EACH 1-2	EACH 3-4	EACH 5-7
736Q0505	AGC-9267	7 1/16	5 1/4	29 1/4	331.00	308.90	275.00
736Q0508	AGC-9268	8 13/16	7	30 1/2	340.00	317.00	283.30
736Q0511	AGC-9269	10 9/16	8 3/4	32 1/4	348.55	325.35	290.50
736Q0514	AGC-9270	12 5/16	10 1/2	33 1/4	350.00	326.60	291.65
736Q0517	AGC-9271	14 1/16	12 1/4	34 1/4	361.70	337.55	301.35
736Q0581	AGC-9272	15 13/16	14	35	370.20	345.50	308.50
736Q0584	AGC-9273	17 9/16	15 3/4	36	377.65	352.45	314.70
736Q0587	AGC-9274	19 5/16	17 1/2	36 3/4	385.70	360.00	321.45
736Q0590	AGC-9275	21 1/16	19 1/4	37 3/4	389.35	363.35	324.45
736Q0593	AGC-9276	22 13/16	21	38 1/2	395.45	369.05	329.50
736Q0602	AGC-9279	28 1/16	26 1/4	41 1/4	426.05	397.55	355.00
736Q0605	AGC-9280	29 13/16	28	42	434.75	405.80	362.30

Stylist Heavy Duty Cabinets

- **Hold Up to 500 Pounds**
- **Meet E.I.A. Standards!**
- **Reinforced!**
- **Made of Durable 16-Gauge Steel**



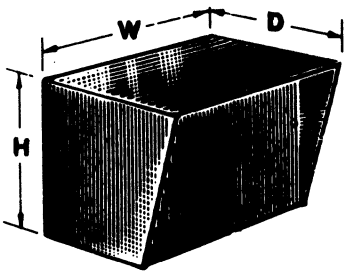
Square-cornered steel cabinets reinforced at corners, 16-gauge cold-rolled steel. Accept either 19" panels or cabinet doors. Self-supporting with an internal framework. Etched aluminum extrusion frame on front panel, self-adhesive rubber feet. In Royal Blue (RB) and Gray Textured (GT). **Clear inside depth:** 14 3/16". **Overall width:** 20 13/16". **Overall depth:** 15 1/4". Has .060 steel doors, 19" wide—inside depth 15/16". Rear panel has 1 3/4" high opening for cable accessories.

Cabinets

Stock No. (GT)	Stock No. (RB)	Mfr.'s Type	Overall Height	Panel Space	Wt. Lbs.	EACH 1-9	EACH 10-14	EACH 15-19
736Q6400	736Q6405	S-1640	8 13/16"	7"	26 3/4	161.10	145.00	132.70
736Q6410	736Q6415	S-1641	10 9/16"	8 3/4"	29	170.70	153.65	140.10
736Q6420	736Q6425	S-1642	12 5/16"	10 1/2"	31	175.85	158.25	144.00
736Q6428	736Q6430	S-2643	14 1/16"	12 1/4"	33	187.15	168.45	152.55
736Q6433	736Q6435	S-1644	15 13/16"	14"	35 1/4	191.90	172.70	156.20
736Q6440	736Q6445	S-1645	17 9/16"	15 3/4'	37 1/4	201.65	181.50	172.00

Doors

Stock No. (GT)	Stock No. (RB)	Mfr.'s Type	Height	Wt. Lbs.	Fits Cabinet	EACH 1	EACH 2-9	EACH 10-14
736-7030	736-7035	SD-540	7"	4 3/4	S-1640	43.40	36.25	33.15
736-7040	736-7045	SD-541	8 3/4"	5 1/2	S-1642	46.70	38.95	35.05
736-7050	736-7055	SD-542	10 1/2"	6 1/4	S-1642	48.70	40.65	36.60
736-7058	736-7060	SD-543	12 1/4"	7	S-1643	50.00	41.75	37.60
736-7063	736-7065	SD-544	14"	7 3/4	S-1644	53.40	44.60	40.15
736-7070	736-7075	SD-545	15 3/4"	8 1/2	S-1645	56.70	47.35	42.60



Cowl-Type Miniboxes

Projecting cover on this enclosure reduces glare on front panel from overhead light source. It also supplies protection for controls and dials. Cover has two box braces to which bottom is attached, with sheet metal screws. Made of .040 aluminum alloy. Available in either Natural Aluminum or Metallic Gray finish. See tables below.

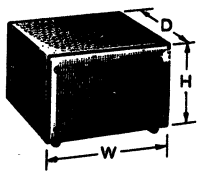
Metallic Gray

Stock No.	Mfr.'s Type	Size In. H×W×D	Wt. Lbs.	EACH 1-5	EACH 6-99	EACH 100-Up
736-6900	SC-2130	6×10×7	1 3/4	38.10	31.85	28.65
736-6901	SC-2131	7×12×8	2	42.70	35.60	32.05
736-6902	SC-2132	3×8×5	1	24.80	20.75	18.70
736-6903	SC-2133	5×5×5	3/4	25.80	21.55	19.40

Natural Aluminum

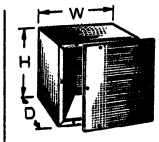
Stock No.	Mfr.'s Type	Size In. H×W×D	Wt. Lbs.	EACH 1-5	EACH 6-99	EACH 100-Up
736-6904	SC-3030	6×10×7	1 3/4	24.60	20.55	18.50
736-6905	SC-3031	7×12×8	2	27.10	22.60	20.35
736-6906	SC-3032	3×8×5	1	14.70	12.25	11.05

Contour Utility Cabinets



Made of 20-gauge steel. Rounded contoured corners, flanged panels have rounded corners. Rear panel is louvered. Solid front panel. Both front and rear panels attached with four 6-32 screws each. Body in Gray textured finish; panels are White textured finish providing handsome appearance. Shpg. wt.; CU-463, 1 1/2 lbs.; CU-465, 2 lbs.; CU-585, 3 lbs.; CU-587, 3 1/2 lbs.; CU-7125, 5 lbs.; CU-7127, 5 3/4 lbs.

Stock No.	Mfr.'s Type	Size Inches H×W×D	EACH 1-5	EACH 6-49	EACH 50-Up
736-3606	CU463	4 1/4 × 6 1/4 × 3 3/4	29.40	24.55	21.10
736-3607	CU465	4 1/4 × 6 1/4 × 5 3/4	35.10	29.30	26.35
736-3609	CU585	5 1/4 × 8 1/4 × 5 3/4	36.90	30.80	27.70
736-3610	CU587	5 1/4 × 8 1/4 × 7 3/4	40.40	33.70	30.35
736-3669	CU7125	7 1/4 × 12 1/4 × 5 3/4	43.00	35.90	32.30
736-3670	CU7127	7 1/4 × 12 1/4 × 7 3/4	46.50	38.90	35.00



Metal Utility Cabinets

General-purpose cabinets for small area housings. Two removable panels, both front and rear, provide easy access to inside. Steel cabinets in Metallic Gray (MG) finish; aluminum cabinets in Natural Aluminum (NA) or Metallic Gray (MG) finish.

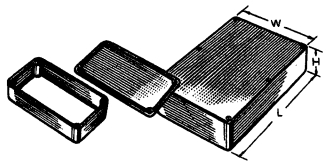
Steel

Stock No. (MG)	Mfr.'s Type	Size Inches H×W×D	Wt. Lbs.	EACH 1-5	EACH 6-49	EACH 50-99
736-3625	CU-883	4×4×2	3/4	10.20	8.50	7.65
736-3614	CU-728	4×5×3	1	10.10	8.45	7.60
736-3616	CU-729	6×5×4	1 3/4	13.70	11.40	10.25
736-3627	CU-1098	6×6×6	2 1/4	19.90	16.60	14.95
736-3630	CU-1099	9×6×5	3	20.90	17.45	15.70
736-3618	CU-879	10×8×7	3 1/4	30.10	25.15	22.65
736-3620	CU-880	10×10×8	6 1/4	34.30	28.65	25.80
736-3631	CU-1124	12×7×6	5	30.90	25.80	23.20
736-3622	CU-881	12×11×8	8 1/2	41.80	34.90	31.40
736-3624	CU-882	15×9×7	8 1/4	42.90	35.85	32.25

Aluminum

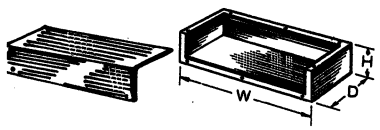
Mfr.'s Type	Size Inches H×W×D	Stock No. (NA)	EACH 1-5	EACH 6-49	EACH 50-99	Stock No. (MG)	EACH 1-5	EACH 6-49	EACH 50-99
AU-1083	4×4×2	736-1008	8.80	7.35	6.60	—	—	—	—
AU-1028	4×5×3	736-1000	9.20	7.70	6.95	736-1001	14.70	12.20	11.65
AU-1029	5×6×4	736-1002	10.30	8.60	7.75	736-1003	15.50	12.95	12.15
AU-1039	6×6×6	736-1004	15.90	13.30	11.95	—	—	—	—
AU-1040	9×6×5	736-1006	17.70	14.80	13.30	736-1007	24.30	20.30	18.90

Econoboxes



Versatile die-cast utility boxes for applications requiring a sturdy structure. Especially desirable for concealed or other interior use where safety enclosure is required. Feature close-fitting flanged lids fastened to bosses in the body. The close fit of the lids and the thickness of the aluminum alloy combine to provide excellent screening properties. Cast of LM-380 aluminum.

Stock No.	Mfr.'s Type	Thickness In.	Wt. Lbs.	L×W×H	EACH 1-5	EACH 6-99	EACH 100-Up
736-3593	CU-123	1/16	1/2	3 5/8 × 1 1/2 × 17/32	6.60	5.30	4.75
736-3600	CU-124	1/16	1/2	4 3/8 × 2 3/8 × 17/32	7.00	5.85	5.25
736-3601	CU-234	3/32	3/4	4 11/16 × 3 11/16 × 27/32	11.10	9.25	8.35
736-3602	CU-247	3/32	1 1/4	7 3/8 × 4 11/16 × 27/32	17.90	14.95	13.45
736-3604	CU-347	3/32	1 1/2	7 3/8 × 4 11/16 × 39/32	19.00	15.85	14.25



Converta Boxes

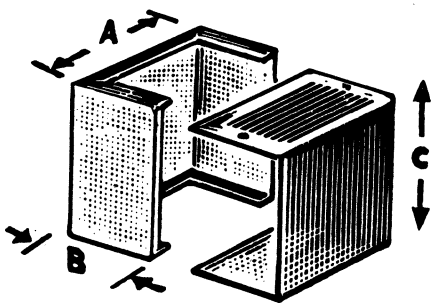
Converta Boxes made of tough 20-gauge steel with welded base and two-sided cover attached by self-tapping screws (included). Zinc plated and clear chromate. Mount sensitive components, controls to any surface of these enclosures.

Stock No.	Mfr.'s Type	Size Inches H×W×D	Wt. Lbs.	EACH 1-5	EACH 6-99	EACH 100-199	EACH 200-Up
736-3603	CU-341	1 1/2 × 4 × 3	1/2	10.40	8.65	7.80	7.00
736-3605	CU-452	2×5×4	1	11.30	9.45	8.50	7.80
736-3608	CU-482	2×8×4	1 1/4	12.80	10.70	9.65	8.60

Stock No.	Mfr.'s Type	Size Inches H×W×D	Wt. Lbs.	EACH 1-5	EACH 6-49	EACH 50-99	EACH 100-Up
736-3611	CU-592	2 1/2 × 9 1/2 × 5	1 3/4	14.00	11.70	10.55	9.45
736-3612	CU-622	2 1/2 × 12 × 6	2 3/4	16.80	14.05	12.65	11.75
736-3613	CU-712	2 1/2 × 15 × 7	3 1/2	22.10	18.45	16.60	15.10

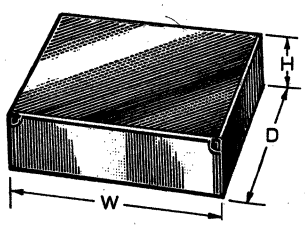
Aluminum Two-Piece Miniboxes

Self-contained units for use where shielding as well as protection from dust and dirt is desired. May be used for phono amplifiers. VHF and UHF converters, low-pass TVI filters, test and measurement units, etc. Two-piece construction permits installation of components or wiring modifications. Flanges assure low RF leakage and provide high rigidity. Choice of snap-lock fastening or screw fastening; all hardware supplied. Made of high-quality aluminum—Smooth Gray (SG) or Natural Finish (NF). Easy to cut, punch and drill.



Size In. A×C×B	Wt. Lbs.	Stock No. (SG)	Mfr.'s Type	EACH 1-5	EACH 6-99	Stock No. (NF)	Mfr.'s Type	EACH 1-5	EACH 6-99
2 3/4 × 2 1/8 × 1 5/8	1/4	736-3633	CU-2100-B	4.10	3.40	736-3651	CU-3000-A	4.60	3.85
3 1/4 × 2 1/8 × 1 5/8	1/4	736-3634	CU-2101-B	4.20	3.50	736-3652	CU-3001-A	3.30	2.75
4 × 2 1/8 × 1 5/8	1/4	736-3635	CU-2102-B	4.40	3.65	736-3653	CU-3002-A	3.50	2.90
4 × 2 1/4 × 2 1/4	1/4	736-3636	CU-2103-B	4.50	3.75	736-3654	CU-3003-A	3.80	3.15
5 × 2 1/4 × 2 1/4	1/4	736-3637	CU-2104-B	5.10	4.25	736-3655	CU-3004-A	4.30	3.60
5 × 4 × 3	1/2	736-3638	CU-2105-B	6.60	5.50	736R3656	CU-3005-A	5.90	4.90
5 1/4 × 3 × 2 1/8	1/4	736-3639	CU-2106-B	5.40	4.45	736-3657	CU-3006-A	4.70	3.90
6 × 5 × 4	3/4	736-3640	CU-2107-B	9.00	7.55	736-3658	CU-3007-A	8.40	7.05
7 × 5 × 3	3/4	736-3641	CU-2108-B	8.20	6.85	736-3659	CU-3008-A	7.60	6.35
8 × 6 × 3 1/2	1	736-3642	CU-2109-B	17.50	14.65	736-3660	CU-3009-A	11.90	9.95
10 × 6 × 3 1/2	1 1/4	736-3643	CU-2110-B	18.60	15.50	736-3661	CU-3010-A	15.00	12.50
12 × 7 × 4	1 3/4	736-3644	CU-2111-B	24.50	20.50	736-3662	CU-3011-A	19.00	15.85
12 × 2 1/2 × 2 1/4	3/4	736-3647	CU-2114-B	12.60	10.50	—	—	—	—

Aluminum Chassis Bases



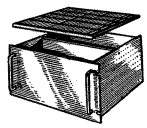
Offer outstanding strength and rigidity for construction of amplifiers, meters and other components. Made from one piece of sheet metal. Welded on government-approved spot welders developed for aluminum. All sides folded in at the bottom for additional support assuring strength and durability. Natural finish aluminum alloy 5005 H-14. 18 gage.

Stock No.	Mfr.'s Type	Size W×D×H	Wt. Lbs.	EACH 1-5	EACH 6-49
736-0015	AC-415†‡	10×17×2″	1 1/4	18.40	15.35
736-0016	AC-416†‡	10×17×3″	2	19.70	16.45
736-0027	AC-427*‡	10×17×4″	3 1/2	29.50	24.65
736-0018	AC-418*‡	12×17×3″	2 3/4	25.70	21.40
736-0019	AC-419*‡	13×17×2″	2 1/2	24.00	19.95
736-0020	AC-420*‡	13×17×3″	2 3/4	27.90	23.30
736-0028	AC-428*‡	13×17×4″	3 3/4	33.90	28.25
736-0205	AC-1405	4×6×1 1/2″	1/4	7.10	5.95
736-0208	AC-1408	5×9×1 1/2″	3/8	8.70	7.30
736-0213	AC-1413	6×8×2″	1/2	9.00	7.50
736-0218	AC-1418	8×10×2 1/2″	1	13.10	10.95
736-0219	AC-1419	8×12×2 1/2″	1	16.00	13.35
736-0222	AC-1422†	10×17×5″	2 1/2	41.30	34.50
736-0225	AC-1425†	12×17×2″	1 1/2	23.70	19.75
736-0226	AC-1426*	13×17×5″	3 1/2	47.60	39.75
736-0227	AC-1427*	14×17×3″	3	34.60	28.85
736-0228	AC-1428*	15×17×4″	3 1/2	47.10	39.30
736-0229	AC-1429*	15×17×6″	4 1/8	66.60	55.60
736-0230	AC-1430*	17×17×3″	3 1/4	40.40	33.75
736-0231	AC-1431*	17×17×4″	4	45.10	37.65
736-0031	AC-431	4×6×2″	1/2	7.40	6.20
736-0030	AC-430	4×6×3″	1/2	8.90	7.40
736-0002	AC-402	5×7×2″	1/2	7.90	6.55
736-0029	AC-429	5×7×3″	3/4	9.50	7.90
736-0003	AC-403	5×9 1/2×2″	1/2	8.60	7.15
736-0021	AC-421	5×9 1/2×3″	3/4	10.90	9.10
736-0004	AC-404	5×10×3″	3/4	10.90	9.10
736-0022	AC-422	5×13×3″	3/4	12.40	10.35
736-0005	AC-405	7×7×2″	1/2	8.70	7.20
736-0006	AC-406	7×9×2″	1/2	9.50	7.90
736-0007	AC-407	7×11×2″	3/4	10.80	9.00
736-0008	AC-408	7×12×3″	1	13.20	11.00
736-0009	AC-409	7×13×2″	3/4	10.80	9.05
736-0011	AC-411†	7×15×3″	1 1/2	17.20	14.35
736-0024	AC-424†	8×12×3″	1 1/2	15.70	13.10
736-0012	AC-412†‡	8×17×3″	1 3/4	19.00	15.90
736-0013	AC-413†	10×12×3″	1 1/2	19.00	15.90
736-0014	AC-414†	10×14×3″	1 3/4	19.00	15.90

*14 gage. †16 gage. ‡Prepunched for easy assembly of chassis mounting brackets.

Chassis Bottom Plates

Stock No.	Mfr.'s Type	Fits Chassis Width	Fits Chassis Depth	Wt. Ozs.	EACH 1-5	EACH 6-49
736-1505	BPA-1505	4″	6″	2	3.50	2.90
736-1589	BPA-1589	5″	7″	2	3.90	3.25
736-1508	BPA-1508	5″	9″	3	3.70	3.00
736-1590	BPA-1590	5″	9 1/2″	2	6.20	5.20
736-1591	BPA-1591	5″	10″	4	3.90	3.25
736-1509	BPA-1509	5″	13″	4	6.20	5.20
736-1513	BPA-1513	6″	8″	3	5.00	4.15
736-1592	BPA-1592	7″	7″	3	3.90	3.25
736-1593	BPA-1593	7″	9″	4	4.80	3.95
736-1594	BPA-1594	7″	11″	4	5.00	4.20
736-1595	BPA-1595	7″	12″	5	5.50	4.60
736-1596	BPA-1596	7″	13″	8	6.50	5.65
736-1516	BPA-1516	7″	15″	8	6.50	5.45
736-1518	BPA-1518	8″	10″	4	6.30	5.20
736-1519	BPA-1519	8″	12″	6	7.70	6.45
736-1520	BPA-1520	8″	17″	8	7.80	6.55
736-1523	BPA-1523	10″	12″	8	7.70	6.45
736-1524	BPA-1524	10″	14″	8	7.70	6.45
736-1597	BPA-1597	10″	17″	10	8.30	6.95
736-1528	BPA-1528	12″	17″	12	10.20	8.55
736-1598	BPA-1598	13″	17″	14	11.70	9.75
736-1529	BPA-1529	14″	17″	15	10.60	8.85
736-1530	BPA-1530	15″	17″	16	14.50	12.10
736-1531	BPA-1531	17″	17″	17	15.40	12.85



Rak-Mount Chassis

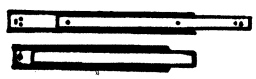
Design Features
- **Front Panel: 1/8″ thick mill finish aluminum with "Surface shield" protection.**
- **Side & Rear Panels: .090″ aluminum.**
- **Finish: Natural. Other finishes available on request.**
- **Shipped unassembled with all necessary assembly hardware.**

Designed-in versatility and economy make Bud's new Rak-Mount Chassis one of a kind. Side Panel mounting holes are punched on 7/8″ grid to allow total flexibility in mounting of components. Rear Panel is fully adjustable from front to rear. Standard 19″ Front Panels feature "Surface Shield" protection which provides surface for laying out drilling and punching positions. A complete line of optional accessories, including internal chassis, handles, solid or perforated tops and slides add to the versatility and value of the new Bud Rak-Mount Chassis.

Stock No.	Mfr.'s Type	Height In.	Options Available* (Not Included) Internal Chassis	Handles (Pair)	Solid Top or Bottom Cover	Ventilated Top or Bottom Cover	Slides (Pair)	EACH 1-24	EACH 25-49
736-4212	RM-14212	5 1/4	C-14242	H-9160	TBC-14252	TBC-14262	AS-5002†	43.60	39.25
736-4213	RM-14213	7	C-14243	H-9111	TBC-14252	TBC-14262	AS-5002†	47.60	42.85
736-4214	RM-14214	8 3/4	C-14244	H-9112	TBC-14252	TBC-14262	AS-5002†	57.30	51.55
736-4215	RM-14215	10 1/2	C-14245	H-9113	TBC-14252	TBC-14262	AS-5002†	67.65	60.90

*Call Allied for pricing on options available. †Order four BAS-5104 mounting brackets separately.

Ball-Bearing Chassis Slides



Press-formed main members; chrome-carbon-steel ball bearings, .180 × .210-in. Slide mounting holes.

Stock No.	Mfr.'s Type	Length	Travel	Load Rating Lbs.	Wt. Lbs.	PER PAIR 1-4	PER PAIR 5-9	PER PAIR 10-24
736-0900	AS-5000	12″	9″	140	1 3/4	32.20	29.00	25.75
736-0901	AS-5001	16″	12″	120	2	37.35	33.60	29.90
736-0922	AS-5002	20″	15″	92	2 1/2	40.95	36.85	32.75
736-0926	AS-5022	20″	21″	142	5 1/4	91.75	82.60	73.40

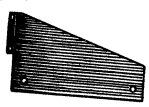
Triangular Mounting Brackets

Gives rigid support for panel, chassis and shelves. Heavy-gauge steel. Black finish.

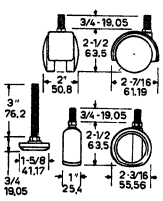
Stock No.	Mfr.'s Type	Ht. In.	Depth In.	Wt. Lbs.	PER PAIR 1-5	PER PAIR 6-99	PER PAIR 100-199
736-4506	MB-1266	5	5	1	9.50	8.00	7.20
736-4507	MB-1267	7	7	1	11.00	9.20	8.30
736-4508	MB-1268	9	9	1 1/2	13.00	10.85	9.75

Chassis Mounting Brackets

Supports and/or permits chassis to be mounted flush against panel. Steel construction. MB-450 and MB-451 designed for 4″ high chassis. Sold in pairs. **Finish:** Black.



Stock No.	Mfr.'s Type	Ht. In.	Depth In.	PER PAIR 1-5	PER PAIR 6-49	PER PAIR 50-99
736-0458	MB-458	6 1/2	8	12.80	10.65	9.60
736-0448	MB-448	6 1/2	10	14.50	12.10	10.90
736-0459	MB-459	6 1/2	11	13.20	11.00	9.90
736-0449	MB-449	6 1/2	12	15.00	12.50	11.25
736-0460	MB-460	6 1/2	13	16.80	14.05	12.65
736-0450	MB-450	8 1/2	10	15.90	13.30	11.95
736-0451	MB-451	8 1/2	13	16.80	14.00	12.60



Casters and Levelers

TYPE RC-7760. Black nylon wheel and hood with steel pin. 3/8-16 thread. 110 lb. load rating. **TYPE RL-7765.** Black nylon base. Threaded 3/8-16 steel pin. 110 lb. load rating. **TYPES RL-7766 and RL-7767.** Steel cap and stem with 3/8-16 thread. Nickel plated. 200 lb. load rating. **RL-7766:** rubber base. **RL-7767:** white nylon base.

For Commander and Concord Series

Stock No.	Mfr.'s Type	Description	EACH 1-5	EACH 6-49	EACH 50-99
736-6002	RC-7760	Caster	10.60	8.80	7.90
736-6005	RL-7765	Leveler	5.00	4.15	3.75
736-6006	RL-7766	Leveler	5.00	4.15	3.75
736-6007	RL-7767	Leveler	3.40	2.80	2.50

Panel-Mounting Chassis

Use where depth is limited or for access from front. .060″ aluminum, reinforced corners, with flanges. Natural finish. Fits 19″ panel space. Other sizes available on special order only.

Stock No.	Mfr.'s Type	Ht. In.	Wt. Lbs.	EACH 1-5	EACH 6-49	EACH 50-99
736-2277	CB-1370	1 3/4	3/4	17.30	14.45	13.00
736-2278	CB-1371	3 1/2	1 1/4	18.40	15.40	13.85
736-2279	CB-1372	5 1/4	1 1/2	22.20	18.55	16.70

Fan Tray

- **Easy installation**
- **Fits 1 3/4″ panel height**
- **Outstanding value**
- **All UL approved components**
- **Choice of fan location**
- **Tray and fans fully grounded**

MATERIALS. Fan Tray and Support Angles: 16-gauge steel. **Front Panel:** 12-gauge steel. **Finish:** Fan Tray, zinc plated with clear chromate. **Front Panel:** White Textured (WH) or Metallic Gray (MG). **SPECIFICATIONS.** 110-volt, AC. 105 CFM. **Temperature Range:** – 20°C to + 60°C. UL approved.
736-9635. Model FT-1170. Fan Tray Assembly . . **EACH 99.75**
736-9636. Model FN-1281. Finger Guard . . . . . **EACH 3.90**
736-9637. Model FN-1280. Fans . . . . . **EACH 27.60**

Swivel Truck Casters

TYPE RC-7756. Rugged ball-bearing casters designed for deluxe-type relay racks. Support up to 400 lbs. distributed on four casters. Rugged, long-wearing wheels made from highgrade hard rubber. **Height:** 2 5/8″. **Weight:** 2 lbs. Pkg. 4
736-6000. 1-5 . . . . . PER PKG./4 18.40
6-49 . . . . PER PKG./4 15.20 50-Up . . . PER PKG./4 13.60

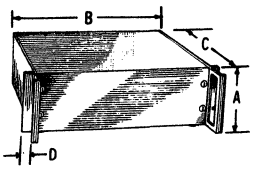
TYPE RC-7758. Heavy-duty casters with very sturdy construction for heavy loads. For use with Mfr.'s Series 60 cabinets. Ball bearing wheels are hard tread composition for longer wear. Self-lubricating for convenience. Wheel diameter: 2 1/2″. **Height:** 3 1/4″. **Weight:** 6 lbs. Pkg. of 4
736-6001. 1-5 . . . . . PER PKG./4 49.20
6-49 . . . PER PKG./4. 41.00 50-Up . . . PER PKG./4 37.00

Universal Meter Cases

Sloping-front meter housings. Panel cut for 2″ meters; knockout ring enlarges hole for 3″ meters. Case top has two 3/8″ knockouts for mounting terminal posts or feed through insulators. *Steel; †aluminum. Use aluminum case to maximize magnetic field. In Smooth Gray.

Stock No.	Mfr.'s Type	Size In. H×W×D	Wt. Lbs.	EACH 1-5	6-49	50-99	100-Up
736-2901	CM1935*	4 5/16 × 4 × 4 1/16	3/4	11.50	9.80	8.80	7.46
736-2903	CMA1936†	4 5/16 × 4 × 4 1/16	1/4	14.20	11.80	10.60	9.00

"Valu/Line" Handle Unit

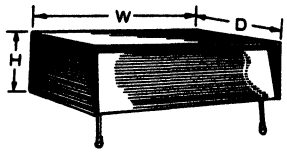


Combines innovative engineering techniques with styling that is both classic and contemporary. Priced surprisingly low. May be used as an independent enclosure or in a standard E.I.A. 19″ cabinet rack. Adhesive paper protective covering of the .090″ brushed aluminum panels provides an excellent surface for indicating position when drilling or punching panel areas. Base, rear and top are .050″ aluminum with smooth white enamel finish. Sides are .090″ aluminum with white textured enamel. Completely assembled unit includes two separate detachable rack mounting brackets and rubber feet.

Mfr.'s Type	Dimensions in Inches A	B	C	D
HC-14101	3 1/2	17	13	1
HC-14103	5 1/4	17	13	1
HC-14104	7	17	13	1
HC-14105	8 3/4	17	13	1
HC-14106	10 1/2	17	13	1
HC-14107	10 1/2	17	15	1

Stock No.	Mfr.'s Type	EACH 1-9	10-14	15-19
736-4451	HC-14101	140.14	126.15	113.60
73604453	HC-14103	144.55	130.10	117.20
73604454	HC-14104	151.75	136.60	123.00
73604455	HC-14105	159.00	143.10	129.90
73604456	HC-14106	166.25	149.65	134.00
73604457	HC-14107	177.85	160.05	143.40

Tilt-A-View Cabinets



Present selective angles of viewing for accurate reading of meters, dials and recorders. Viewpoints are obtained with the slanted front face and vertical rear face. The 2″ detachable legs allow changing the position of the cabinet to a desired angle. Two-piece 18-gauge steel construction. Lower and upper portions of cabinet fastened with sheet metal screws. Gray textured cover (GT) with white textured body (WH).

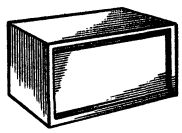
Stock No.	Mfr.'s Type	Size Ins. H×W×D	Wt. Lbs.	EACH 1-24	25-49	50-Up
736-7700	TV-2155	4 1/2 × 15 × 10	8	45.05	40.55	36.05
736-7701	TV-2156	6 1/2 × 16 × 12	11	53.30	47.95	42.65
736-7702	TV-2157	8 1/2 × 17 × 14	15	64.15	57.75	51.30

"Transicase" Cases

Portable instrument cases of .040″ thick alum. Flush-fitting alum. panel; lid on 2 slide-off hinges. 11 5/32″ clearance from panel top. Plastic feet. Royal blue finish. All hardware is brightly nickel-plated. *Space below panel.

Stock No.	Mfr.'s Type	Size H×W×D Inches	Panel Size Inches	*	Wt. Lbs.	EACH 1-14
736-7601	TC-300	6 × 10 1/16 × 7	9 × 5 15/16	4 3/8	2 1/2	99.60
736-7621	TC-302	7 1/2 × 13 × 9	11 15/16 × 7 15/16	5 7/8	4	117.30

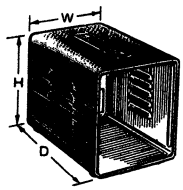
Multi-Purpose Futura Vertical Cabinet



Removable top, side; front panel flange-held (no screws). Body, rear panel 20-gauge steel; front panel vertical, 18-gauge. Rubber footed base. Chassis mounts to base, front rear panel. Royal blue textured body, white textured panels.

Stock No.	Mfr.'s Type	Size (HWD) Inches	EACH 1-24	25-49	50-Up
736-4977	MD-1962	8 × 16 × 9	61.75	55.60	49.40

"Portacab" Cabinets



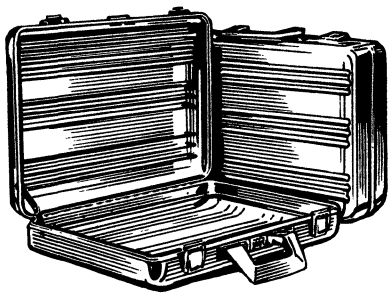
Sturdy .050″ alum. one-piece body with contoured corners and louvers pointed inward for tight side-by-side installation. Easy access to interior thru opening (table below) in welded back. .062″ alum. front panel recessed 1/2″ wide. 4 rubber feet. "Use With" column in table below gives recommended Mfr.'s chassis. Metallic Gray finish.

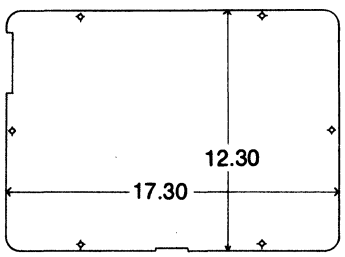
Dimensions

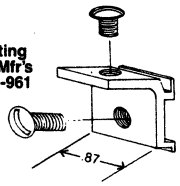
Mfr.'s Type	D×W×H Inches	Opening Inches	Louvers Per Side	Wt. Lbs.
WA-1540	8 × 6 1/8 × 8	2 × 4 1/2	1 Set	2
WA-1541	12 × 8 1/8 × 9	2 × 6 1/2	2 Sets	3 1/2
WA-1542	8 × 10 1/8 × 8	2 × 8 1/2	1 Set	3 3/4
WA-1543	18 × 11 1/8 × 11	2 × 9 1/2	3 Sets	5 1/2
WA-1544	18 × 14 1/8 × 12	2 × 12 1/2	3 Sets	8

Ordering Information

Stock No.	Mfr.'s Type	Use With Chassis	EACH 1-24	25-49	50-74
736-8210	WA-1540	AC-402	43.30	38.95	34.65
736-8215	WA-1541	AC-407	59.70	53.75	47.75
736-8220	WA-1542	AC-406	50.80	45.70	40.65
736-8225	WA-1543	AC-416	84.90	76.85	68.60
736-8230	WA-1544	AC-420	99.15	89.25	79.30







Panel Mounting Bracket Kit Mfr's Type No. CB-961

Attache-Type Aluminum Cases, Chassis Bases

The Best For Less!

GUARDIAN. . .the industry's finest deep drawn aluminum cases are now available in popular sizes that cover most applications. Smoothly contoured top and bottom shells are .050 inches thick and are ribbed for added strength and protection. Exterior surfaces are polished, etched and silver anodized for both distinctive appearance and maintenance-free protection. Interior surfaces are also etched and anodized. Three digit, tamper-proof combination lock. Strong, durable hardware throughout. All cases feature special edge extrusion to facilitate mounting of panels. Closely matched shells and fully-fitted sealing gasket make every Bud GUARDIAN case a tough barrier against dust, odors and inclement weather.

Stock No.	Mfr.'s Type	Description	EACH 1-14	15-24	25-34	35-Up
736-2800	CC-964	Case, 18.22 × 13.15 × 4.50″	133.15	119.85	106.50	99.85
736-2801	CC-965	Case, 18.22 × 13.15 × 5.50″	135.45	121.90	108.35	101.60
736-2802	CC-966	Case, 18.22 × 13.15 × 6.00″	139.70	125.75	111.75	104.75
736-2803	CB-961	Panel Mtg. Bracket Kit*	14.00	11.70	10.55	9.35
736-2804	CP-960	Panel	32.40	27.05	24.35	22.60

*Package of 6

Specifications

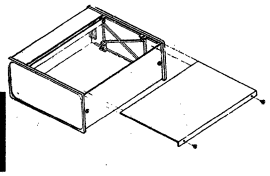
Case Shells: Deep drawn .050″ thick aluminum alloy, brushed and polished on exterior surfaces, silver anodized both sides. **Edge Extrusions:** Aluminum alloy, interlocking shape, silver anodized. **Latches:** Positive engagement, ball type, chrome plated. **Hinge:** Piano type, aluminum alloy, brushed, polished and silver anodized. **Handle:** Injection molded plastic, silver gray. **Lock:** 3-digit combination lock. **Feet:** Injection molded plastic, gray, rivited to case. **Sealing Gasket:** Black neoprene tubing cemented into the groove of upper edge extrusion. **Panel Mounting Bracket Kit Mfr.'s Type No. CB-961.** Made of aluminum extrusion, clear anodized. Kit consists of six brackets and mounting screws. **Panel Mfr.'s Type No. CP-960:** Made of .090″ thick aluminum, brushed and clear anodized. **Panel and Panel Mounting Bracket Kit are optional accessories.** Foam inserts are also available upon special request.

Dimensional Data

Mfr.'s Type	L Outside Length	W Outside Width	H Outside Height	A Inside Length	B Inside Width	C Inside Height W/O Panel	D Inside Height Above Panel	E Inside Height Below Panel	Weight
CC-964	18.22	13.15	4.50	17.44	12.36	4.40	1.97	2.34	6.3 lbs.
CC-965	18.22	13.15	5.50	17.44	12.36	5.40	2.47	2.84	6.7 lbs.
CC-966	18.22	13.15	6.00	17.44	12.36	5.90	2.47	3.34	6.8 lbs.

NOTE: Inside dimensions shown are at center of case. All dimensions shown in inches. Tolerance on all dimensions ± .06″.

Contempo Enclosures



Enclosure body is made from .062″ aluminum. Molded .160″ cycolac plastic end panels. Aluminum top slides into grooves in end panels and is secured with two screws. Additional top support is provided by a tie-bar secured to end panels. Hardware included. Letter "B" in mfr.'s type number indicates black end panels with gray body; Letter "W" indicates woodgrain finish on end panels and body with eggshell body, front and rear panels. Other sizes available on Special Order.

MODEL I. Inside dimensions are given, to obtain outside dimensions add 5/16″ (7.9375 mm) to height, 1/4″ (6.35 mm) to width and 3/8″ (9.52 mm) to depth.

Stock No.	Mfr.'s Type	Height		Width		Depth		EACH			
		In.	mm	In.	mm	In.	mm	1-5	6-49	50-99	100-Up
736-1650	JB-1650	2 1/8	53.90	3 7/8	92.0	5 9/16	141.274	20.90	17.45	15.70	13.95
736-1704	JW-3204	2 1/8	53.90	8	196.8	5 9/16	141.274	29.80	24.90	22.40	19.90

MODEL II. Inside dimensions are given, to obtain outside dimensions add 1/4″ (6.35 mm) to height, 1/4″ (6.35 m) to width and 1/4″ (6.35 mm) to depth.

736-1664	LB-1664	3	74.61	8	196.8	6 3/4	296.800	33.00	27.50	26.75	24.75
736-1665	LB-1665	3	74.61	10 1/8	250.8	6 3/4	296.800	41.10	36.30	30.85	27.45

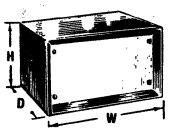
MODEL III. Inside dimensions are given, to obtain outside dimensions add 9/32″ (7.137 mm) to height, 1/4″ (6.35 mm) to width and 1/4″ (6.35 mm) to depth.

736-1722	MW-3222	4 13/16	106.30	6 15/16	171.4	6 5/16	160.300	31.90	26.65	24.00	21.30

MODEL IV. Inside dimensions are given, to obtain outside dimensions add 1/4″ (6.35 mm) to height, 5/16″ (7.937 mm) to width and 1/4″ (6.35 mm) to depth.

Stock No.	Mfr.'s Type	Height		Width		Depth		EACH			
		In.	mm	In.	mm	In.	mm	1-24	25-34	35-49	50-Up
736-1733	DW-3233	4 3/16	106.362	14	349.2	10 1/4	260.35	69.85	62.85	55.90	52.40

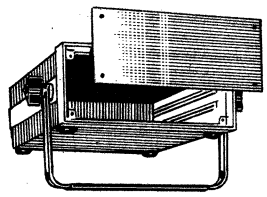
Shadow Cabinets



All-steel equipment cabinets with front panels recessed one inch. Two-piece bodies are made of 18-gauge steel and front and rear panels are of 16-gauge steel. Bottom, front and rear panels are each attached by four self-tapping screws. All are equipped with four rubber feet. Accept Mfr.'s chassis as listed in table. Finish is Metallic Gray.

Stock No.	Mfr.'s Type	Size Inches H×W×D	Accepts Chassis	Wt. Lbs.	EACH	
					1-24	25-Up
736-6700	SC2140	8 × 14 1/4 × 10	AC-424	11 1/2	59.75	53.80
736-6701	SB2141	7 1/2 × 13 1/4 × 9	AC-407	9 3/4	50.00	45.00
736-6702	SB2142	9 1/2 × 17 × 11	AC-411	15 1/4	67.25	60.55
736-6703	SB2143	6 × 15 1/2 × 9	AC-409	9 1/2	48.15	43.35

Aluminum Desk-Top Enclosures



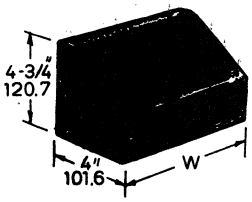
The TR is ideal for your application whether it be a portable enclosure, a desk top instrument case or in systems. **Design Features:** Top and bottom, .050 aluminum; front panel, .090 aluminum. Extruded aluminum frame. Corner gussets for added support. Carrying handle may be used as tilting ball. Front panel, self-adhesive rubber feet and handle/ball included. Three accessory chassis available. **Bonus Features:** Since chassis is reversible, two configurations are possible with one unit. Top and bottom easily removable. Will accommodate an accessory chassis of 1/16″ thick P.C. boards. **Finish:** Royal blue textured body with white frame.

Stock No.	Mfr.'s Type	H×W×D (In.)	Panel Space (In.)	Wt. Lbs.	EACH		
					1-14	15-24	25-34
736Q7650	TR-6101	5 1/4 × 8 5/16 × 13 1/4	5 × 8 3/64	5 1/2	158.15	142.35	139.50
736Q7660	TR-6102	7 × 11 1/16 × 13 1/4	6 3/4 × 10 53/64	7	180.95	162.85	155.30
736Q7670	TR-6103	8 × 12 × 18 3/4	7 3/4 × 11 3/4	9 1/2	219.00	197.10	178.80

Chassis

Stock No.	Mfr.'s Type	L×W×H (In.)	Wt. Lbs.	Fits Cabinet	EACH		
					1-3	4-14	15-24
736-7685	TRC-611	12 5/8 × 7 3/4 × 1 3/4	1	TR-6101	97.95	91.40	81.60
736-7690	TRC-612	12 5/8 × 10 1/2 × 1 3/4	1 1/4	TR-6102	18.30	15.25	13.75
736-7695	TRC-613	18 1/8 × 11 7/16 × 1 3/4	1 3/4	TR-6103	23.20	19.35	17.40

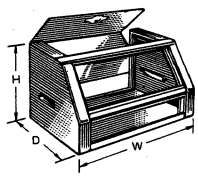
Universal Sloping-Panel Cabinets



Mighty handy for control boxes, mike mixers, other related uses. One-piece detachable back and side attached with 4 screws. **Wt.:** 3/4 lb. Smooth Gray finish.

Stock No.	Mfr.'s Type	Width In.	Shpg. Wt. (oz.)	EACH		
				1-5	6-99	100-Up
736-0260	AC-1610	4	6	12.70	10.60	9.55
736-0261	AC-1611	5	8	13.00	10.85	9.75
736-0262	AC-1612	6	9	13.30	11.10	10.00
736-0263	AC-1613	7	10	14.70	12.25	11.05

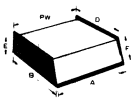
Sloping Panel Prestige Cabinet



Practical, attractive cabinet with perforated top which opens completely and removable panel trim bar to permit removal of panels from chassis. Panels st'd. 19″ with safety shielded panel slots for carrying handles. Metallic Gray Finish.

Stock No.	Mfr.'s Type	Height × Depth Inches	Panel Space Inches	EACH		
				1-14	15-24	25-Up
736-1815	C-1557	14 25/32 × 16 1/4	10 1/2	176.25	158.65	141.00

Aluminum Slope Unit

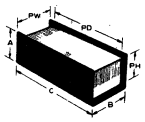


Offers excellent visibility of panel mounted components. One-piece cover removes easily for quick access to interior. No visible fasteners on panel. Frame .090 alum. with black texture finish; cover .050 alum. with smooth white enamel finish. With non-skid rubber feet. SC-12100; 1 knockout centered.

Mfr.'s Type	Dimensions in Inches					
	A	B	PW	D	E	F
SC-12100	4 15/16	5	4 3/4	3 1/16	3 7/8	4 1/8
SC-12101	11 15/16	10	11 3/4	8 7/16	2 7/8	3 1/16

Stock No.	Mfr.'s Type	EACH		
		1-5	6-24	25-Up
736-7000	SC-12100	25.00	22.70	19.75
736-7001	SC-12101	43.25	39.80	36.40

Aluminum Linear Unit

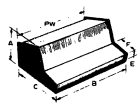


Reliable, inexpensive way to house electronic sub-systems and instrumentation. One-piece cover removes easily for quick access to interior. No visible fasteners on panel area. Frame .090 alum. with black texture finish; cover .050 alum. with smooth enamel finish. Comes with non-skid rubber feet.

Mfr.'s Type	Dimensions in Inches					
	A	B	C	PW	PH	PD
RC-11100	3 1/4	4 15/16	10	4 3/4	2 7/8	9 1/2
RC-11101	8	11 15/16	10	11 3/4	7 5/8	9 1/2

Stock No.	Mfr.'s Type	EACH		
		1-5	6-24	25-Up
736-6024	RC-11100	38.60	32.25	29.05
736-6025	RC-11101	70.75	63.75	56.60

"Compucab" Keyboard Unit

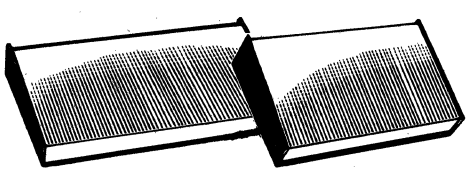


Adaptable to many types of instrumentations. Install the gamut of components and accessories to meet specialized requirements. No visible fasteners. Frame .090 alum. with black texture finish; one-piece, easily removable cover .050 alum. with white enamel finish. Knockouts in louvered rear panel.

Mfr.'s Type	Dimensions in Inches					
	A	B	C	PW	PH	PD
SC-13100	5 11/32	10	8 11/16	9 3/4	1 7/8	4 3/32
SC-13101	9 61/64	14	10 3/4	13 3/4	3	5

Stock No.	Mfr.'s Type	EACH		
		1-5	6-24	25-Up
736-7025	SC-13100	48.75	43.90	39.00
736-7026	SC-13101	94.85	85.35	75.90

Keyboard Enclosures

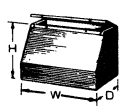


Lightweight, aluminum enclosures designed exclusively to house the most popular keyboard units available on the market today. These models have a gray textured enamel base; 0.050 aluminum, white enamel finished cover; two rear knockouts; and four flat, self-adhesive black rubber feet.

Stock No.	Mfr.'s Type	Dia. Rear Knockouts	Angle Oper. Surface	Overall Width	Overall Depth	Overall Height	Inner Front Height	Inner Depth	Inner Back Height	EACH		
										1-14	15-24	25-Up
736-3200	KB13200*	1/2″	7°46′	7 7/32″	5 3/4″	2 15/32″	1 1/2″	5 36/64″	2 1/4″	32.20	29.40	26.85
736-3201	KB13201†	7/8″	7°40′	12 27/32″	7″	2 3/4″	1 1/2″	6 9/16″	2 3/8″	55.85	50.25	45.70
736-3202	KB13202†	7/8″	7°32′	17 15/32″	9″	3″	1 1/2″	8 37/64″	2 5/8″	68.15	61.35	55.50

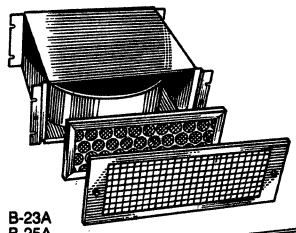
*Base Cover Attach: Four 6-32 × 3/8″ flat head, pozidrive, zinc-plated screws. †Base Cover Attach: Four 1/4 turn, flat head slotted studs and clip-on receptacles.

Sloping Panel Cabinets

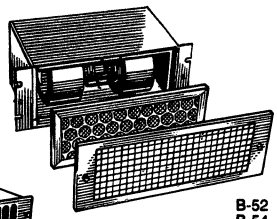


Hinged tops, removable front panel. Fit following size chassis: C-1584, 7 × 5 × 2″; C-1585, 7 × 7 × 2″; C-1586, 8 × 6 × 2″; C-1587, 7 × 5 × 2″; C-1588, 9 × 7 × 2″; C-1892, 11 × 7 × 2″; C-1893, 17 × 10 × 2″; C-1894, 7 × 13 × 2″; C-1896, 17 × 8 × 2″. **Finish:** Metallic Gray.

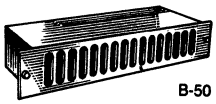
Stock No.	Mfr.'s Type	Size Inches H×W×D	Wt. Lbs.	EACH	
				1-5	6-24
736-1855	C-1584	6 1/2 × 7 1/16 × 7 5/16	2 3/4	31.20	26.10
736-1865	C-1585	6 1/2 × 9 1/16 × 7 5/16	2 1/2	30.10	25.10
736-1875	C-1586	6 1/2 × 11 1/16 × 7 5/16	3 3/4	33.60	28.05
736-1935	C-1892	8 × 13 1/16 × 8 1/2	5 1/2	38.50	34.65
736-1945	C-1893	10 × 18 1/16 × 10 13/32	12 1/2	51.00	45.90
736-1885	C-1587	8 × 8 1/16 × 8	4	34.00	28.45
736-1895	C-1588	8 × 10 1/16 × 8	4 1/2	37.80	31.55
736-1955	C-1894	8 × 14 1/16 × 8	6	32.05	26.85
736-1965	C-1896	9 × 18 1/16 × 8 3/16	9 3/4	48.75	43.90



B-23A
B-25A
B-27A



B-52
B-54



B-50

Blowers

Design Features. Panel heights: 3½", 5¼" and 7". All units are 19" panel width with standard EIA notching for rack mounting. Dust filters removed through front panel, no tools needed. All U.L. approved. Guaranteed for 20,000 hours continuous service. 115 volts.

Model B-23A. Two-speed blower requires minimum panel space. Pressurizes or evacuates cabinet as desired. 1450/1250 RPM, 150/65 watt-shaded pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 15 lbs.

Model B-25A. Two-speed motor delivers turbulent air distribution to eliminate hot spots in cabinet. Recommended for minimum back pressure. 1420/1075 RPM, 375/200 watt-shaded pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 28 lbs.

Model B-27A. Two-speed packaged blower. Noise level lower than found in comparable models with equal CFM. Recommended for use where densely packed electronic components require maximum cooling. 1350/1150 RPM, 540/370 watt-shaded pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 30.5 lbs.

Model B-52. Designed for applications requiring higher back pressure. Two extra-wide, small-diameter centrigugal blower wheels supply a large volume of clean filtered air to pressurize enclosure. 3000 RPM shaded-pole motor. 80 watts. Permanently lubricated ball-bearings. 24" long, 2-wire power cord. 11.5 lbs.

Model B-54. Quiet, efficient with dual, slow-speed, low-velocity centrifugal blower wheels. Noise level below average DB level found in most business offices. 1550 RPM, fan-cooled, rubber-mounted 80 watt shaded-pole motor. Permanently lubricated ball-bearings. 24" long, 3-wire power cord. 19 lbs.

Model B-50. Requires only 3½" panel height. Low audible noise level. Air stream delivered vertically through a 12½" wide opening. Air velocity and pressure cool densely packed electronic equipment. 3150 RPM, shaded-pole motor, 80 watts. Permanently lubricated ball-bearings. 24" long. 3-wire power cord. 11.5 lbs.

Stock No.	Mfr.'s Type	Panel Space	Depth	Air CFM		Motor RPM	EACH
				High	Low		1-9
736-1150	B-23A	3½" x 19"	12"	180	130	1450/1250	286.95
736-1110	B-25A	5¼" x 19"	14½"	350	215	1420/1075	369.25
736-1160	B-27A	7 x 19"	14½"	550	345	1350/1150	370.00
736-1130	B-50	3½ x 19"	6⅜"	150	—	3150	265.55
736-1170	B-52	5¼ x 19"	9"	150	—	3000	323.25
736-1180	B-54	7 x 19"	10 3/16"	300	—	1550	318.45

Stock No.	Mfr.'s Type	Used With	EACH
736-1100	BF-24	B-23A or B-50	6.20
736-1120	BF-26	B-25A	6.80
736-1161	BF-28	B-27A	6.40
736-1171	BF-53	B-52	4.80
736-1181	BF-55	B-54	5.00

Standard Aluminum Rack Panels

⅛ x 19" aluminum panels have notched edges for standard W.E. spacing.

How to Order
2 finishes. Add following digits in place of suffix "n" in table below for color: 5 = Metallic Gray; 7 = White Textured. **Example:** Mfr.'s Type PA-1101 ordered in "Metallic Gray" would become Stock No. 736-5115.

Stock No.	Mfr.'s Type	Ht. In.	Wt. Lbs.	EACH		
				1-5	6-49	50-99
736-511N	PA-1101	1¾	⅜	8.70	7.30	6.55
736-512N	PA-1102	3½	¾	12.20	10.15	9.15
736-513N	PA-1103	5¼	1⅛	16.70	13.90	12.50
736-514N	PA-1104	7	1¾	20.80	17.40	15.65
736-515N	PA-1105	8¾	2	25.20	21.05	18.95
736-516N	PA-1106	10½	2½	30.00	25.05	22.55
736-517N	PA-1107	12¼	2¾	34.30	28.60	25.75
736-518N	PA-1108	14	3¼	39.00	32.50	29.25
736-519N	PA-1109	15¾	3⅝	43.50	36.25	32.65
736-520N	PA-1110	17½	4	44.35	39.85	35.85
736-521N	PA-1111	19¼	4¼	46.90	43.10	38.80
736-534N	PA-1112	21	5	48.65	43.80	38.90

Surface-Shield Rack Panels

⅛" thick bright aluminum alloy rack panels in blemish-free mill finish. 19" wide. Additional panels and sizes available.

Stock No.	Mfr.'s Type	Ht. In.	Wt. Lbs.	EACH		
				1-5	6-49	50-99
736-7200	SFA-1831	1¾	⅜	7.50	6.30	5.65
736-7201	SFA-1832	3½	¾	11.00	9.15	8.25
736-7202	SFA-1833	5¼	1⅛	14.10	11.80	10.60
736-7203	SFA-1834	7	1¾	18.00	15.05	13.55
736-7204	SFA-1835	8¾	2	19.80	16.50	14.85
736-7205	SFA-1836	10½	2½	25.60	21.35	19.20
736-7206	SFA-1837	12¼	2¾	29.70	24.80	22.30
736-7207	SFA-1838	14	3¼	31.90	26.65	24.00
736-7208	SFA-1839	15¾	3⅝	37.70	31.45	28.30

Die Cast Aluminum Handles

H-9174B. Clear anodized. 4" mounting center. Two 8-32 screws. 1 3/32" hand clearance.

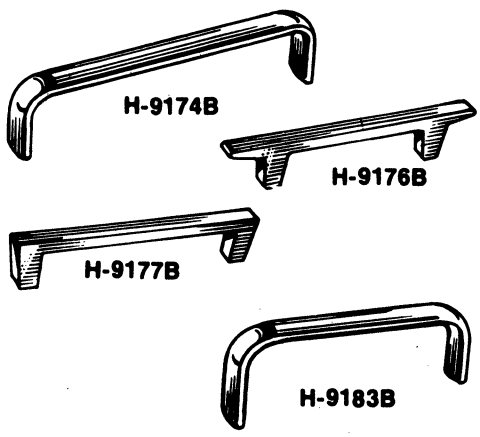
H-9176B. Clear anodized. 3¼" mounting center. Overall length 5". Two 8-32 screws. ¾" hand clearance.

H-9177B. Clear anodized. 4⅜" mounting center. Two 8-32 screws. ¾" hand clearance.

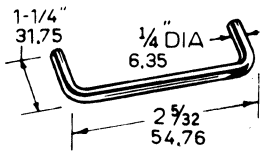
H-9183B. Clear anodized. 4 9/16" mounting center. Two 8-32 screws. 1 3/32" hand clearance.

Stock No.	Mfr.'s Type	EACH			
		1-5	6-99	100-199	200-Up
736-4374	H-9174B	8.80	7.35	6.60	5.65
736-4376	H-9176B	10.00	8.40	7.55	6.45
736-4377	H-9177B	10.00	8.40	7.55	6.45
736-4383	H-9183B	10.30	8.65	7.80	6.75

Additional handles and sizes available on Special Order.



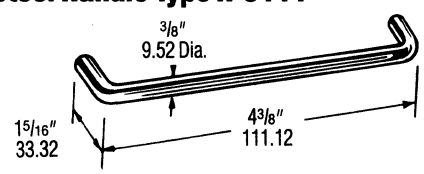
Type H-9166 Brass Handle



¼" (6.35 mm) diameter handle with chrome-plate finish. 1" (25.4 mm) hand clearance. Includes two screws. **Sold per pair.**

Stock No.	Mfr.'s Type	Mtg. Ctrs.		PER PAIR			
		In.	(mm)	1-5	6-49	50-99	100-Up
736-4366	H-9166	1 29/32	49.21	9.20	7.70	6.95	5.95
736-4368	H-9168	3	76.20	8.60	7.10	6.40	5.65

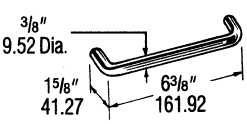
Steel Handle Type H-9111



⅜" (9.52 mm) diameter steel chrome-plated handle. 1" (25.4 mm) hand clearance, two screws included. **Sold per pair.**

Stock No.	Mfr.'s Type	Mtg. Ctrs.		PER PAIR			
		In.	(mm)	1-5	6-49	50-99	100-Up
736-4311	H-9111	4	101.6	13.40	10.35	9.30	7.95
736-4312	H-9112	6	152.4	16.00	13.35	12.00	10.70

Steel Handle Type H-9110



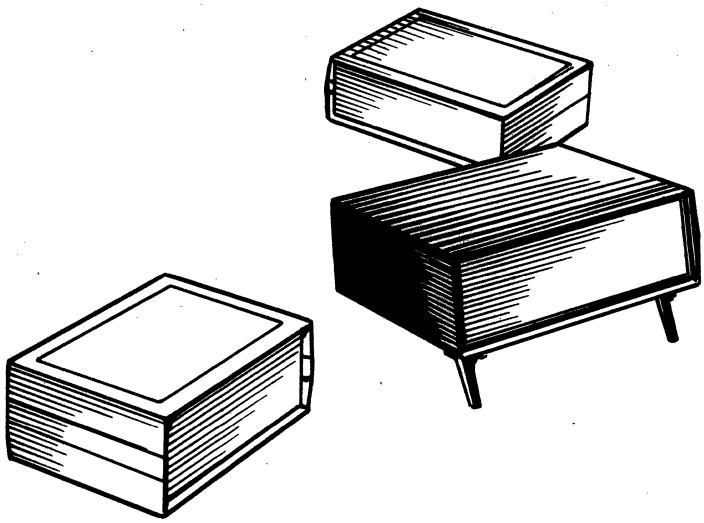
⅜" (9.52 mm) diameter steel chrome-plated handle. 1¼" (31.7 mm) hand clearance. Includes two screws. **Sold per pair.**

Stock No.	Mfr.'s Type	Mtg. Ctrs.		PER PAIR			
		In.	(mm)	1-5	6-49	50-99	100-Up
736-4310	H-9110	6	152.4	20.40	17.10	15.40	13.40

Plasticase

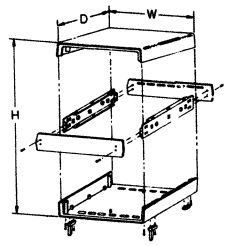
Offering 3 styles and 10 sizes of these sturdy enclosures constructed of high quality impact resistant ABS material. Molded-in card guides—Styles A and B—and mounting bosses—all styles—provide a variety of mounting options. Housing design allows complete accessibility to internal components.

Design Features for Styles A and B
- ► **Impact Resistant ABS**
- ► **Molded-in Card Guides and Mounting Bosses**
- ► **Easy to Assemble—Comes complete with stainless steel screws and rubber feet**
- ► **Finish—Double-textured PC Bone Gray**
- ► **Shipped Assembled**



Stock No.	Mfr.'s Type	Style	Height (H)	Width (W)	Depth (D)	Panel Size (.094 Thick) Height × Width	EACH	
							1-9	10-24
736-1402	PC-11402	A	1.53	5.08	5.30	1.31 × 4.75	11.80	9.85
736-1404	PC-11404	A	1.55	6.33	9.62	1.33 × 5.99	17.40	14.50
736-1406	PC-11406	A	2.52	6.12	6.32	2.31 × 5.75	15.10	12.60
736-1408	PC-11408	A	2.52	8.10	6.32	2.31 × 7.75	18.10	15.10
736-1410	PC-11410	B	3.30	6.12	6.32	3.09 × 5.75	18.70	15.60
736-1412	PC-11412	B	3.30	8.10	6.32	3.09 × 7.75	21.60	18.00
736-1414	PC-11414	B	4.04	6.12	6.32	3.83 × 5.75	19.70	16.45
736-1416	PC-11416	B	4.04	8.10	6.32	3.83 × 7.75	22.90	19.10

NOTE: All dimensions shown in inches.



Design Features for Style C
- ► **Impact Resistant ABS with aluminum front and rear panels**
- ► **Internal Steel Channels provide extra strength and ease of assembly**
- ► **Formed Guide Tabs accept vertical or horizontal circuit boards**
- ► **Finish: Black with clear anodized aluminum front and rear panels**
- ► **Shipped assembled**

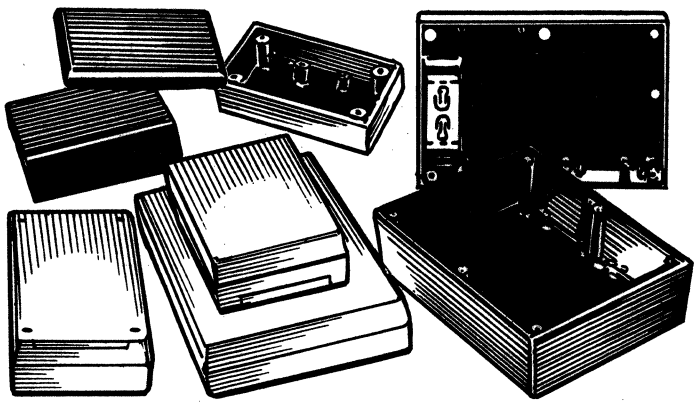
Stock No.	Mfr.'s Type	Height (H)	Width (W)	Depth (D)	Panel Size (.094 Thick) Height × Width	EACH	
						1-9	10-24
736-1432*	PC-11432	1.61	3.54	5.71	1.42 × 3.28	12.30	10.25
736-1438†	PC-11438	4.02	9.72	8.66	3.83 × 9.46	27.70	23.15

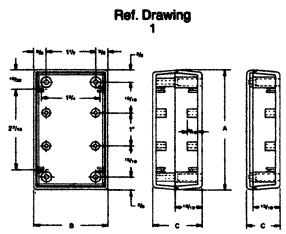
*No feet. †Folding type plastic feet supplied.

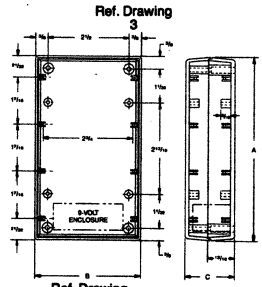
PlastiBox

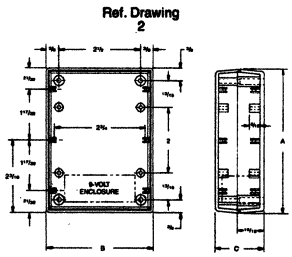
Available in 3 styles and a variety of sizes, these functional utility enclosures are made from UL rated high-impact ABS with scratch resistant finish. All PlastiBox models come with vertical card guides and are bossed for mounting horizontal circuit cards.

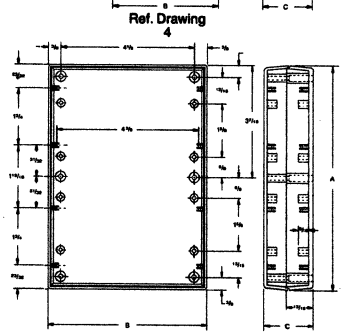
Three styles are offered to meet your specific needs:
- ► **Textured body with smooth top for silk screening capabilities—Prefix PS**
- ► **Textured body with textured top—Prefix PT**
- ► **Textured body with smooth top and 9-volt battery compartment—Prefix PBS**





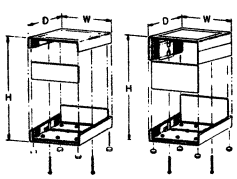






Stock No.	Mfr.'s Type	Ref. Dwg.	Outside Length A	Outside Width B	Outside Height C	Useable Inside Dimensions			EACH	
						Length	Width	Height	1-9	10-24
736-1101	PS-11301G	1	3 5/8	2 1/4	1	3 1/4	1 7/8	3/4	4.10	3.40
736-1102	PT-11308G	1	3 5/8	2 1/4	1 1/2	3 1/4	1 7/8	1 1/4	4.10	3.40
736-1103	PT-11317G	2	4 3/8	3 1/4	1 1/2	4	2 3/4	1 1/4	5.10	4.25
736-1104	PT-11319G	2	4 3/8	3 1/4	1 1/2	3	2 3/4	1 1/4	6.10	5.10
736-1105	PT-11325G	3	5 5/8	3 1/4	1 1/2	5 1/4	2 3/4	1 1/4	5.80	4.85
736-1106	PBS-11327G	3	5 5/8	3 1/4	1 1/2	4 1/4	2 3/4	1 1/4	6.50	5.45
736-1107	PS-11333G	4	6 7/8	4 7/8	1 1/2	6 1/2	4 1/2	1 1/4	7.40	6.20
736-1108	PS-11372G	1	3 5/8	2 1/4	2 1/2	3 1/4	1 7/8	2 1/4	4.40	3.65
736-1109	PT-11380G	2	4 3/8	3 1/4	2 1/2	4	2 3/4	2 1/4	5.60	4.70
736-1111	PT-11388G	3	5 5/8	3 1/4	2 1/2	5 1/4	2 3/4	2 1/4	7.40	6.20
736-1112	PT-11396G	4	6 7/8	4 7/8	2 1/2	6 1/2	4 1/2	2 1/4	6.60	5.50

All models are available in 2 molded-in colors, black and gray. To order black add suffix-B to Mfr.'s Type. All PlastiBox models come with four Non-Skid Feet which mount on bottom of enclosure for table top use. Allied stock is gray.



Accessories for Styles A and B

Handle/Bail Kits. Features 3 locking positions. Heavy-duty chrome plated steel. Kit includes molded ABS attachment buttons, mounting screws and over-size rubber feet.

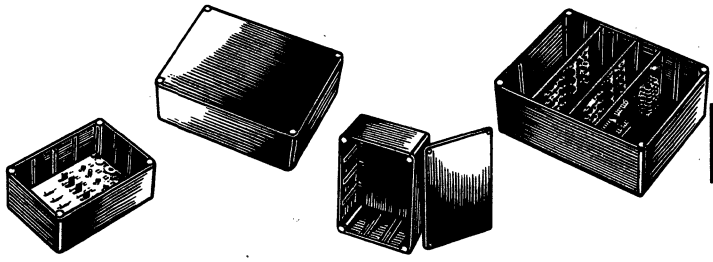
Stock No.	Mfr.'s Type	Fits	EACH	
			1-9	10-24
736-1496	HB-11496	PS-11317, PPS-11319, PS-11380	11.00	9.20
736-1498	HB-11498	PS-11325, PBS-11327, PS-11388	11.80	9.85

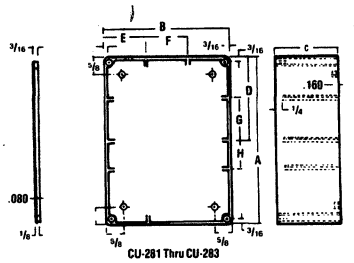
NOTE: Handle/Bail Kits available for PC-11402 and PC-11404 on special request.

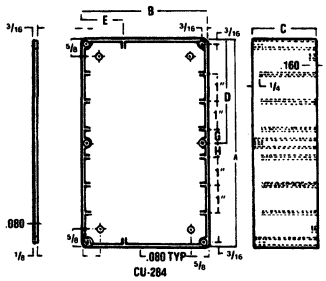
Bud Plastic Enclosures—The Utilibox Series

Bud's Utilibox Series is the ultimate value in plastic utility boxes. Now available in 2 styles and 8 sizes.

Design Features for Style A
- **KJB Cycolac Thermoplastic with flamability rating of 94-VO at .080" thickness and continuous use temperature of 70°C.**
- **Card Guides accept .062" thick cards.**
- **Comes with close fitting interlocking lid and assembly hardware.**
- **Finish—Black is standard. Special colors and finishes are available on request.**



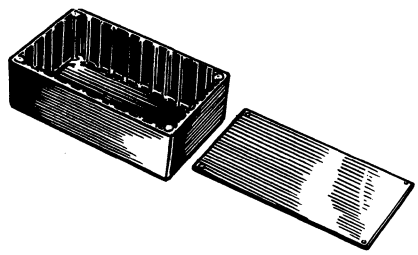


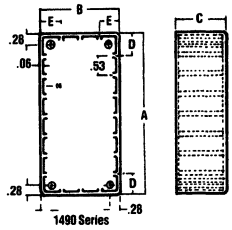


Stock No.	Mfr.'s Type	A	B	C	D	E	F	G	H	EACH 1-5	EACH 6-99
736-3589	CU-281	4 1/2	3	1 3/4	2 1/4	—	—	1	1	6.30	5.20
736-3590	CU-282	4 1/2	4 1/2	2 1/4	2 1/4	1 1/2	1 1/2	1	1	6.70	5.60
736-3591	CU-283	6	4 1/2	2 1/4	3	1 1/2	—	1 1/2	1	7.90	6.65
736-3592	CU-284	7 1/2	4 1/2	2 1/4	3 3/4	1 1/2	—	1/2	1/2	9.30	7.80

Dimensions are ± .010".

Design Features for Style B
- **Impact Resistant ABS**
- **Cover Panel, .050" Aluminum.**
- **Card Guides spaced at .53" centers allow flexibility of component placement or creation of compartments for potting. Guides accept .062" thick cards.**
- **Finish—black body with annodized aluminum cover panel.**
- **Shipped assembled.**

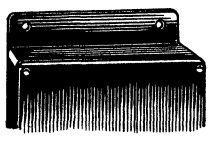




Stock No.	Mfr.'s Type	A	B	C	D	E	EACH 1-5	EACH 6-99
736-1490	CU-1490	3.54	1.77	1.18	.71	.62	3.40	2.85
736-1491	CU-1491	4.33	2.17	1.38	.57	.55	4.00	3.25
736-1493	CU-1493	6.10	3.54	1.97	.66	.71	6.70	5.60
736-1495	CU-1495	8.66	5.32	2.95	.62	.80	12.00	10.00

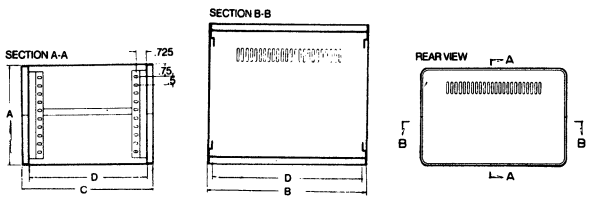
Style A with Mounting Brackets

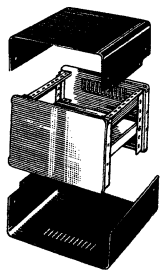
Two styles of mounting brackets, depending on size of Utilibox needed. To order, add Suffix-MB to Utilibox catalog number. Brackets are fastened to Utilibox at the factory and shipped as one unit.



Desk-Top and Portable Enclosures—The Champion Series

- **Top, Bottom, Front and Rear Panels Made of .050 Aluminum**
- **Ventilation Slots in Both Bottom and Rear Panels**
- **Eight Self-Threading Screws for Easy Assembly**
- **No Screws on Front or Rear Panels**
- **Design Allows for Maximum Interior Space**
- **Top and Bottom Removable for Easy Access to Components**
- **Includes Four Self-Adhesive Rubber Feet**



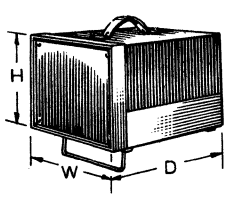


Finishes
The Champion Series comes in a choice of two finishes—Sand Textured or Black Textured, each with smooth White front and rear panels.

Stock No. Sand Texture	Stock No. Black Texture	Mfr.'s Type	Height A	Width B	Depth C	Clear Inside Width D	Clear Inside Depth E	Weight (lbs.)	EACH 1-5	EACH 6-24	EACH 25-Up
736-1202	736-1302	CS-11202	4"	6"	6"	5 3/8"	5 1/8"	1.5	46.40	38.70	33.00
736-1204	736-1304	CS-11204	4"	9"	8"	8 3/8"	7 1/8"	2.0	51.70	43.15	39.00
736-1206	736-1306	CS-11206	4"	12"	8"	11 3/8"	7 1/8"	2.5	54.60	45.55	41.25
736-1208	736-1308	CS-11208	6"	9"	8"	8 3/8"	7 1/8"	2.5	55.00	45.90	41.00
736-1210	736-1310	CS-11210	6"	12"	8"	11 3/8"	7 1/8"	3.0	58.40	48.75	42.00
736-1212	736-1312	CS-11212	6"	12"	10"	11 3/8"	9 1/8"	3.5	61.50	51.30	47.00
736-1214	736-1314	CS-11214	8"	9"	8"	8 3/8"	7 1/8"	3.0	58.30	48.65	44.25
736-1216	736-1316	CS-11216	8"	12"	10"	11 3/8"	9 1/8"	4.0	66.30	55.35	50.00

Showcases

These sleek, highly functional units can be used as desktop instrument cases, in systems, in racks, or as a portable enclosure. Top, sides and bottom of each sturdy enclosure is .050 aluminum; front panel is .090, rear panel is .050 aluminum. Strong, flexible handles are recessed and secured firmly into the top for safe handling. Ventilation slots under handle. Side gussets provide additional strength. Depth is 11" except * which is 15". **FINISHES: Specify either Black Textured (BT) and smooth white or Royal Blue Textured (RB) and smooth white.**



Stock No.	Mfr.'s Type	Width Inches	Height Inches	Weight lbs.	EACH 1-14†
736-9501	BB-1801	8 5/16	6 7/16	4	113.10
736-9502	BB-1802	5 1/2	8 3/16	3 3/4	115.10
736-9504	BB-1804	11 1/16	8 3/16	5 3/4	127.70
736-9506	BB-1806	8 5/16	9 15/16	5 1/4	123.35
736-9509	BB-1809*	11 1/16	9 15/16	7	136.20

†Contact Allied for larger quantity pricing. Other sizes available on special order only.

Support Angle Kit

Complete with 2 support angles, 4 screws, and 4 clip nuts. Made of .050 aluminum; natural finish.

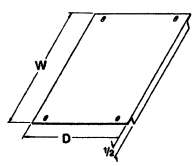
Design Feature
- **Support Angles Attach with only Two Screws Per Angle**
- **Component Mounting Holes Punched on 1/2" Centers**
- **Angles May Be Adjusted Up and Down at 1/2" Increments**
- **Support Angles, Attached to Front and Rear Panels, Allow Easy Assembly of Interior Components before Attaching Top and Bottom**

Stock No.	Mfr.'s Type	Fits	Length	EACH 1-5	EACH 6-24	EACH 25-Up
736-1262	CSA-11262	CS-11202	5 1/8"	7.50	6.25	5.65
736-1264	CSA-11264	CS-11204,06,08,10,14	7 1/8"	7.60	6.35	5.85
736-1266	CSA-11266	CS-11212, 16	9 1/8"	7.70	6.45	5.95
736-1280*	CSH-11280	—	—	3.00	2.50	2.14

*CSH-11280 is a **Hardware Kit** containing additional hardware for component mounting. Complete with (4) #6-32 x 5/16" screws and (4) #6-32 clip nuts.

Chassis Kit

Complete with 1 chassis, 2 support angles, 8 screws, and 8 clip nuts. Made of .050 aluminum; natural finish.

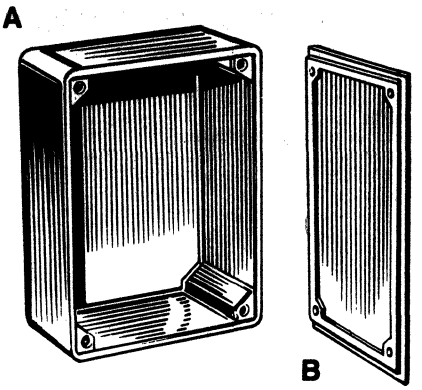


Design Features
- **17/32" Clearance Between Chassis and Front and Rear Panels**
- **Chassis May Be Moved to Front or Back by 1/2" Allowing Maximum Clearance for Components and Wire Routing**
- **1/2" Flange on Front and Rear of Chassis Provides Increased Stiffness**

Stock No.	Mfr.'s Type	Fits	Width	Depth	EACH 1-5	EACH 6-24	EACH 25-Up
736-1242	CSC-11242	CS-11202	5 1/4"	4 1/16"	15.85	13.45	11.30
736-1244	CSC-11244	CS-11204,08,14	8 1/4"	6 1/16"	15.80	13.20	11.20
736-1246	CSC-11246	CS-11206,10	11 1/4"	6 1/16"	16.60	13.85	11.90
736-1248	CSC-11248	CS-11212,16	11 1/4"	8 1/16"	17.40	14.50	12.00

Plastic Cases and Panels

Molded plastic cases (Figure A) and matching plastic panels (Figure B) for mounting test equipment...Meters fit into cases with flanges. Cases accept sizes up to $4\frac{5}{8} \times 4\frac{3}{16}$". Cases have recessed corner bosses—flush mounting with cover. All cases require $\frac{1}{2}$" No. 6 self-tapping screws, except Type 220 which requires 4-36 × $\frac{1}{2}$" screws and Type 280 which requires (6) 6-32 screws. Walls and covers of cases are made of firm $\frac{1}{8}$" thick plastic. **Shipping Weight:** Cases—$1\frac{1}{2}$ lbs.; Panels—1 lb.

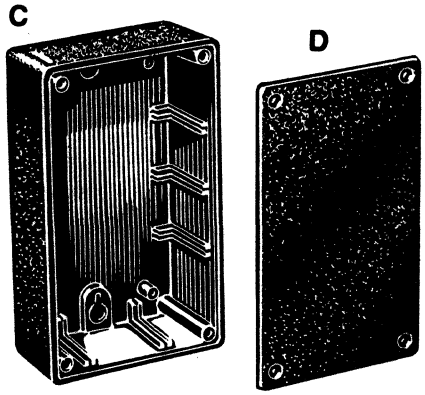


Stock No.	Mfr.'s Type	Fig.	Outside Dimensions		EACH			
			In.	MM	1-49	50-249	250-999	1000-Up
543-0212	210A*	A	$3\frac{1}{2} \times 2\frac{1}{2} \times 1\frac{1}{4}$	88.90 × 51.30 × 25.70	**1.41**	**1.32**	**1.22**	**1.13**
543-0220	220	A	$4 \times 2\frac{7}{8} \times 1\frac{9}{16}$	101.60 × 73.03 × 39.69	**1.05**	**.96**	**.91**	**.85**
543-0201	220A*	A	$4 \times 2\frac{7}{8} \times 1\frac{9}{16}$	101.60 × 73.03 × 39.69	**1.05**	**.96**	**.91**	**.85**
543-0230	230	A	$5 \times 4\frac{1}{4} \times 1\frac{3}{4}$	127.00 × 107.95 × 44.45	**1.83**	**1.70**	**1.58**	**1.48**
543-0203	230A*	A	$5 \times 4\frac{1}{4} \times 1\frac{3}{4}$	127.00 × 107.95 × 44.45	**2.30**	**2.12**	**1.99**	**1.84**
543-0240	240	A	$6\frac{1}{4} \times 3\frac{3}{4} \times 2$	158.75 × 95.25 × 50.80	**2.04**	**1.88**	**1.77**	**1.63**
543-0202	240B*	A	$6\frac{1}{4} \times 3\frac{3}{4} \times 2$	158.75 × 95.25 × 50.80	**3.41**	**3.19**	**2.95**	**2.74**
543-0260	260	A	$6\frac{13}{16} \times 5\frac{9}{32} \times 2\frac{5}{16}$	173.04 × 134.14 × 58.74	**3.20**	**2.95**	**2.76**	**2.56**
543-0204	260K*	A	$6\frac{13}{16} \times 5\frac{9}{32} \times 2\frac{5}{16}$	173.04 × 134.14 × 58.74	**3.52**	**3.26**	**3.05**	**2.83**
543-0280	280	A	$8\frac{7}{16} \times 7\frac{7}{16} \times 3\frac{1}{64}$	214.31 × 188.91 × 75.60	**6.13**	**5.67**	**5.31**	**4.91**
543-0211	211	B	$3\frac{5}{16} \times 2\frac{5}{16} \times 1\frac{1}{16}$	84.13 × 58.73 × 1.59	**.45**	**.41**	**.39**	**.36**
543-0221	221	B	$3\frac{49}{64} \times 2\frac{41}{64} \times 1\frac{1}{16}$	95.65 × 67.07 × 1.59	**.38**	**.35**	**.32**	**.30**
543-0231	231	B	$4\frac{47}{64} \times 3\frac{63}{64} \times 1\frac{1}{16}$	120.25 × 101.20 × 1.59	**.71**	**.65**	**.61**	**.58**
543-0241	241	B	$6\frac{15}{16} \times 3\frac{47}{64} \times 1\frac{1}{8}$	158.35 × 94.85 × 3.18	**1.40**	**1.30**	**1.21**	**1.12**
543-0261	261	B	$6\frac{51}{64} \times 5\frac{17}{64} \times 1\frac{1}{8}$	172.64 × 133.75 × 3.18	**2.33**	**2.17**	**2.02**	**1.87**
543-0281	281	B	$8\frac{7}{64} \times 7\frac{7}{64} \times 1\frac{1}{8}$	205.98 × 180.58 × 3.18	**3.74**	**3.46**	**3.03**	**3.00**

*Brass inserts $\frac{6}{32} \times \frac{5}{16}$.

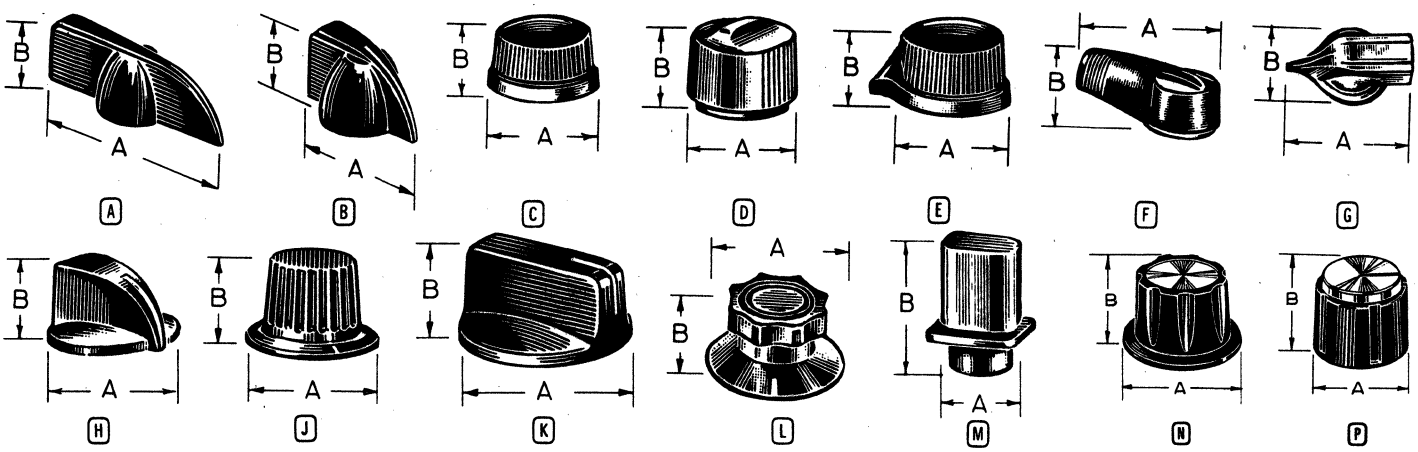
#250 Case and #251 Cover

Impact resistant. ABS Cycolac® or equivalent. Perfect for nearly every hard use industrial and electronic application easily machined—will not chip or crack during fabrication. Satin finish, with guides for use as dividers or to hold printed circuit board.



Stock No.	Mfr.'s Type	Fig.	Size		EACH			
			In.	MM	1-49	50-249	250-999	1000-Up
543-0350	250	C	$6\frac{1}{4} \times 3\frac{3}{4} \times 2$	158.75 × 95.25 × 50.80	**1.82**	**1.71**	**1.57**	**1.50**
543-0351	251	D	$6\frac{15}{16} \times 3\frac{47}{64} \times 1\frac{1}{8}$	176.22 × 93.66 × 3.18	**.91**	**.85**	**.78**	**.75**

Rotating and Lever Knobs



A full line of high quality knobs for use throughout the industry. This style selection will meet most commercial and industrial applications. Choose from grooved, round, pointer bar. All are quality plastic knobs of sturdy, long-lasting phenolic plastic, with a high gloss finish. Standard setscrew construction provides one cup point slotted head setscrew. All setscrews are hardened steel cadmium plated, iridite finish. Female inserts are half hard brass rod. Mounting keys: *1/4" diameter molded hole and slotted setscrew; §1/4" diameter female brass insert and slotted setscrew; ‡self locating friction fit for use on flat wire shaft. .050 × .187".

Stock No.	Mfr.'s Type	Fig.	Size—In.		Size—MM		EACH			
			A	B	A	B	1-99	100-499	500-999	1000-Up
543-2351	2350-A	A	2	$\frac{5}{8}$	50.80	15.88	**.76**	**.71**	**.66**	**.62**
543-2301	2300-A	B	$1\frac{1}{4}$	$\frac{5}{8}$	31.75	15.88	**.56**	**.51**	**.49**	**.46**
543-2300	2300	B	$1\frac{1}{4}$	$\frac{5}{8}$	31.75	15.88	**.32**	**.30**	**.29**	**.26**
543-1450	1450	C*	$\frac{11}{16}$	$\frac{1}{2}$	25.40	10.32	**.29**	**.27**	**.26**	**.25**
543-1475	1475	C*	1	$\frac{1}{2}$	25.40	12.70	**.41**	**.38**	**.35**	**.32**
543-1700	1700	D*	$\frac{3}{4}$	$\frac{19}{32}$	19.05	15.08	**.43**	**.40**	**.38**	**.34**
543-1400	1400	E*	$\frac{11}{16}$	$\frac{13}{32}$	17.46	10.32	**.29**	**.27**	**.26**	**.25**
543-1470	1470	E*	1	$\frac{1}{2}$	25.40	12.70	**.48**	**.46**	**.45**	**.40**
543-2120	2110	F§	$1\frac{5}{8}$	$\frac{19}{32}$	41.28	15.08	**.74**	**.68**	**.64**	**.60**
543-2150	2150	G*	$1\frac{1}{4}$	$\frac{9}{16}$	31.75	14.29	**.42**	**.39**	**.36**	**.33**
543-1550	1550	H*	$1\frac{1}{8}$	$\frac{5}{8}$	28.58	15.88	**.41**	**.38**	**.35**	**.32**
543-1600	1600	J*	$1\frac{1}{2}$	$\frac{11}{16}$	38.10	17.46	**.58**	**.54**	**.49**	**.46**
543-1610	1610	J*	$\frac{29}{32}$	$\frac{19}{32}$	23.02	15.08	**.49**	**.46**	**.43**	**.41**
543-1500	1500	K	$1\frac{1}{8}$	$\frac{9}{16}$	25.63	14.29	**.44**	**.41**	**.39**	**.35**

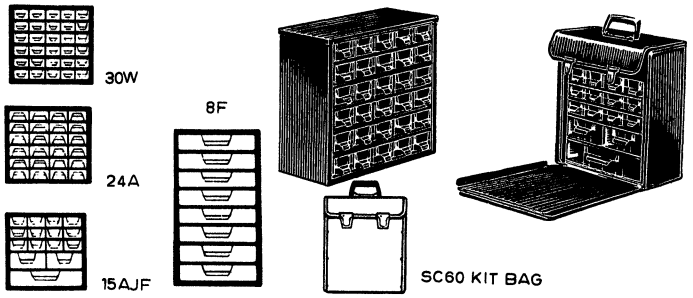
Stock No.	Mfr.'s Type	Fig.	Size—In.		Size—MM		EACH			
			A	B	A	B	1-99	100-499	500-999	1000-Up
543-1510	1510	K	$\frac{3}{4}$	$\frac{9}{16}$	19.05	14.29	**.58**	**.47**	**.44**	**.41**
543-1520	1520	K	$1\frac{1}{2}$	$\frac{3}{4}$	38.10	19.05	**.90**	**.84**	**.78**	**.73**
543-4108	4108	L§	$2\frac{1}{16}$	$\frac{29}{32}$	52.39	23.02	**2.35**	**2.19**	**2.07**	**1.93**
543-2190	5149-A	M‡	$\frac{1}{2}$	$\frac{51}{64}$	12.70	20.24	**.21**	**.20**	**.18**	**.17**
543-1910	1910INL	N	$\frac{3}{4}$	$\frac{1}{2}$	19.05	12.70	**.88**	**.85**	**.82**	**.79**
543-1913	1913INL	N	$1\frac{1}{8}$	$\frac{5}{8}$	28.58	15.88	**1.02**	**.98**	**.96**	**.94**
543-1925	1925INL	N	$1\frac{1}{4}$	$\frac{23}{32}$	31.75	18.26	**.95**	**.93**	**.92**	**.89**
543-1930	1930INL	N	$1\frac{1}{2}$	$\frac{7}{8}$	38.10	22.23	**1.07**	**1.05**	**1.03**	**1.01**
543-1940	1940INL	N	2	$\frac{15}{16}$	50.80	23.81	**1.40**	**1.37**	**1.35**	**1.33**
543-1200	1200CAP	P	$\frac{1}{2}$	$\frac{5}{8}$	12.70	15.88	**.75**	**.72**	**.70**	**.66**
543-1202	1202CAP	P	$\frac{3}{4}$	$\frac{5}{8}$	19.05	15.88	**.76**	**.74**	**.72**	**.68**
543-1204	1204CAP	P	1	$\frac{11}{16}$	25.40	17.46	**.79**	**.76**	**.74**	**.72**
543-1206	1206CAP	P	$1\frac{3}{8}$	$\frac{3}{4}$	34.93	19.05	**.98**	**.96**	**.94**	**.92**
543-1208	1208CAP	P	$1\frac{3}{4}$	$\frac{13}{16}$	44.45	20.64	**1.12**	**1.10**	**1.08**	**1.06**

Series 150 Storage Systems

Series 150. Space saving storage for virtually any need. Use your stockroom or toolroom to full advantage with these durable storage systems. Flambeau quality features include solid frames with welded shelves to ensure maximum stability. Both large and small-frame cabinets may be mounted easily on a wall or set on a workbench. Small 150 cabinets may be inserted in the Kit Bag 60 to facilitate carrying parts.

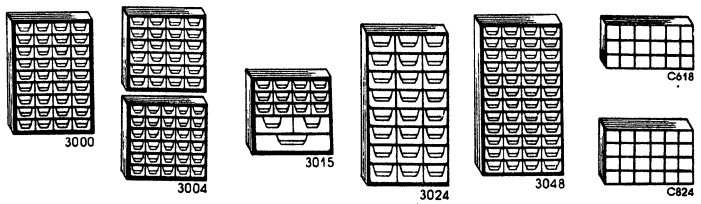
Cabinets

Stock No.	Mfr.'s Type	Cabinet Size H×W×D (")	No. of Drawers	Drawer Size H×W×D (")	EACH
981-2000	30W	$11\frac{1}{4} \times 12\frac{1}{8} \times 5\frac{3}{4}$	30	$1\frac{3}{8} \times 2 \times 5\frac{5}{16}$	24.33
981-2005	24A	$11\frac{1}{4} \times 12\frac{1}{8} \times 5\frac{3}{4}$	24	$1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$	24.33
981-2010	15AJF	$11\frac{1}{4} \times 12\frac{1}{8} \times 5\frac{3}{4}$	12	12 ea: $1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$ 2 ea: $2\frac{1}{4} \times 5\frac{5}{16} \times 5\frac{5}{16}$ 1 ea: $2\frac{1}{4} \times 11 \times 5\frac{5}{16}$	24.33
981-2015	8F	$21\frac{7}{8} \times 12\frac{1}{8} \times 5\frac{3}{4}$	8	$2\frac{1}{4} \times 11 \times 5\frac{5}{16}$	41.00



Model SC60. The Kit Bag 60 is the sensible way to carry small parts and tools. Made of durable, luggage quality black expanded vinyl. Leather-grain finish. Lockable.
981-2020 ..... **EACH 116.69**

Conductive Storage Cabinets and Boxes



Protect MOS, CMOS, integrated circuits, chips, precision resistors and ESDS components from static damage. Flambeau conductive cabinets will bleed off any static charge at a safe, controlled rate when properly connected to a ground. Flambeau has developed a special design for these electrically conductive storage systems in accordance with the guidelines of DOD-HDT3K-263. A Flambeau static-safe ground cord is provided with a 1 M ohm resistance which protects users against electrical shock. However, if the cabinet is placed on a table which is electrically conductive or connected to ground, the separate ground connection for the cabinet may be left out. Technical Specifications: Surface Resistivity 10^3-10^6 ohm/sq. Volume Resistivity 10^3-10^5 ohm/sq. (Average of range for one order of magnitude.) This material is in compliance with military specification MIL-B-81 705B. GENERAL INFORMATION. The conductivity of the carbon filled polypropylene plastic is a permanent property of the material. Unlike anti-static material, it cannot be altered by use, wear, age, air, humidity or other environmental factors. It is recommended that Flambeau Conductive Systems be connected to a ground connection provided with a pre-resistance of 1 MΩ 0.5 W to protect users against currents of more than 5 mA.

Cabinets

Stock No.	Mfr.'s Type	Cabinet Size H×W×D (")	No. of Drawers	Drawer Size H×W×D (")	EACH
981-3000	3000	$16\frac{1}{2} \times 12\frac{1}{8} \times 5\frac{3}{4}$	36	$1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$	104.35
981-3004	3004	$11\frac{1}{4} \times 12\frac{1}{8} \times 5\frac{3}{4}$	24	$1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$	90.89
981-3015	3015	$11\frac{1}{4} \times 12\frac{1}{8} \times 5\frac{3}{4}$	12 2 1	$1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$ $2\frac{1}{4} \times 5\frac{5}{16} \times 5\frac{5}{16}$ $2\frac{1}{4} \times 11 \times 5\frac{5}{16}$	90.89
981-3024	3024	$21\frac{7}{8} \times 12\frac{1}{8} \times 5\frac{3}{4}$	24	$2\frac{1}{4} \times 3\frac{1}{8} \times 5\frac{5}{16}$	117.69
981-3030	3030	$11\frac{1}{4} \times 12\frac{1}{8} \times 5\frac{3}{4}$	30	$1\frac{3}{8} \times 2 \times 5\frac{5}{16}$	90.89
981-3048	3048	$21\frac{7}{8} \times 12\frac{1}{8} \times 5\frac{3}{4}$	48	$1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$	117.69

Boxes

Stock No.	Mfr.'s Type	Overall Size H×W×D	No. of Compartments	EACH
981-6180	C618	$11 \times 6\frac{3}{4} \times 1\frac{3}{4}$	18	15.35
981-8240	C824	$12\frac{1}{8} \times 9 \times 2\frac{5}{16}$	24	24.25

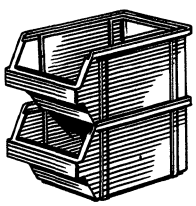
Dividers For Cabinets

Stock No.	Mfr.'s Type	For Cabinet Number	Divider Size H×W×D	PER PK/24
981-6780	6780CD	3060, 3030	$1\frac{3}{8} \times 2 \times 5\frac{5}{16}$	4.45
981-6791	6791CD	3000, 3004, 3015	$1\frac{3}{8} \times 2\frac{1}{2} \times 5\frac{5}{16}$	4.45

Bin Storage Systems

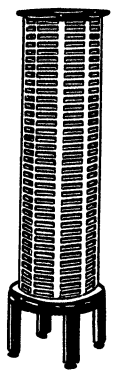
Stackable bins are reinforced with ribs inside walls. Molded channels and tabs prevent sliding. Build a system or use in Bin Tower system. Front ID panel accepts convenient adhesive labels.

Stock No.	Mfr.'s Type	Size A × B × C	Color	EACH
981-2200	60Y	$4\frac{7}{8} \times 2 \times 5\frac{1}{8}$	Yellow	1.05
981-2204	60R	$4\frac{7}{8} \times 2 \times 5\frac{1}{8}$	Red	1.05
981-2205	60B	$4\frac{7}{8} \times 2 \times 5\frac{1}{8}$	Blue	1.05
981-2210	120Y	$4\frac{7}{8} \times 3 \times 6\frac{5}{8}$	Yellow	1.55
981-2214	120B	$4\frac{7}{8} \times 3 \times 6\frac{5}{8}$	Blue	1.55
981-2215	120R	$4\frac{7}{8} \times 3 \times 6\frac{5}{8}$	Red	1.55
981-2220	240Y	$4\frac{7}{8} \times 3\frac{7}{8} \times 8\frac{7}{8}$	Yellow	2.35
981-2222	240R	$4\frac{7}{8} \times 3\frac{7}{8} \times 8\frac{7}{8}$	Red	2.35
981-2224	240B	$4\frac{7}{8} \times 3\frac{7}{8} \times 8\frac{7}{8}$	Blue	2.35
981-2225	480Y	$4\frac{7}{8} \times 5\frac{7}{8} \times 12$	Yellow	3.99
981-2230	480B	$4\frac{7}{8} \times 5\frac{7}{8} \times 12$	Blue	3.99
981-2232	480R	$4\frac{7}{8} \times 5\frac{7}{8} \times 12$	Red	3.99



Bin Tower System

The Flambeau Bin Tower System provides maximum storage area in minimum floor space. Designed to hold 144 of the size 60 bins, 96 of the size 120 bins, 72 of the size 240 bins, 64 of the size 480 bins or any of several bin size combinations. A simple, easy way to design and build your own bin system tailored to your specific needs.

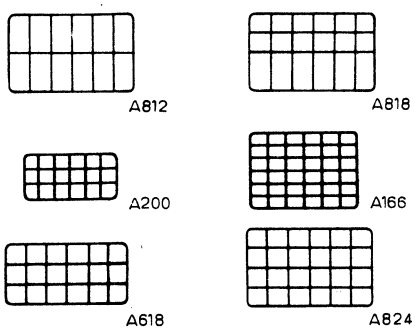


Stock No.	Mfr.'s Type	Size	Color	Wt.	EACH
981-2235	350BT	$18\frac{1}{4} \times 57$ (Unfilled)	Tan	78	440.00

Plastic Containers

Crystal clear polystyrene does not warp and resists degradation from water and detergents. Literally hundreds of storage and display applications exist for styrene including electronic parts, medical or laboratory supplies, hobby items, office supplies, pins, needles, buttons, precision parts, fasteners, labels or small tools.

Ideal for Electronic Parts, Sample Cases, Storage and Packaging



Stock No.	Mfr.'s Type	No.	Compartment Sizes Inches	Overall Size Inches	Lbs.	EACH
981-1250	A250	1	$5\frac{7}{8} \times 3\frac{5}{8}$	$6\frac{1}{4} \times 4 \times 1\frac{11}{16}$	1	2.36
981-1203	A203	6	$1\frac{1}{4} \times 3\frac{15}{16}$	$8\frac{1}{4} \times 4\frac{1}{2} \times 1\frac{3}{8}$	$1\frac{1}{2}$	3.16
981-1210	A210	9	8-$1\frac{3}{8} \times 1\frac{5}{8}$; 1-$1\frac{1}{8} \times 3\frac{1}{4}$	$7 \times 3\frac{3}{4} \times 1\frac{1}{4}$	1	2.22
981-1812	A812	12	$2 \times 4\frac{3}{16} \times 2\frac{1}{16}$	$13\frac{1}{8} \times 9 \times 2\frac{5}{16}$	1	9.38
981-1201	A201	12	6-$1\frac{1}{4} \times 1\frac{1}{4}$; 4-$1\frac{1}{4} \times 2$ 2-$1\frac{1}{4} \times 3\frac{15}{16}$	$8\frac{1}{4} \times 4\frac{1}{2} \times 1\frac{3}{8}$	$1\frac{1}{2}$	3.16
981-1612	A612	12	6-$1\frac{5}{8} \times 1\frac{15}{16}$; 6-$1\frac{5}{8} \times 4$	$11 \times 6\frac{3}{4} \times 1\frac{3}{4}$	$2\frac{1}{2}$	6.16
981-1200	A200	18	$1\frac{1}{4} \times 1\frac{1}{4}$	$8\frac{1}{4} \times 4\frac{1}{2} \times 1\frac{3}{8}$	$1\frac{1}{2}$	3.16
981-1618	A618	18	$1\frac{5}{8} \times 1\frac{15}{16}$	$11 \times 6\frac{3}{4} \times 1\frac{3}{4}$	$2\frac{1}{2}$	6.16
981-1818	A818	18	12-2×2; 6-$2 \times 4\frac{3}{16}$	$13\frac{1}{8} \times 9 \times 2\frac{5}{16}$	3	9.80
981-1824	A824	24	2×2	$13\frac{1}{8} \times 9 \times 2\frac{5}{16}$	$3\frac{1}{2}$	10.29
981-1166	A166	36	$1\frac{1}{2} \times 1\frac{1}{16} \times 1\frac{9}{16}$	$10 \times 7 \times 1\frac{13}{16}$	$3\frac{1}{2}$	6.89

This heavy-duty enclosure is available in nine panel heights (from 13U to 49U). Modular sizing insures complete flexibility when choosing both major components and accessories. Choose from a full selection of solid, louvered, and plexiglass doors all designed for front and back mounting.

CONTEMPRA is styled to highlight with a look to the future. To match this new design, the flush side panels utilize a new quick access fastener. A caster base and levelling feet are built right into the corner casting.

3

A complete line of accessories are available to complement the new CONTEMPRA Rack System.

Design Features

Frames: Heavy-duty frames fabricated from formed 14 gauge steel. Cast corner units include a built-in castor mount and four adjustable levelling feet.

Side Panels: Removable flush side panels are formed from 16 gauge steel. These panels feature a recessed "quick release" 1/4 turn cam fastener with an internal locking provision.

Doors: Choose from solid, louvered, or plexiglass doors. All are lockable, completely interchangeable from front to back, and feature a "catch-closing" mechanism.

Tops: All tops fit the standard opening, insuring complete interchangeability.

Mounting Rails: Two pairs of adjustable 14 gauge "Standard" combination rails with mounting hardware, tapped 10-32 on full EIA spacing.

Shipped completely assembled.

Finish: Textured "CONTEMPRA" Grey (CG1).

NOTE: CONTEMPRA Rapid Rack frames are also available from factory stock finished in textured black. Accessories are also factory stocked in textured blue.

Optional Accessories

Flush-mount, solid and louvered, 16 gauge steel doors fit both front and back. The solid door is reversible for both left or right hinge mount. The frame is pre-drilled for hinges and door stops. The "quick-release" hinge design allows for easy installation and removal.

The surface mount plexiglass door allows full access to the equipment mounting area without removal of the door. The aluminum door frame styling allows for maximum viewing area and features a two-point magnetic catch incorporated into the door frame. The plexiglass door is fully reversible for both left or right hinges mount.

Rack configurations are available (order with unique stock number) without side panels and door. When ganging a number of Rapid Racks, order only one rack with a pair of side panels. These panels can then easily be relocated to the proper positions.

Racks with Side Panels and Solid Top

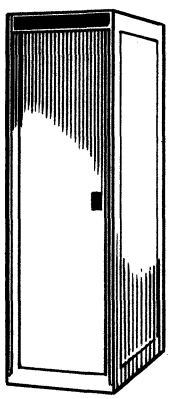
Stock No.	Mfr.'s Type	Panel Space	Overall Dimensions			EACH		
			Height A	Width B	Depth C	1	2	3-4
806Q2201	RRC2201GG	22.75	30.063	23.000	23.625	**477.32**	**465.67**	**454.59**
806Q3801	RRC3801GG	38.50	45.813	23.000	23.625	**606.31**	**591.53**	**577.44**
806Q4701	RRC4701GG	47.25	54.563	23.000	23.625	**667.38**	**651.10**	**635.60**
806Q6301	RRC6301GG	63.00	70.313	23.000	23.625	**727.20**	**709.46**	**692.57**
806Q7001	RRC7001GG	70.00	77.313	23.000	23.625	**792.61**	**773.28**	**754.87**
806Q7801	RRC7801GG	78.75	86.063	23.000	23.625	**917.89**	**895.51**	**874.19**

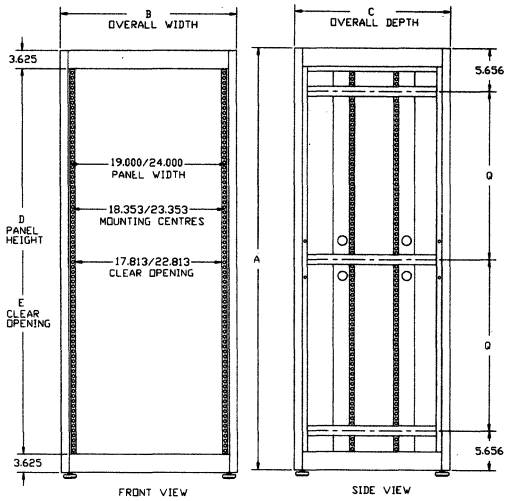
NOTE: Rapid Rack configurations identified above are supplied with: One Solid Door, Solid Top Panel, and Both Side Panels.

Extra Frames for Ganging

Stock No.	Mfr.'s Type	Panel Space	Overall Dimensions			EACH		
			Height A	Width B	Depth C	1	2	3-4
806Q2210	RRC2210GG	22.75	30.063	23.000	23.625	**275.97**	**269.23**	**262.82**
806Q3810	RRC3810GG	38.50	45.813	23.000	23.625	**320.71**	**312.89**	**305.44**
806Q4710	RRC4710GG	47.25	54.563	23.000	23.625	**351.25**	**342.68**	**334.52**
806Q6310	RRC6310GG	63.00	70.313	23.000	23.625	**385.72**	**376.72**	**367.35**
806Q7010	RRC7010GG	70.00	77.313	23.000	23.625	**419.50**	**409.27**	**399.53**
806Q7810	RRC7810GG	78.75	86.063	23.000	23.625	**453.15**	**442.10**	**431.57**

NOTE: Rapid Rack configurations identified above are supplied with: No Door, Solid Top Panel, and No Side Panels.





Castors

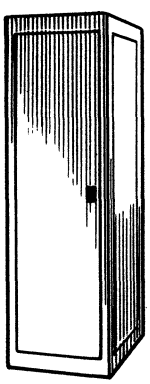
Feature ball bearing, swivel, hard composition wheels. Available in sets of four with mounting hardware. Because CONTEMPRA cabinet utilizes a built-in castor base, no drilling is required.

Stock No.*	Mfr.'s Type	Wheel Dia. (In.)	Overall Height (In.)	Mfr. Specified Cap. Per Set	EACH		
					1	2-14	15-24
806Q1425	1425B	3	3.7	360 lb.	**39.31**	**39.31**	**35.30**

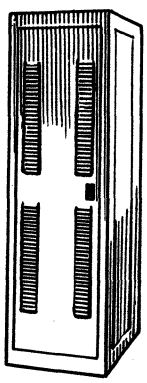
* Set of four.

Stock No.*	Mfr.'s Type	Wheel Dia. (In.)	Overall Height (In.)	Mfr. Specified Cap. Per Set	EACH		
					1	2-14	15-24
806Q0425	1425BH	3	3.8	1050 lb.	**152.90**	**148.65**	**144.64**

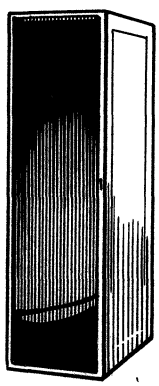
Doors



Solid Door



Louvered Door



Plexiglass Door

Solid Flush Door

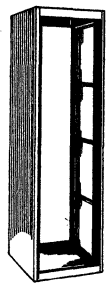
Stock No.	Mfr.'s Type	Panel H		EACH		
		In.	U	1	2	3-4
806Q1922	CDF1922SCG1	22	13	**61.83**	**60.32**	**58.88**
806Q1938	CDF1938SCG1	38	22	**85.48**	**83.40**	**81.41**
806Q1947	CDF1947SCG1	47	27	**110.06**	**107.38**	**104.82**
806Q1963	CDF1963SCG1	63	36	**116.44**	**113.60**	**110.89**
806Q1970	CDF1970SCG1	70	40	**125.65**	**122.58**	**119.66**
806Q1978	CDF1978SCG1	78	45	**137.26**	**133.91**	**130.72**

Louvered Flush Door

806Q2922	CDF1922LCG1	22	13	**72.56**	**70.79**	**69.11**
806Q2938	CDF1938LCG1	38	22	**115.56**	**112.75**	**110.06**
806Q2947	CDF1947LCG1	47	27	**127.34**	**124.23**	**121.27**
806Q2963	CDF1963LCG1	63	36	**135.08**	**131.78**	**128.64**
806Q2970	CDF1970LCG1	70	40	**145.54**	**141.99**	**138.61**
806Q2978	CDF1978LCG1	78	45	**157.91**	**154.06**	**150.39**

Plexiglass Surface Door

806Q3922	CDS1922WCG1	22	13	**226.85**	**221.32**	**216.05**
806Q3938	CDS1938WCG1	38	22	**252.51**	**246.35**	**240.48**
806Q3947	CDS1947WCG1	47	27	**265.97**	**259.48**	**253.30**
806Q3963	CDS1963WCG1	63	36	**291.09**	**283.99**	**277.33**
806Q3970	CDS1970WCG1	70	40	**298.99**	**291.69**	**284.75**
806Q3978	CDS1978WCG1	78	45	**349.92**	**341.39**	**333.26**



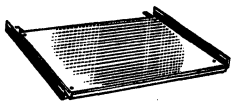
Economy Racks

A knock-down cabinet that couldn't be simpler to assemble—only one bolt in each corner locks the cabinet sides to the top or bottom. The strength comes from the interlocking structure. The four combination panel-accessory rails are fully adjustable. Four adjustable leveling glides are standard on all models. All cabinets are shipped complete except for front and back doors or panels. **Color:** GY2 gray, **Depth:** 24.5."

Stock No.	Mfr.'s Type	Cabinet Height	Clip-Nuts Qty.	EACH		
				1-9	10-24	25-49
806Q2000	REFK 19 035 24	35"	50	220.69	209.65	198.62
806Q2001	REFK 19 042 24	42"	50	240.75	229.09	217.03
806Q2002	REFK 19 049 24	49"	50	257.45	244.58	231.70
806Q2003	REFK 19 063 24	63"	80	306.92	291.57	276.22
806Q2004	REFK 19 070 24	70"	80	328.84	312.40	295.96

Pull-Out Chassis/Shelf

Use as a permanently mounted support shelf between accessory rails or as a pull-out chassis. Will accept 1.75" slides. Black rails, gloss white shelf.



Stock No.	Mfr.'s Type	Shelf Depth	Bracket Depth	EACH		
				1-14	15-24	25-Up
806-2058	RASC 1912 WH2	11.9	13.25"	32.02	29.74	27.80
806-2059	RASC 1916 WH2	15.9	17.25"	39.83	36.99	34.58
806-2060	RASC 1922 WH2	21.9	23.25"	39.53	37.55	35.58

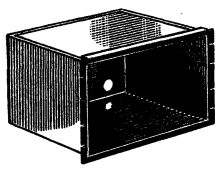
Clip Nuts

Extra #10-32 clip nuts to fit standard punched rails (racks include these).

Stock No.	Mfr.'s Type	Pkg. Qty.	EACH		
			1-5	6-49	50-74
806-2040	1421N25	25	9.45	8.48	7.82
806-2041	1421N100	100	32.81	29.47	26.13

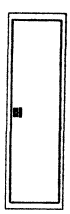
Equipment Shelf

A closed utility shelf with cord access holes 1.5" diameter in each bottom corner. Finished in GY2 Gray. **NOTE:** Inside width is 17.2". **Inside Depth:** 15.0". **Inside Height:** 1.0" less than panel space.



Stock No.	Mfr.'s Type	Panel Height	EACH		
			1-14	15-24	25-Up
806-2055	RASE 19 008 15	8.75"	53.06	48.98	45.48
806-2056	RASE 19 010 15	10.50"	55.09	50.85	47.23
806-2057	RASE 19 012 15	12.25"	61.54	56.81	52.75

Rack Doors



Full height doors that provide 2-point keyed locking, recessed handles. Instant removal by means of spring-loaded hinge pins and choice of hinge sides by means of inverting the door. The flush doors fit either side of the Economy racks, fill the panel space and close flush with the cabinet frame. **Color:** GY2 gray.

Stock No.	Mfr.'s Type	Panel Height	EACH		
			1-9	10-24	25-49
806Q2010	RSDF 19 035	35"	81.61	77.53	73.45
806Q2011	RSDF 19 042	42"	87.10	82.75	78.39
806Q2012	RSDF 19 049	49"	94.92	90.17	84.87
806Q2013	RSDF 19 063	63"	107.55	102.18	96.80
806Q2014	RSDF 19 070	70"	110.77	105.23	96.69

Drawer Slides

These are smooth operating, full travel ball bearing slides with quick release feature which enables equipment to be detached from slide easily.

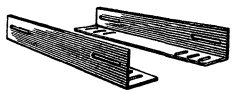
Stock No.	Mfr.'s Type	Length	Load	EACH		
				1-14	15-24	25-Up
806-2052	RASS 05 001 22	22"	42	63.07	58.23	54.06

Blank Rack Panels

Panels are made from high quality aluminum, .125". Color is GY2 gray.

Stock No.	Mfr.'s Type	Panel Height	EACH		
			1-5	6-49	50-74
806-2020	PBPA 19 001	1.75"	10.02	8.37	7.51
806-2021	PBPA 19 003	3.50"	12.20	10.19	9.15
806-2022	PBPA 19 005	5.25"	16.78	14.02	12.59
806-2023	PBPA 19 007	7.00"	19.04	15.90	14.27
806-2024	PBPA 19 008	8.75"	24.12	20.14	18.09
806-2025	PBPA 19 010	10.50"	29.20	24.38	19.41
806-2026	PBPA 19 012	12.25"	32.01	26.74	24.00
806-2027	PBPA 19 014	14.00"	36.67	30.62	27.50
806Q2028	PBPA 19 015	15.75"	39.91	33.33	29.94
806Q2029	PBPA 19 017	17.50"	41.65	34.77	31.23
806Q2030	PBPA 19 019	19.25"	45.23	37.77	33.94
806Q2031	PBPA 19 021	21.00"	50.96	42.55	38.22
806Q2032	PBPA 19 022	22.75"	57.48	47.99	43.11
806Q2033	PBPA 19 024	24.50"	51.41	47.40	43.34
806Q2034	PBPA 19 026	26.25"	64.66	53.99	48.50
806Q2035	PBPA 19 028	28.00"	68.26	56.99	51.19
806Q2036	PBPA 19 029	29.75"	71.85	59.99	53.88
806Q2037	PBPA 19 031	31.50"	76.10	63.55	57.08

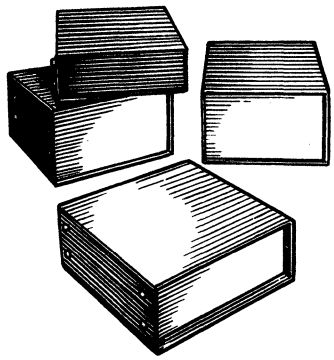
Adjustable Support Angles



Mount on accessory rails with either leg of angle used as support, depending upon requirements. Slots allow up-down or front-back adjustments. **Color:** gloss white.

Stock No.	Mfr.'s Type	Length	EACH		
			1-24	25-49	50-74
806-2061	RASA 12 WH2	9.97"	16.78	15.07	13.36
806-2062	RASA 16 WH2	16.28"	18.43	16.55	14.67
806-2063	RASA 22 WH2	21.00"	20.50	18.42	16.33

Metal Instrument Cases



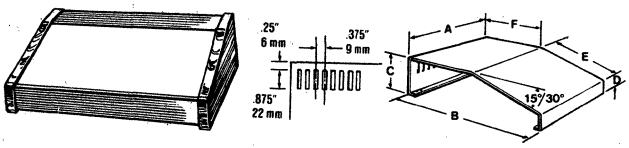
Low Profile Instrument Case

- **20 gauge CRS case with gulf blue baked-on textured finish**
- **.064" thick aluminum panels (one satin black and one smoke white for each case).**
- **Symmetrical design so either end can be front.**
- **6-32 Phillips nickel plated screws and self-adhesive rubber feet included.**

Stock No.	Mfr.'s Type	Dimensions Inches			EACH	
		L	W	H	1-9	10-Up
806-2090	1458 A3B	4.0	4.0	3.0	22.50	20.21
806-2091	1458 B4B	6.0	4.0	4.0	24.99	22.44
806-2092	1458 C3B	6.0	6.0	3.0	25.56	22.95
806-2093	1458 C4B	6.0	6.0	4.0	26.65	23.94
806-2094	1458 D3B	8.0	8.0	3.0	27.81	24.98
806-2095	1458 D4B	8.0	8.0	4.0	30.22	27.15
806-2096	1458 D5B	8.0	8.0	5.0	31.43	28.23
806-2097	1458 E3B	8.0	10.0	3.0	30.22	27.15
806-2098	1458 E4B	8.0	10.0	4.0	32.64	29.32
806-2099	1458 E5B	8.0	10.0	5.0	35.06	30.40
806-2100	1458 G3B	10.0	8.0	3.0	31.43	28.23
806-2101	1458 G4B	10.0	8.0	4.0	33.85	30.40
806-2102	1458 G5B	10.0	8.0	5.0	35.06	31.48

3

1456 Series Desk Top Consoles



These walnut cases are made with solid oiled walnut side panels mounted on a ventilated steel base. Hardware and rubber feet are supplied. Panels are finished with smooth semigloss off-white. Cases and panels are sold separately.

Stock No.*	Mfr.'s Type	EACH		
		1-14	15-24	25-34
806-1450*	1456PH3CWW	33.39	29.99	27.59
806-1452*	1456PL3CWW	35.69	32.06	28.42
806-1454*	1456FG4CWW	31.08	27.93	25.10
806-1456*	1456KK4CWW	34.54	31.66	27.51
806-1458*	1456PK4CWW	36.28	32.58	28.92
806-1444*	1456FE2CWW	31.08	27.92	24.75
806-1446*	1456KE3CWW	28.78	25.86	22.92
806-1448*	1456CE2CWW	23.49	21.10	18.71
806-1490†	1456PH3P	17.27	15.51	13.75
806-1492†	1456PL3P	18.65	16.75	14.86
806-1494†	1456FG4P	10.83	9.72	8.62
806-1496†	1456KK4P	14.97	13.44	11.92
806-1498†	1456PK4P	18.43	16.55	14.68
806-1484†	1456FE2P	9.57	8.59	7.61
806-1486†	1456KE3P	11.52	10.35	9.17
806-1488†	1456CE2P	6.58	5.91	5.23

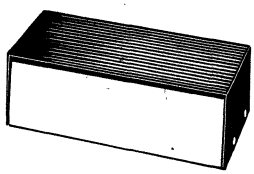
*Case. †Panel

Mfr.'s Type	Angle	Dimensions (Inches)					
		A	B	C	D	E	F
1456PH3	15°	14.0	8.3	3.0	1.3	6.3	2.2
1456PL3	15°	14.0	11.3	3.0	1.3	6.3	5.2
1456FG4	30°	6.5	7.2	4.0	1.1	5.7	2.2
1456KK4	30°	10.0	10.2	4.0	1.1	5.7	5.2
1456PK4	30°	14.0	10.2	4.0	1.1	5.7	5.2
1456FE2	15°	6.5	5.5	2.0	1.1	3.3	2.2
1456KE3	30°	10.0	5.5	3.0	1.1	3.7	2.2
1456CE2	15°	4.0	5.5	2.0	1.1	3.3	2.2

NOTE: Additional standard sizes available from factory.

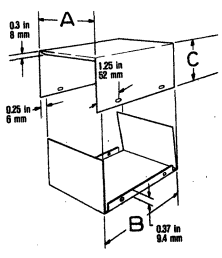
1454 Series Cases

- **20-Gauge CRS**
- **Sloping or Vertical Front Panels**
- **6-32 Nickel-Plated Screws Furnished**



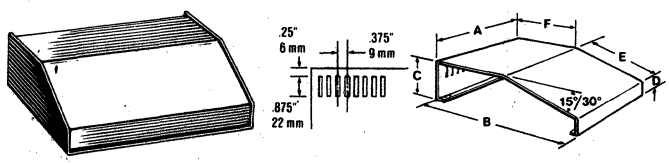
The 1454 series small cases are made of 20-gauge CRS. These cases have semigloss sand-colored panels with textured black covers. 6-32 Phillips nickel-plated screws and self-adhesive rubber feet are included. Reversing the case provides a choice of sloping or vertical front panels.

Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH	
		A	B*	C	1-14	15-24
806-1250	1454C	4.0	2.5	2.0	9.71	8.73
806-1255	1454E	4.0	5.0	2.0	10.42	9.36
806-1260	1454F	4.0	6.0	3.0	11.13	10.00
806-1265	1454H	5.0	7.5	2.5	11.60	10.42
806-1270	1454K	8.0	3.5	2.5	12.55	11.28
806-1275	1454L	5.0	6.0	4.0	12.09	10.86
806-1280	1454P	10.0	5.0	3.5	17.77	15.96



*Models with "B" dimension less than 5 inches have only one hole per side, centered in "B."

Assembled 1456 Metal Consoles



The case is formed .081" aluminum and has a textured baked-on blue enamel finish. The panel is aluminum and is finished with a smooth semigloss off-white finish. The panel and the case are packaged together.

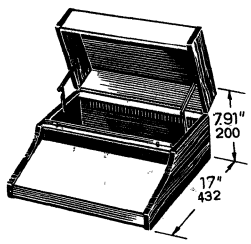
Stock No.*	Mfr.'s Type	EACH		
		1-14	15-24	25-34
806-1348	CE2WHBU	15.35	13.79	12.23
806-1344	FE2WHBU	19.47	17.48	15.50
806-1346	KE3WHBU	24.79	22.26	19.74
806-1350	PH3WHBU	35.75	32.11	28.48
806-1352	PL3WHBU	40.69	36.54	32.40
806-1354	FG4WHBU	24.67	22.16	19.66
806-1356	KK4WHBU	34.54	31.03	27.51
806-1358	PK4WHBU	41.45	37.23	33.00

*Consoles

Mfr.'s Type	Angle	Dimensions (Inches)					
		A	B	C	D	E	F
CE2WHBU	15°	4.0	5.5	2.0	1.1	3.3	2.2
FE2WHBU	15°	6.5	5.5	2.0	1.1	3.3	2.2
KE3WHBU	30°	10.0	5.5	3.0	1.1	3.7	2.2
PH3WHBU	15°	14.0	8.3	3.0	1.3	6.3	2.2
PL3WHBU	15°	14.0	11.3	3.0	1.3	6.3	5.2
FG4WHBU	30°	6.5	7.2	4.0	1.1	5.7	2.2
KK4WHBU	30°	10.0	10.2	4.0	1.1	5.7	5.2
PK4WHBU	30°	14.0	10.2	4.0	1.1	5.7	5.2

NOTE: Additional standard sizes available from factory.

SCED Series Consoles



This console has walnut sides; exterior panels have baked-on sand finish on 18-gauge steel. Black aluminum display panel may be replaced by a translucent Chromofilter. **Depth:** 17". **Combined height on SCEH:** 7.91". **Height on SCED:** 4.43". Lift up top on SCEH only.

Stock No.	Mfr.'s Type	Panel Width (Inches)	EACH		
			1-14	15-24	25-34
806-1302	SCED351143	14	126.64	113.75	100.86
806-1304	SCED431143	17	128.94	115.16	102.70
806-1308	SCEH502043	20	199.17	178.90	158.62

Chromofilter For SCED Consoles

Stock No.	Mfr.'s Type	Size (Inches)	EACH		
			1-5	6-49	50-99
806-1327	SC217R	2 × 17	14.71	12.28	11.04
806-1330	SC220R	2 × 20	17.33	14.47	12.99
806-1331	SC214R	2 × 14	12.08	10.10	9.07

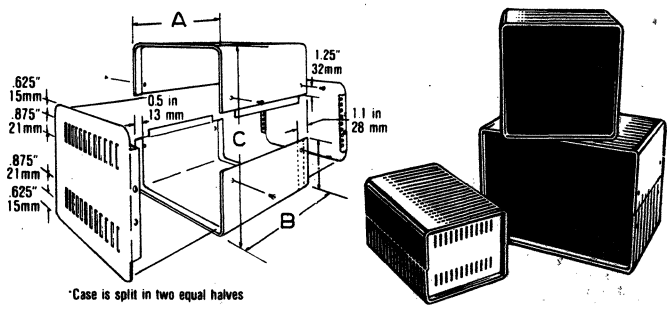
NOTE: Stocked in Red. Also available in green and natural gray. Additional standard sizes available from factory.

1401 Series Instrument Cases

This 20-gauge CRS case has a sand-colored baked-on textured finish and .064"-thick aluminum (1 satin black, 1 sand) panels. The rear panel is vented top and bottom, 6-32 Phillips nickel-plated screws and self-adhesive rubber feet included.

Stock No.	Mfr.'s Type	Dimensions (Inches)			EACH		
		A	B	C	1-14	15-24	25-34
806-1200	1401A	6	10	5.0	41.45	37.23	33.00
806-1202	1401C	8	10	9.0	47.26	42.44	37.63
806-1204	1401E	8	8	8.0	46.05	41.37	36.11
806-1206	1401G	10	12	9.0	57.56	51.71	45.85
806-1208	1401K	10	14	6.5	50.66	45.50	40.35
806-1210	1401P	14	10	5.0	49.50	44.47	39.43

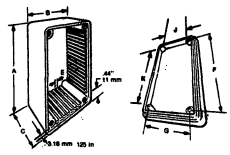
NOTE: Additional standard sizes available from factory.



*Case is split in two equal halves

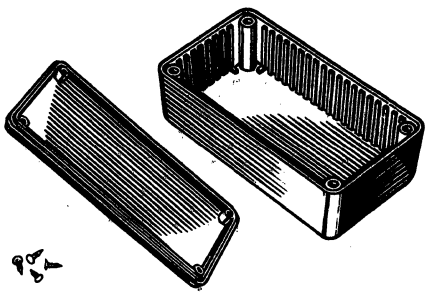
KJB Plastic Boxes

- Molded in an improved medium impact ABS thermoplastic with flame retardant properties
- Carries a UL flammability rating of 94 V-0 at 1.47 mm thickness and a continuous use temperature rating of 60°C
- Comes in colors: blue, black, gray, and beige
- Interlocking flange on the lid
- Comes with M3 × .5 × 8 mm, Phillips head screws, countersunk lid, and tapped integral brass bushings
- Integral card guides accept .062" p.c. cards
- Cat. No. 1591E has removable center brace
- Comes with ABS lid in matching color. Optional clear plastic or metal lids are available



Stock No.	Mfr.'s Type*	Stock No.	Mfr.'s Type*	Stock No.	Mfr.'s Type*	Stock No.	Mfr.'s Type*	Dimensions Inches					PC Card Clearance		EACH	
								A	B	C	F	G	J	K	1-9	10-99
806-1595	1591LBK	806-1549	1591LBU	806-1559	1591LGY	806-1565	1591LBG	3.34	2.20	1.38	2.79	1.65	1.34	2.48	5.09	4.27
806-1590	1591ABK	806-1550	1591ABU	806-1560	1591AGY	806-1566	1591ABG	3.93	1.97	.82	3.38	1.42	1.10	3.07	4.76	3.98
806-1591	1591BBK	806-1551	1591BBU	806-1561	1591BGY	806-1567	1591BBG	4.41	2.44	1.06	3.86	1.89	1.57	3.54	5.38	4.50
806-1592	1591CBK	806-1552	1591CBU	806-1562	1591CGY	806-1568	1591CBG	4.72	2.55	1.41	4.17	2.00	1.62	3.86	6.49	5.41
806-1593	1591DBK	806-1553	1591DBU	806-1563	1591DGY	806-1569	1591DBG	5.90	3.14	1.80	5.35	2.59	2.28	5.04	7.80	6.51
806-1594	1591EBK	806-1554	1591EBU	806-1564	1591EGY	806-1570	1591EBG	7.47	4.33	2.24	6.92	3.78	3.46	6.61	11.31	9.45

*BU = blue, BK = black, GY = light gray, and BG = beige.



1591 Styrene Plastic Cases

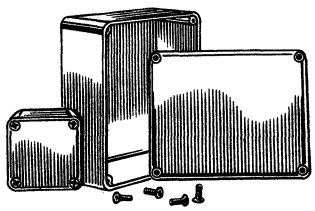
- A rugged small case molded in high impact Styrene Plastic
- Comes with four self-tapping #4 × 1/2 flat head screws countersunk into the lid
- Standard stock items available in black only
- Custom colors available on volume orders
- Optional RF shielded version available on special request
- Lid ads 4.0 mm/.156" to overall depth of box

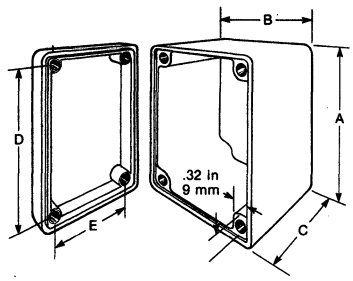
Stock No.	Mfr.'s Type*	Dimensions Inches					PC Card Clearance		Color	EACH	
		A	B	C	F	G	J	K		1-9	10-99
806-1605	1591LSBK	3.34	2.20	1.38	2.79	1.65	1.34	2.48	Black	3.10	2.59
806-1600	1591ASBK	3.93	1.97	.82	3.38	1.42	1.10	3.07	Black	2.74	2.30
806-1601	1591BSBK	4.41	2.44	1.06	3.85	1.89	1.57	3.54	Black	3.48	2.91
806-1602	1591CSBK	4.72	2.55	1.41	4.17	2.00	1.62	3.86	Black	4.10	3.43
806-1603	1591DSBK	5.90	3.14	1.80	5.35	2.59	2.28	5.04	Black	4.85	4.04
806-1604	1591ESBK	7.47	4.33	2.24	6.92	3.78	3.46	6.61	Black	6.83	5.71

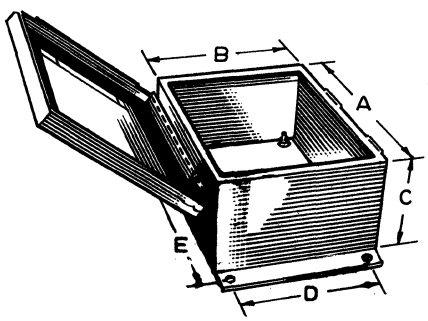
1590 Diecast Boxes

This improved diecast aluminum alloy box comes drilled and tapped with countersunk lid and four 6-32 Phillips screws. The box has interlocking flange on the lid. These boxes provide good R.F. shielding. Painted boxes available—call your nearest Allied facility.

Stock No.	Mfr.'s Type*	Dimensions—Inches					EACH		
		A	B	C	D	E	1-9	10-99	100-199
806-1530	1590A	3.62	1.50	1.07	3.24	1.12	7.12	5.94	5.33
806-1531	1590B	4.37	2.37	1.07	3.99	1.99	7.82	6.52	5.86
806-1532	1590BB	4.68	3.68	1.18	4.31	3.31	10.97	9.15	8.22
806-1533	1590C	4.68	3.68	2.06	4.31	3.31	12.36	10.33	9.27
806-1534	1590D	7.39	4.70	2.06	7.00	4.31	19.82	16.55	14.88
806-1535	1590E	7.39	4.70	3.06	7.00	4.31	21.11	17.62	15.83
806-1536	1590F	7.39	7.37	2.50	7.00	7.00	24.35	20.33	18.27
806-1537	1590LB	1.98	1.98	1.07	1.60	1.60	6.27	5.24	4.71







1414 Series Oil and Dust-Tight Enclosures

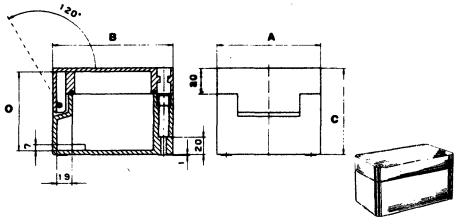
Built to CEMA/NEMA Type 12 specifications. Conforms to JIC standard EGP-1-1967. CSA certified, LR21001, for use with industrial control equipment in ordinary locations. UL Listed. Panel included. Door closing clamps and piano hinge are welded to outside of box. Steel clamps and screws included. All seam welded. Wall mounting brackets welded on back of all models. Suitable 10/32 weldnuts for mounting inner panels. Recoatable gray finish.

Stock No.	Mfr.'s Type	Box Size Inches A×B×C	Panel Size Inches L×W	Mounting Center		Shipping Weight Lbs.	EACH	
				E	D		1-9	10-24
806-1500	1414PHG	8×6×3.5	6.87×4.87	8.75"	5"	6.0	27.99	25.99
806-1505	1414PHI	10×8×4	8.87×6.87	10.75"	7"	10.0	35.16	32.65
806-1510	1414PHK	12×10×5	10.87×8.87	12.75"	9"	13.0	45.02	41.80
806-1514	1414PHA	4×4×3	No Panel	4.75"	2"	2.0	23.80	16.84
806-1515	1414PHM6	14×12×6	12.87×10.87	14.75"	11"	19.0	57.07	52.99
806-1516	1414PHC	6×4×3	4.87×2.87	6.75"	2"	3.0	22.52	20.92
806-1517	1414PHE	6×6×4	4.87×4.87	6.75"	4"	4.7	26.22	24.34
806-1518	1414PH06	16×14×6	14.87×12.87	16.75"	12"	23.0	67.95	63.10
806-1519	1414PHM8	14×12×8	12.87×10.87	14.75"	10"	20.0	65.19	60.53
806-1520	1414PH010	16×14×10	14.87×12.87	16.75"	12"	25.0	81.55	75.72

Fiberglass Enclosures

IP 65/DIN 40 050 Watertight. Meet NEMA/EEMAC Type 1, 2, 3, 3R, 4, 4X, 5, 12, 13 requirements. All ROLEC POLYDOOR enclosures are made of high-grade glass-fiber reinforced polyester resin matting. All metal parts are made of stainless steel, and the cover screws are made of glass-fiber reinforced polyester.

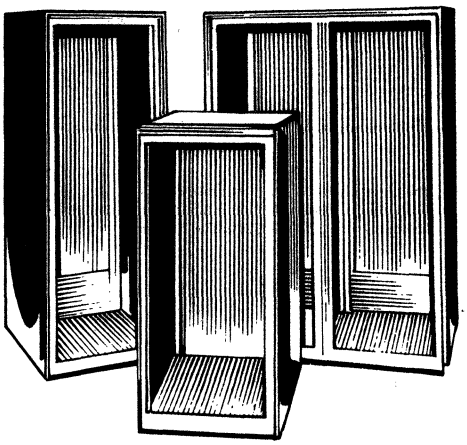
Stock No.	Mfr.'s Type	Overall Dimensions mm/in.			EACH		
		A	B	C	1-9	10-24	25-49
806-0120	R130-120-000	120/4.7	140/5.5	100/3.9	22.10	20.99	19.90
806-0122	R130-122-000	120/4.7	200/7.9	100/3.9	25.20	23.94	22.68
806-0124	R130-124-000	120/4.7	260/10.2	100/3.9	29.95	26.89	25.47

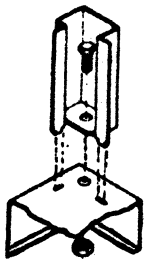


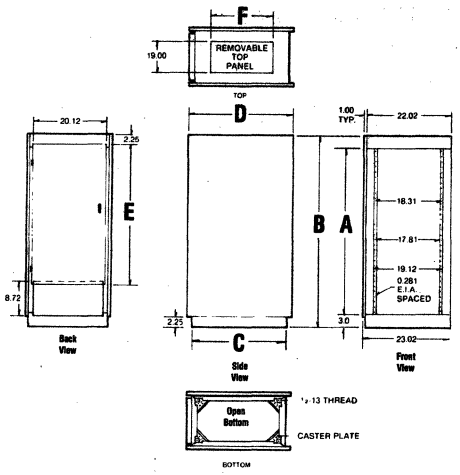
PFT Special Features

- Rack ships knockdown in four cartons
- Frame is 14 gage steel; corner posts are 13 gage steel
- Removable side panels made from 18 gage steel
- Lift-off rear door; 18 gage steel mounts L.H. side of frame
- Royal blue texture finish on rear door and side panels
- Ash white texture finish on the frame
- Multi-bay capability
- Knockdown concept saves up to 66% on freight cost

Unique Corner Post Design. PFT combines two unique design features to provide strength and rigidity associated only with expensive welded units. Interlocking tab and slot construction in the corner joints omits torsional movement of the corner posts. A heavy-gage mounting plate is welded (slightly recessed) into the top and bottom of each corner post. Thus, when the corner bolt is tightened, the cabinet base (or top) flexes slightly, ensuring that the joint is always preloaded in tension, providing additional rigidity.

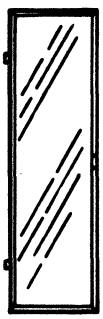






Stock No.*	Mfr.'s Type	A Opening	B Overall Height	C Inside Depth	D Outside Depth	E Rear Door Height	F Top Panel Depth	Weight lbs.	EACH
724Q1200	MVE19-42-25	42.125″	48.125″	25.25″	27.25″	34.88″	20.95″	152	588.75
724Q1201	MVE19-42-30	42.125″	48.125″	31.25″	33.25″	34.88″	26.95″	166	619.00
724Q1100	MVE19-61-25	61.375″	67.375″	25.25″	27.25″	54.13″	20.95″	187	657.75
724Q1102	MVE19-61-30	61.375″	67.375″	31.25″	33.25″	54.13″	26.95″	203	721.65
724Q1101	MVE19-70-25	70.125″	76.125″	25.25″	27.25″	62.88″	20.95″	206	698.50
724Q1103	MVE19-70-30	70.125″	76.125″	31.25″	33.25″	62.88″	26.95″	233	762.40
724Q1303	MVE19-77-25	77.125″	83.125″	25.25″	27.25″	69.88″	20.95″	239	815.05
724Q1304	MVE19-77-30	77.125″	83.125″	31.25″	33.25″	69.88″	26.95″	255	891.00

***NOTE:** Each Allied stock number refers to a 19″ equipment rack frame with a louvered top panel and open bottom. Also included in the bill of material is a pair of solid side panels and a solid rear door. 24″ rackmount cabinets also available. Contact your local Allied sales office.



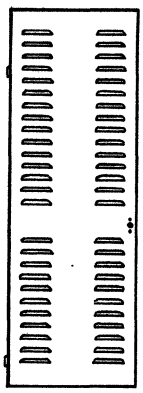
Plexidoors

- Lift off hinge design
- 3/16″ thick acrylic plexiglass
- Full length magnetic strip
- Smoked plexiglass style in stock
- Mounts on either side of frame
- Panel clearance of .88 is provided; VMR rail series should be used if a bezel or knob exceeding .88 exists on the rack mount equipment.

Stock No.	Mfr.'s Type	A Width	B Height	EACH
724-1204	PD1942NS	20.12″	43.63″	196.10
724-1202	PD1961NS	20.12″	62.88″	205.65
724-1203	PD1970NS	20.12″	71.63″	229.00
724-1305	PD1977NS	20.12″	78.63″	276.00

Louvered Short Doors

- 18 gauge cold rolled steel
- Louver size is .625″ × 4.50″; opening .250″
- Lift off hinge design
- Panel clearance 1.38″ provided
- Door mounts to left corner post only
- Louvered door packs are short doors and include 8.72″ × 19.00″ access panel
- Latch, adhesive-backed gasketing, 5/32 Allen wrench, and all hardware provided in pack
- Textured royal blue finish in stock

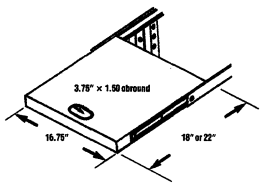


Stock No.	Mfr.'s Type	A Width	B Height	EACH
724-1207	MVESD1942LRH	20.12″	34.88″	92.25
724-1205	MVESD1961LRH	20.12″	54.13″	106.00
724-1206	MVESD1970LRH	20.12″	62.88″	118.75
724-1214	MVESD1977LRH	20.12″	69.88″	168.00

Identification Strip

- Royal blue formica to accent side panels
- Ideal for silkscreening
- Other standard colors available
- Strip fits into aluminum extrusion

Stock No.	Mfr.'s Type	Description	EACH
724-0001	ID01	Single Bay	4.80
724-0002	ID02	Double Bay	7.95
724-0003	ID03	Triple Bay	11.15



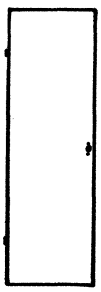
Sliding Shelves

- 16 gauge cold rolled steel
- Smooth ash white finish in stock
- Rated for 85 lbs capacity
- Slides have lock out feature
- Brackets, hardware, slides, and shelf included in pack

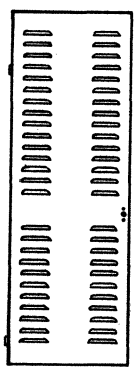
Stock No.	Mfr.'s Type	A Width	B Height	EACH
724-1301	SS1918SH	16.75″	18.00″	94.00
724-1302	SS1922SH	16.75″	22.00″	107.00

Solid Long Doors

- 18 gauge cold rolled steel
- Lift off hinge design
- Panel clearance 1.38″ provided
- Door mounts to left corner post only
- Can be used as a front or a rear door
- Latch, adhesive-backed gasketing, 5/32 Allen wrench, and all hardware provided in pack
- Textured royal blue finish in stock



Stock No.	Mfr.'s Type	A Width	B Height	EACH
724-1212	MVELD1942PR	20.12″	43.63″	137.20
724-1210	MVELD1961PR	20.12″	62.88″	154.35
724-1211	MVELD1970PR	20.12″	71.63″	171.45
724-1213	MVELD1977PR	20.12″	78.63″	222.95



Louvered Long Doors

- 18 gauge cold rolled steel
- Louver size is .625″ × 4.50″; opening .250″
- Lift off hinge design
- Panel clearance 1.38″ provided
- Door mounts to left corner post only
- Can be used as a front or a rear door
- Latch, adhesive-backed gasketing, 5/32 Allen wrench, and all hardware provided in pack
- Textured royal blue finish in stock

Stock No.	Mfr.'s Type	A Width	B Height	EACH
724Q1215	MVESD1942LR	20.12″	43.63″	159.25
724Q1216	MVESD1961LR	20.12″	62.88″	176.40
724Q1217	MVESD1970LR	20.12″	71.63″	193.55
724Q1218	MVESD1977LR	20.12″	78.63″	245.00

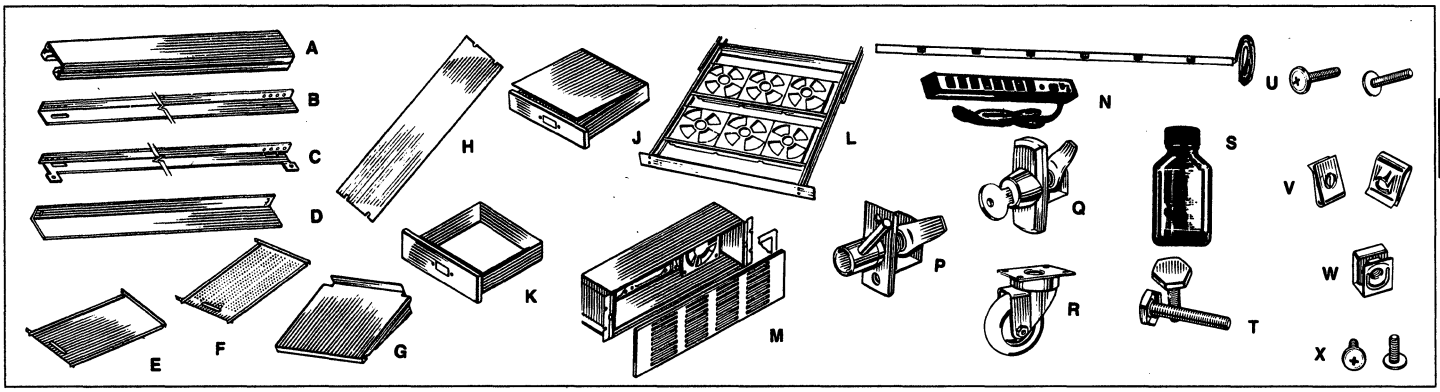


Fig. A—Horizontal Mounting Rail Kit
Providing infinite mounting of 90 degree tapped rails on the horizontal plain, these 16 gage unistruts are packed two per kit. Gold iridite zinc plated finish. All hardware included See recommended part number for cabinet depth below:

Stock No.	Mfr.'s Type	Rail Length	Cabinet Depth	EACH
724-1220	HMR25	20.25	25	24.40
724-1221	HMR30	26.25	30	26.50

Fig. B—90 Degree Vertical Tapped Mounting Rail Kit
Used to recess equipment inside cabinet and provide rear mounting of equipment of shorter length than cabinet depth, 90 degree rails are packed two per kit. Gold iridite zinc plated 12 gage cold rolled steel rails are tapped with 10/32 holes in the standard EIA pattern. Rails are used in conjunction with horizontal mounting rails above.

Stock No.	Mfr.'s Type	Rail Length	Cabinet Height	EACH
724-1222	VMR42	42.06	42	37.10
724-1223	VMR61	61.31	61	39.25
724-1224	VMR70	70.06	70	42.40
724-2224	VMR77	77.06	77	51.00

Fig. C—Vertical Corner Tapped Mounting Rail Kit
Rails attach directly behind MVE corner posts providing 10/32 tapped holes in the standard EIA hole pattern. These rails enable easy installation of equipment mounted to the MVE's front and rear corner posts. 12 gage cold rolled steel rails are zinc plated with a gold iridite finish. Mounting hardware included. Two rails per kit.

Stock No.	Mfr.'s Type	Rail Length	Cabinet Height	PER PAIR
724-1225	CTR42	42.06	42	37.10
724-1226	CTR61	61.34	61	40.30
724-1227	CTR70	70.06	70	43.50
724-2227	CTR77	77.06	77	53.00

Fig. D—Equipment Mounting Angles
Gold iridite zinc plated 11 gage steel mounting angles rated for 200 lbs. each. Obround holes and hardware (included) enable horizontal mounting to corner post sides. Angles measure 1.50″ high × 4.00″ wide. Two per kit.

Stock No.	Mfr.'s Type	Description	PER PAIR
724-1228	EMA25	For 25″ Deep MVE	17.00
724-1229	EMA30	For 30″ Deep MVE	20.15

Fig. E & F—Equipment Shelves: Solid and Perforated
Sixteen gage steel shelves are rated for 200 lb. loads. A 1″ × 6″ obround cable opening is 2″ from rear of shelf. Eleven gage 1″ × 19″ mounting flanges are welded to shelf front and rear for mounting to the four MVE corner posts. Perforated shelves have three 5″ wide bands of .25″ diamond-shaped perfs on .50″ centers to maximize cabinet air flow. Shelves are finished in oven baked smooth ash white paint. Mounting hardware included.

Stock No.	Mfr.'s Type*	Depth	Width	Cabinet Depth	EACH
724-1230	ESI925SH	24.50	17.72	25″	39.95
724-1231	ESI925PH	24.50	17.72	25″	42.40
724-1232	ESI930SH	30.50	17.72	30″	44.55
724-1233	ESI930PH	30.50	17.72	30″	53.00

*SH = Solid Shelf Type, PH = Perforated Shelf Type.

Fig. G—Fixed Writing Shelf
Smooth ash white 16 gage cold rolled steel shelf measures 22.00″ wide by 16.25″ deep and is rated for more than 200 pound loads. 14 gage CRS brackets mount to EIA spaced holes in MVE corner posts. Uses 6″ of panel mounting height. Brackets must be assembled to shelf prior to installation. Brackets and hardware included.
724-1234. FWS19 ..... **EACH 79.50**

Fig. H—Flat Filler Panels
.125″ Aluminum flat panels finished in textured Ash White. Six sizes.

Stock No.	Mfr.'s Type	Approx. Height	Actual Height	Actual Width	EACH
724-1235	FLI901H	1.75	1.71	19.00	6.40
724-1236	FLI903H	3.50	3.46	19.00	7.95
724-1237	FLI905H	5.25	5.21	19.00	11.15
724-1238	FLI907H	7.00	6.96	19.00	12.75
724-1239	FLI908H	8.75	8.71	19.00	15.90
724-1240	FLI910H	10.50	10.46	19.00	19.10

Fig. J & K—Drawers
Drawers rated for 200 pound loads are made from 18 gage cold rolled steel. Drawers mount to 14 gage zinc plated brackets and plated ball bearing slides provided. Front panels are oven baked textured ash white, all other surfaces smooth ash white. Front panel widths are 19.00″. Drawers are 15.67″ wide × 16.00″deep. All hardware is included. Assembly of drawer to brackets and slides required. Smooth finish ash white painted shelf lifts up for access to drawer. Writing shelf measures approximately 16.25″ wide × 15.00″deep.

Stock No.	Mfr.'s Type	Front Height	Drawer Height	EACH
724-1241	SDI903WH*	3.43	2.70	159.00
724-1242	SDI907OH	6.93	6.20	159.00
724-1243	SDI910OH	10.43	6.20	164.30

*Includes a hinged 16 gage writing shelf attached to rear of drawer.

Fig. L—630 CFM Blower
Utilizing just 1¾″ vertical panel space, this tray blower features six 105 CFM precision ballbearing fans. Blower mounts to EIA spaced holes in corner posts or tapped rails. Zinc plated housing, six foot long 115 V power cord. All hardware included.
724-1244. FN630 ..... **EACH 381.60**

Fig. M—315 CFM Blower
Three 105 CFM low noise precision ball bearing fans are mounted into zinc plated clear iridite steel housing. Unit requires 5.25″ of standard 19″ rack space and provides 315 CFM airflow, drawing just 45 W. Six foot long 115 V power cord supplied. Washable aluminum air filter mounts behind bright nickle plated 5.22″ × 19.00″ grille.
724-1245. FN315 ..... **EACH 222.60**

Fig. N—Electrical Outlet Strip
PFT offers two types of power outlet strips in silver gray. Enamel aluminum housing comes complete with three snap in mounting clips and hardware for installation to MVE corner posts. Six foot grounded power cord attached. Grounding type 15 A, 125 V receptacles. All components UL approved.
724-1246. 056006. 6 outlet, 60″ long ..... **EACH 102.85**
052408. 8 outlet, 24″ long ..... **EACH 75.00**

Fig. P—T-Door Handle
Zinc plated knurled head T bar eases entry without locking feature. No allen wrench (as supplied with standard MVE door latch) required. Universal adjustment feature assures snug closure of door. Fits all steel and vented doors. Plexidoors must be modified to accept T-door handle.
724-1247. TDH01 ..... **EACH 7.95**

Fig. Q—Lock Assembly
Quality key lock assembly features adjustable latch for vibration free closure of any steel door. Chrome plated steel lock fits all front and rear steel and vented doors. Note: plexidoors must be modified to accept lock.
724-1248. LK01 ..... **EACH 15.90**

Fig. R—Casters
3.5″ diameter heavy duty hard rubber casters are rated for 200 pounds each. Mount onto each set of four threaded studs welded into MVE bottom frame. Assembly hardware included.
724-1249. CA200 ..... **PK/4 36.60**

Fig. S—Touch-Up Paint
Brush applied touch-up paint can be purchased to provide a compatible finish. Quick drying. No mixing required. 3 ounces.

Stock No.	Mfr.'s Type	Color	EACH
724-1250	TUBR	Royal Blue	14.35
724-1251	TUBH	Ash White	14.35
724-1257	TUBB	Sky Blue	14.20
724-1258	TUBW	Off White	14.20

Note: Other colors available. Call Allied for price and delivery.

Fig. T—Leg Levellers
Threaded 3″ nickle plated steel levellers provide stable mounting of MVEs even on uneven surfaces. Levellers mount into threaded plates welded into bottom frame of Modular Vertical Enclosures.
724-1252. LL03S **PK/4 7.95**

Fig. U—1⅛″ Cup Head Screws
10/32 × 1⅛″ Phillips washer head panel mounting screws. Nickle plated steel screws with nylon washer. Recommended for mounting most equipment, filler panels, and panel mounted accessories.
724-1253. CHS1032K **PK/20 3.20**

Fig. V—Clip Nuts
10/32 plated U-type clip nut to be used with MVE 1046 or MVE 1049 panel mounting screws. Used in conjunction with 3/8″ EIA spaced holes on MVE corner posts. These clip nuts enable easy installation of equipment and panel mounted accessories without the expense of tapped mounting rails.
724-1254. CLP1032 ..... **PK/20 4.80**

Fig. W—Cage Nuts
For applications requiring greater load bearing strength than that afforded by clip nuts, 10/32 plated U-type clip nuts are used with panel mounting screws as with MVE 1047 clip nuts above.
724-1255. CAC1032 ..... **PK/20 12.75**

Fig. X—⅝″ Cup Head Screws
10/32 × ⅝″ Phillips washer head panel mounting screws. Nickle plated steel screws with nylon washer.
724-1256. CHS1032F **PK/20 3.20**

Modifications

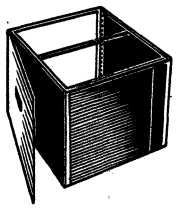
PFT does a significant amount of modifications to its standard moduline chassis and modubox instrument cases (pages 64 and 65):

- **25 piece minimum quantity**
- **Cut outs, rounds, squares**
- **Connector openings**
- **Lead times generally 5-6 weeks after receipt of order.**
- **Press in studs, standoffs**
- **Weld in studs, standoffs**
- **Silkscreening**
- **Special paint capability**
- **Dimensional Changes**

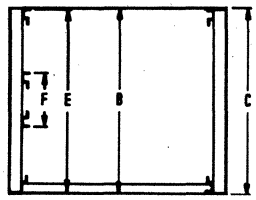
Send your documentation to Allied for immediate price and delivery information!

3

PFT Mod-U-Desk Racks



Top View



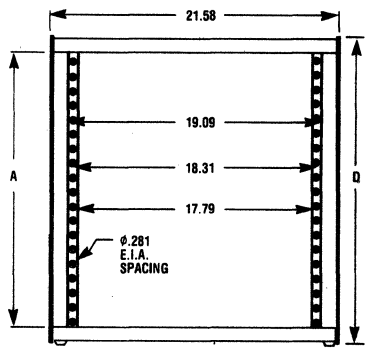
Available for Immediate Delivery!

Design Features

- ► Knockdown—UPS shippable assembles in minutes
- ► Freight savings
- ► Top, bottom, and internal side panels made from .060″ aluminum
- ► External dress sides—.125 aluminum
- ► .060 internal cross bars are zinc plated with gold chromate finish
- ► .060 mounting rails are adjustable front to back on 1″ increments.
- ► ABS plastic handles provided
- ► Non-marring rubber feet
- ► Black oxide screws for assembly
- ► 16 clip nuts and cup head screws are provided

Stock No.*	Mfr.'s Type	A Vertical Opening	B Internal Depth	C Overall Depth	D Overall Height	E Maximum Rail Spacing	F Minimum Rail Spacing	EACH
724-1912	MDR 191217 PRR	12.38	17.25	17.50	14.62	17.00	5.00	245.00
724-1915	MDR 191517 PRR	15.88	17.25	17.50	18.12	17.00	5.00	265.00
724-1919	MDR 191917 PRR	19.38	17.25	17.50	21.62	17.00	5.00	289.00
724-1922	MDR 192217 PRR	22.88	17.25	17.50	25.12	17.00	5.00	326.00
724-1923	MDR 191223 PRR	12.38	23.25	23.50	14.62	23.00	11.00	293.00
724-1924	MDR 191523 PRR	15.88	23.25	23.50	18.12	23.00	11.00	308.00
724-1925	MDR 191923 PRR	19.38	23.25	23.50	21.62	23.00	11.00	343.00
724-1926	MDR 192223 PRR	22.88	23.25	23.50	25.12	23.00	11.00	379.00

Front View

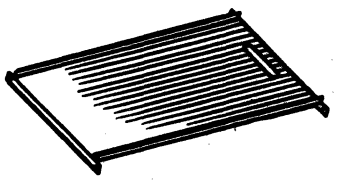


Stocked in royal blue only. Other colors also available. (Off white, black, ash white, blue, light grey, charcoal, and tan). See color chart on following page. Top and bottom panels can be vented. PFT standard venting consists of 2-3.375″ strips of .125″ × .375″ obround holes on .250″ centers.

PFT Mod-U-Desk Rack Accessories

PFT's MOD-U-DESK RACK series is available with many desirable accessories such as Front and Rear Filler Panels, Casters, leg levelers, Fixed Equipment Shelves and Fans.

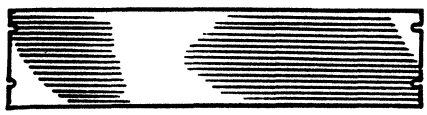
Solid Equipment Shelves



Stock No.	Mfr.'s Type	Depth	Width	Shelf Height	Cabinet Depth	EACH
724-1914	ES1914SH	13.88″	17.72″	1″	17″	31.35
724-1920	ES1920SH	19.88″	17.72″	1″	23″	36.50

NOTE: Stock color is Ash White; other colors available with slightly longer lead time. Shelves are packaged with shelf brackets and hardware.

Flat Filler Panels



.125″ Aluminum flat panels finished in textured Ash White. Six sizes.

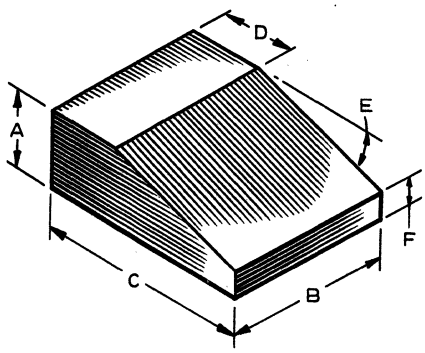
Stock No.	Mfr.'s Type	Approximate Height	Actual Height	Actual Width	EACH
724-1235	FL1901H	1.75	1.71	19.00	6.40
724-1236	FL1903H	3.50	3.46	19.00	7.95
724-1237	FL1905H	5.25	5.21	19.00	11.15
724-1238	FL1907H	7.00	6.96	19.00	12.75
724-1239	FL1908H	8.75	8.71	19.00	15.90
724-1240	FL1910H	10.50	10.46	19.00	19.10

PFT Modubox Enclosures

Construction. Modubox enclosures are of high quality construction. Each enclosure has two parts: a sturdy texture painted wrapper of .090″ aluminum and a smooth finished insert of .062″ aluminum. The inserts are typically modified with cut-outs and silkscreening. Part numbers reflect the basic shapes offered. **MBK:** Modubox Keyboard style. **MBS:** Modubox Sloped front style. **MBL:** Modubox Linear (rectangular) style. Part numbers follow the rough outside dimensions. For example, an MBS030706BW is a Sloped front Modubox 3″ high, 7″ wide, and 6″ deep with a Blue wrapper and White insert.

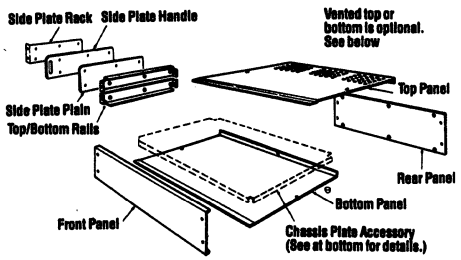
- ► EPA approved polyurethane finishes
- ► Venting, cutouts, other modifications, and silkscreening available

Stock No.	Mfr.'s Type	Size						EACH		
		Base			Insert					
		A	B	C	D	E	F	1-9	10-24	25-Up
724-1086	MBK2-5-5	1 13/16	4 13/16	4 15/16	1.05	15	1.05	14.40	13.79	12.87
724-1087	MBS3-4-6	2 3/4	4 1/4	6 13/16	N/A	15	1.10	14.40	13.79	12.87
724-1088	MBK2-7-6	2 15/16	6 1/2	5 13/16	2.91	35	.50	15.05	14.43	13.47
724-1089	MBS3-7-6	3 1/8	6 3/4	5 3/8	N/A	15	1.68	16.00	15.36	14.33
724-1090	MBS5-6-6	4 13/16	5 13/16	5 13/16	4.46	75	N/A	17.60	16.86	15.73
724-1091	MBL4-6-10	3 13/16	5 13/16	9 13/16	9.81	90	3.81	20.80	19.93	18.60
724-1092	MBS4-12-11	3 13/16	11 13/16	10 13/16	9.73	75	N/A	31.95	30.64	28.60
724-1093	MBS4-10-10	3 1/2	10	10	8.00	50	1.06	30.35	29.14	27.20
724-1094	MBK5-10-10	4 13/16	9 13/16	9 13/16	1.94	21	1.78	31.95	30.64	28.60
724-1095	MBK6-12-10	5 3/4	11 13/16	9 15/16	3.03	23	2.82	36.80	35.29	32.93
724-1096	MBK3-10-11	2 13/16	9 13/16	10 13/16	5.03	13	1.48	30.35	29.14	27.20
724-1097	MBK3-13-11	2 13/16	12 13/16	10 13/16	5.03	13	1.48	31.95	30.64	28.60
724-1098	MBK3-17-11	2 13/16	16 13/16	10 13/16	5.03	13	1.48	40.00	38.29	35.73
724-1099	MBK3-20-11	2 13/16	19 13/16	10 13/16	5.03	13	1.48	43.85	41.07	38.33

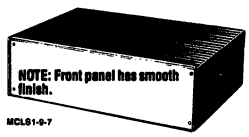


Sky Blue wrapper/Offwhite insert in Allied stock. Other colors from factory with slight additional lead time. See color chart on page 65.

PFT Features



- .062 aluminium chassis/.125 aluminum side panels
- Texture finish
- Knockdown construction
- Accessability to internal components
- Replacement parts available
- Modularity allows for ease of modifications
- Chassis consists of one front panel, one rear panel, one top panel, one bottom panel, four top bottom rails, and hardware.



Standard Colors

Color	Fed. Std.
Exterior, Rear Panels	
Dark Grey	595A-26081
Sky Blue*	595A-25109
Black	595A-27038
Tan	595A-23448
Royal Blue	595A-25045
Front Panels	
Light Grey	595A-26493
Off White*	595A-27722
Tan	595A-23448
Black	595A-27038
Ash White	595A-26622

*Sky Blue and Off White in Allied stock; other standard colors from factory slight lead time.

Mod-U-line Cabinet Less Sides (MCLS)

1 Inch MCLS

Stock No.	Mfr.'s Type	Size H(")	Size W(")	Size D(")	Matching Panel	EACH 1-9	EACH 10-24	EACH 25-Up
724-1000	MCLS1-9-7	19/16	8 5/8	6 7/8	A	33.46	31.07	29.00
724-1001	MCLS1-17-7	19/16	16 5/8	6 7/8	A	38.54	35.78	33.40
724-1002	MCLS1-17-9	19/16	16 5/8	8 7/8	B	40.15	37.29	34.80
2 Inch MCLS								
724-1003	MCLS2-8-9	27/16	8 3/16	8 7/8	C	33.46	31.07	29.00
724-1004	MCLS2-17-9	27/16	16 5/8	8 7/8	C	46.85	43.50	40.60
724-1005	MCLS2-17-12	27/16	16 5/8	11 7/8	D	55.23	51.28	47.87
3 Inch MCLS								
724-1006	MCS3-7-7	35/16	6 5/8	6 7/8	E	35.15	32.64	30.47
724-1007	MCLS3-9-7	35/16	8 5/8	6 7/8	E	33.46	31.07	29.00
724-1008	MCLS3-9-9	35/16	8 5/8	8 7/8	F	35.15	32.64	30.47
724-1009	MCLS3-12-7	35/16	11 5/8	6 7/8	E	36.85	34.21	31.93
724-1010	MCLS3-12-9	35/16	11 5/8	8 7/8	F	43.54	40.42	37.73
724-1011	MCLS3-12-12	35/16	11 5/8	11 7/8	G	51.85	48.14	44.93
724-1012	MCLS3-17-7	35/16	16 5/8	6 7/8	E	36.85	34.21	31.93
724-1013	MCLS3-17-9	35/16	16 5/8	8 7/8	F	45.15	41.93	39.13
724-1014	MCLS3-17-12	35/16	16 5/8	11 7/8	G	51.85	48.14	44.93
724-1015	MCLS3-17-14	35/16	16 5/8	13 7/8	H	58.54	54.36	50.73
5 Inch MCLS								
724-1016	MCLS5-7-7	55/16	6 5/8	6 7/8	J	34.31	31.86	29.73
724-1017	MCLS5-9-7	55/16	8 5/8	6 7/8	K	35.15	32.64	30.47
724-1018	MCLS5-9-9	55/16	8 5/8	8 7/8	K	36.85	34.21	31.95
724-1019	MCLS5-9-12	55/16	8 5/8	11 7/8	M	40.15	37.29	34.80
724-1020	MCLS5-12-7	55/16	11 5/8	6 7/8	J	38.54	35.79	33.40
724-1021	MCLS5-12-9	55/16	11 5/8	8 7/8	K	40.15	37.29	34.80
724-1022	MCLS5-12-12	55/16	11 5/8	11 7/8	M	43.54	40.43	37.73
724-1023	MCLS5-17-7	55/16	16 5/8	6 7/8	J	43.54	40.43	37.73
724-1024	MCLS5-17-9	55/16	16 5/8	8 7/8	K	48.54	45.07	42.06
724-1025	MCLS5-17-12	55/16	16 5/8	11 7/8	M	56.92	52.86	49.33
724-1026	MCLS5-17-14	55/16	16 5/8	13 7/8	N	58.54	54.36	50.73
7 Inch MCLS								
724-1027	MCLS7-9-12	613/16	8 5/8	11 7/8	Q	46.85	43.50	40.60
724-1028	MCLS7-12-9	613/16	11 5/8	8 7/8	P	48.53	45.07	42.06
724-1029	MCLS7-12-12	613/16	11 5/8	11 7/8	O	55.23	51.29	47.86
724-1030	MCLS7-17-9	613/16	16 5/8	8 7/8	P	55.23	51.29	47.86
724-1031	MCLS7-17-12	613/16	16 5/8	11 7/8	Q	63.62	59.07	55.13
724-1032	MCLS7-17-14	613/16	16 5/8	13 7/8	R	66.92	62.41	58.00
8 Inch MCLS								
724-1033	MCLS8-17-12	89/16	16 5/8	11 7/8	S	73.62	68.36	63.80
724-1034	MCLS8-17-14	89/16	16 5/8	11 7/8	T	80.31	74.57	69.60
10 Inch MCLS								
724-1035	MCLS10-17-14	109/16	16 5/8	13 7/8	V	85.31	79.21	73.93

Mod-U-Line Side Panels (Priced As Pairs)

NOTE: Must be specified with the cabinet at left.

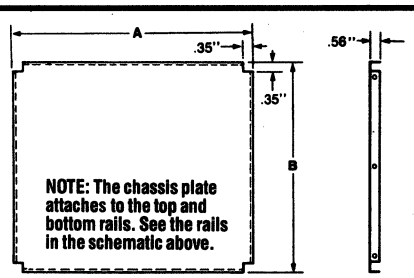
Stock No.	Mfr.'s Type	Panel Type	Fits Cabinet	EACH 1-9	EACH 10-24	EACH 25-Up
724-1036	SPP1-7	Plain	A	9.08	8.43	7.87
724-1037	SPR1-7	Rack	A	9.54	8.86	8.27
724-1038	SPP1-9	Plain	B	10.15	9.43	8.80
724-1039	SPR1-9	Rack	B	9.77	9.07	8.74
724-1040	SPP2-9	Plain	C	10.77	10.00	9.33
724-1041	SPR2-9	Rack	C	11.38	10.57	9.87
724-1042	SPP2-12	Plain	D	14.25	13.23	12.35
724-1043	SPR2-12	Rack	D	14.38	13.36	12.47
724-1044	SPP3-7	Plain	E	10.54	9.79	9.13
724-1045	SPH3-7	Handle	E	11.38	10.57	9.87
724-1046	SPR3-7	Rack	E	10.92	10.14	9.47
724-1047	SPP3-9	Plain	F	12.08	11.21	10.47
724-1048	SPH3-9	Handle	F	13.38	12.43	11.60
724-1049	SPR3-9	Rack	F	12.77	11.86	11.07
724-1050	SPP3-12	Plain	G	16.77	15.57	14.53
724-1051	SPH3-12	Handle	G	17.61	16.35	15.26
724-1052	SPR3-12	Rack	G	17.07	15.85	14.80
724-1053	SPP3-14	Plain	H	17.61	16.35	15.26
724-1054	SPH3-14	Handle	H	18.46	17.14	16.00
724-1055	SPR3-14	Rack	H	18.07	16.78	15.66
724-1056	SPP5-7	Plain	J	13.07	12.14	11.33
724-1057	SPH5-7	Handle	J	14.23	13.21	12.33
724-1058	SPR5-7	Rack	J	13.61	12.24	11.80
724-1059	SPP5-9	Plain	K	15.07	14.00	13.06
724-1060	SPH5-9	Handle	K	16.76	15.57	14.53
724-1061	SPR5-9	Rack	K	16.46	15.28	14.26
724-1062	SPP5-12	Plain	M	21.30	19.78	18.46
724-1063	SPH5-12	Handle	M	22.61	21.00	19.60
724-1064	SPR5-12	Rack	M	21.76	20.21	18.86
724-1065	SPP5-14	Plain	N	22.61	21.00	19.60
724-1066	SPH5-14	Handle	N	25.00	23.21	21.66
724-1067	SPR5-14	Rack	N	23.92	22.21	20.73
724-1068	SPP7-9	Plain	P	19.40	17.71	16.53
724-1069	SPH7-9	Handle	P	21.76	20.21	18.86
724-1070	SPR7-9	Rack	P	19.30	17.92	16.73
724-1071	SPP7-12	Plain	O	25.92	24.07	22.46
724-1072	SPH7-12	Handle	O	27.76	25.78	24.06
724-1073	SPR7-12	Rack	O	26.46	24.57	22.93
724-1074	SPP7-14	Plain	R	28.15	26.14	24.40
724-1075	SPH7-14	Handle	R	29.61	27.50	25.66
724-1076	SPR7-14	Rack	R	34.00	31.57	29.46
724-1077	SPP8-12	Plain	S	31.30	29.07	27.13
724-1078	SPH8-12	Handle	S	33.46	31.07	29.00
724-1079	SPR8-12	Rack	S	31.46	29.21	27.26
724-1080	SPP8-14	Plain	T	35.15	32.64	30.46
724-1081	SPH8-14	Handle	T	50.10	35.78	33.40
724-1082	SPR8-14	Rack	T	36.60	33.42	31.20
724-1083	SPP10-14	Plain	V	41.84	38.85	36.26
724-1084	SPH10-14	Handle	V	45.15	41.92	39.13
724-1085	SPR10-14	Rack	V	42.69	39.64	37.00

Mod-U-Line Venting

Moduline cabinets can be ordered with three venting options. To specify a vented top panel use the part number suffix **"VT"**. Use **"VB"** to order a MCLS with vented bottom panel. When both top and bottom panels are to be vented, use the suffix **"VTB"**. In each case a 1" wide strip of ventilation holes .125" diameter on .25" centers is provided. Ventilation can be provided to customer specifications also. Please refer to MODIFICATIONS section on page 63. Add 4.90 to the cost per vented panel.

Mod-U-Line Chassis Plates

Stock No.	Mfr.'s Type	A Width	B Length	EACH
724-1120	CP 0707	6.63	5.12	9.76
724-1121	CP 0809	8.19	7.12	9.76
724-1122	CP 0907	8.63	5.12	11.07
724-1123	CP 0909	8.63	7.12	11.76
724-1124	CP 0912	8.63	10.12	15.23
724-1125	CP 1207	11.63	5.12	12.92
724-1126	CP 1209	11.63	7.12	15.23
724-1127	CP 1212	11.63	10.12	19.07
724-1128	CP 1707	16.63	5.12	14.61
724-1129	CP 1709	16.63	7.12	16.76
724-1130	CP 1712	16.63	10.12	19.46
724-1131	CP 1714	16.63	12.12	21.30



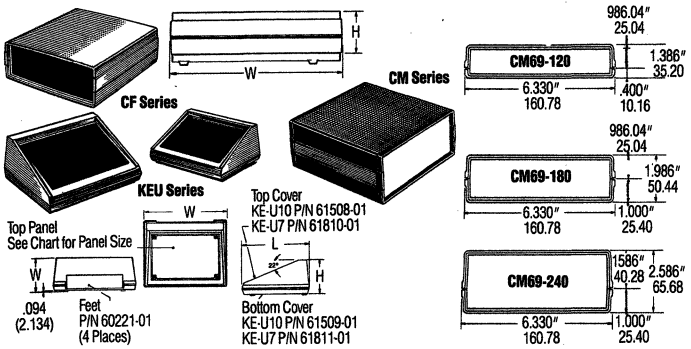
NOTE: The chassis plate is typically used as a substrate to mount power supplies and printed circuit boards.

Electronic Enclosure Kits

PacTec Series Instrument Enclosure Kits have been designed to meet the ever-expanding needs of today's electronic industry. Versatile and durable, they are made of molded ABS (ACRYLONITRILE BUTADIENE STYRENE — 94HBSTD - 1/8" thick). They feature integral mounting boxes and vertical card slides. The kits are individually packaged and include fillers, spacers, and break-away panels, as well as all necessary assembly hardware. The Kits are available in Tan, Grey, Black and PC Bone colors.

To order desired color, insert number of color where N appears in stock number: 1 - Black; 2 - PC Bone; 3 - Tan; 4 - Gray.

Designer Series Enclosure Kits



CF — Designer Series

This versatile series of enclosures offers sizes to fit analytical instrumentation, modems, personal computer peripheral equipment, medical electronics plus a myriad of other applications.

Prototyping kits are individually packaged and include front and rear panels, sized to fit, and necessary assembly hardware.

Stock No.	Mfr.'s Type	Inside Dimensions Inches			EACH	
		Height	Width	Length	1-9	10-Up
508-650N	CF-125	1.07	7.80	8.00	**35.97**	**32.06**
508-660N	CF-175	1.57	7.80	8.00	**37.82**	**33.70**
508-670N	CF-225	2.07	7.80	8.00	**39.62**	**35.31**
508-680N	CF-275	2.57	7.80	8.00	**41.50**	**36.99**

CM — Desk Top Miniature Enclosures

The Series CM is a smartly styled desk top miniature enclosure, featuring lightweight and exceptional durability.

This versatile series of compact enclosures offers sizes to fit analytical instrumentation, modems, personal computer peripheral equipment—in short, any small-footprint, low-profile product you have in mind.

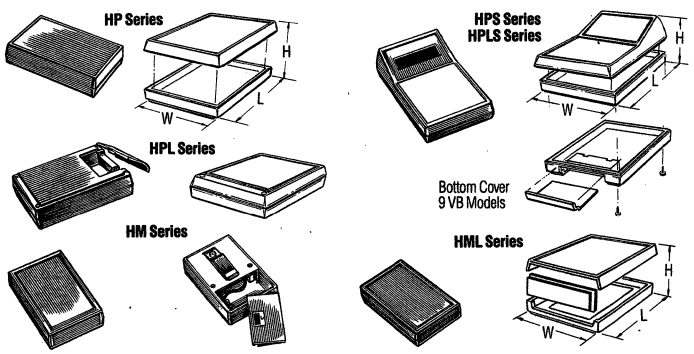
Stock No.	Mfr.'s Type	Inside Dimensions Inches			EACH	
		Height	Width	Length	1-9	10-Up
508-401N	CM3-150	1.19	2.34	4.81	**12.30**	**11.39**
508-403N	CM5-125	.95	4.10	4.81	**13.09**	**12.12**
508-404N	CM5-200	1.70	4.10	4.81	**16.06**	**14.87**
508-406N	CM6-225	1.95	4.85	5.75	**18.26**	**16.91**
508-400N	CM6-300K	2.70	4.85	5.75	**19.49**	**18.04**
508-411N	CM69-120	.93	5.12	8.94	**20.39**	**18.88**
508-412N	CM69-180	1.54	5.12	8.94	**22.45**	**20.79**
508-413N	CM69-240	2.14	5.12	8.94	**24.54**	**22.72**
508-407N	CM86-225	1.95	6.87	5.75	**21.41**	**19.83**

KEU — Sloped Top Enclosures

These new, sloped-top enclosures are a projection screen for your imagination. Create a system expansion—a specific-function keyboard, a joystick to trackball-based input device, a miniature printer, even a miniature-CRT output device. Or bring a new instrument to life—KEU enclosures are perfect for medical instruments, audio-electronics, strip-chart recorders, lighting dimmer controllers, and so much more.

Stock No.	Mfr.'s Type	Inside Dimensions Inches			EACH	
		Height	Width	Length	1-9	10-Up
508-630N	KE-U7	3.10	7.00	5.00	**26.11**	**24.76**
508-640N	KE-U10	4.20	10.00	8.03	**35.55**	**32.92**

The H-Series Enclosures



H series are ideal for keypads, programmable controllers, pocket pagers, computer input interfaces, and more. A selection of three basic sizes, plus variations with sloped displays and/or battery compartments, ensures a tailored fit for the device you have in mind.

The Model HP is the standard, while the HPL is an elongated size, and the HM is a mini version. All can be modified and customized inexpensively. And a wide variety of options is available to add the finishing touches to make your product useful and attractive in the field. Blank slope panels and bezel slope panels are provided with the HPS and HPLS models while the HM kit contains a blank end panel. All models with -9VB in part number has a 9VB compartment. Models with BC in part number has a belt clip included. Models with 9VB-BC in part number has both.

Stock No.	Mfr.'s Type	Inside Dimensions Inches			EACH	
		Height	Width	Length	1-9	10-Up
508-780N	HP	.92	3.37	5.52	**8.41**	**7.98**
508-790N	HP-BC	.92	3.37	5.52	**12.66**	**12.01**
508-800N	HP-9VB	1.08	3.37	3.97	**11.33**	**10.74**
508-810N	HP-9VB-BC	1.08	3.37	3.97	**15.33**	**14.54**
508-840N	HPL	.92	3.78	7.28	**11.40**	**10.81**
508-850N	HPL-BC	.92	3.78	7.28	**15.50**	**14.69**
508-860N	HPL-9VB	1.08	3.78	5.75	**13.83**	**13.11**
508-870N	HPL-9VB-BC	1.08	3.78	5.75	**18.21**	**17.27**

The HPS and HPLS Series Enclosures

In the field, on the factory floor, even in the office, your electronics device is often judged by how it looks and feels. The HPLS has the look and feel of competence. It's light in weight, but substantial in appearance and feel—a no-nonsense enclosure.

The HPLS can be modified to give a custom look to programmable controllers, test instruments, or anything that needs either a sloped display, a good-sized keypad, or both. This off-the-shelf enclosure can be custom modified—inexpensively—for display bezels, openings for controls and keypads, logos and markings, cost-saving assembly features, or whatever you require. There is even a version that includes a 9V-battery compartment.

Stock No.	Mfr.'s Type	Inside Dimensions Inches			EACH	
		Height	Width	Length	1-9	10-Up
508-820N	HPS	.92	3.37	5.52	**10.36**	**9.83**
508-830N	HPS-9VB	1.08	3.37	3.97	**11.85**	**11.23**
508-880N	HPLS	.92	3.78	7.28	**12.56**	**11.91**
508-890N	HPLS-9VB	1.08	3.78	5.75	**15.36**	**14.57**

The HM and HML Series Enclosures

Model HM is just the package you need to extend control capabilities or add options to your larger systems. Whatever your application, the cost-effective features and off-the-shelf availability of the HM are advantages you can use. Plus the HM can be fully customized to your electronic and aesthetic requirements.

The unit is composed of three pieces: top cover, bottom cover, and front panel. The covers and front panel can be inexpensively custom molded for controls or LED readouts. They can also be screen printed for custom identification. Additional options include a belt clip and 9V battery compartment.

Stock No.	Mfr.'s Type	Inside Dimensions Inches			EACH	
		Height	Width	Length	1-9	10-Up
508-700N	HM	.71	2.16	3.46	**5.62**	**5.32**
508-710N	HM-BC	.71	2.16	3.46	**8.73**	**8.28**
508-720N	HM-9VB	.85	2.16	2.20	**6.55**	**6.21**
508-730N	HM-9VB-BC	.85	2.16	2.20	**9.86**	**9.35**
508-740N	HML	.75	2.54	4.36	**7.05**	**6.68**
508-750N	HML-BC	.75	2.54	4.36	**10.25**	**9.72**
508-760N	HML-9VB	.85	2.54	2.96	**8.20**	**7.77**
508-770N	HML-9VB-BC	.85	2.54	2.96	**11.41**	**10.82**

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

Electronic Enclosure Kits

PacTec Series Instrument Enclosure Kits have been designed to meet the ever-expanding needs of today's electronic industry. Versatile and durable, they are made of molded ABS (ACRYLONITRILE BUTADIENE STYRENE — 94HBSTD - 1/8" thick). They feature integral mounting boxes and vertical card slides. The kits are individually packaged and include fillers, spacers, and break-away panels, as well as all necessary assembly hardware.

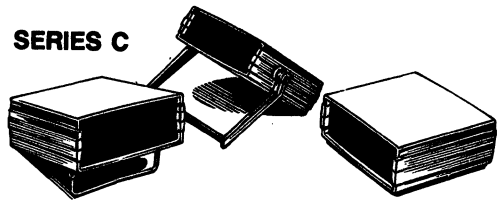
The Series C and CL Enclosures

Modular units with expandable sides. By changing combinations of side expanders, filler panels, spacers and front and real panels you can build more than 64 different models from either a C or CL enclosure.

With these enclosures, you can use a kit to design and build a prototype. And your prototype can be customized easily and inexpensively with PacTec options, accessories, and panel modifications to give your final product the personality you want it to have.

Model C is a basic case. The H in the model number is a basic case with handle. The B in the model number is a basic case with tilt stand. To order desired color, insert number of color where N appears in stock number: 1 - Black; 2 - PC Bone; 3 - Tan; 4 - Gray.

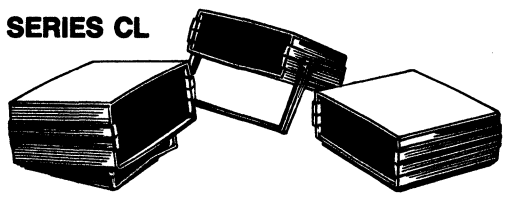
Series C



Kit Models		
Basic Kit	Kit w/ Handle	Kit w/ Tilt Stand
C-23K	CH-23K	CB-23K

Stock No.	Mfr.'s Type	Inside Dimensions Inches			Outside Dimensions Inches			EACH	
		Height	Width	Length	Height	Width	Length	1-9	10-Up
508-101N	C-23	2.93	7.80	8.00	3.69	8.50	9.25	**41.27**	**37.92**
508-103N	CB-23	2.93	7.80	8.00	3.69	8.50	9.25	**52.36**	**48.11**
508-100N	CH-23	2.93	7.80	8.00	3.69	8.50	9.25	**53.53**	**49.19**

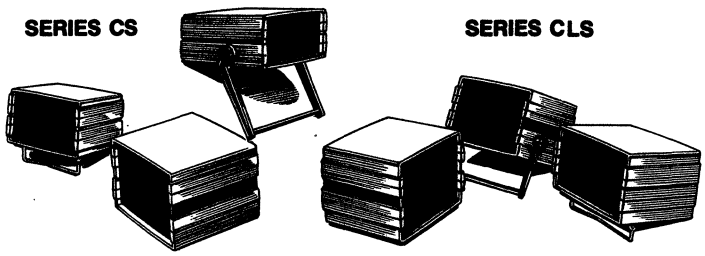
Series CL and CLLP



Kit Models		
Basic Kit	Kit w/ Handle	Kit w/ Tilt Stand
CL-45K	CLH-45K	CLB-45K

Stock No.	Mfr.'s Type	Inside Dimensions Inches			Outside Dimensions Inches			EACH	
		Height	Width	Length	Height	Width	Length	1-9	10-Up
508-200N	CL-45	4.75	11.77	10.40	5.76	12.50	11.63	**80.24**	**73.72**
508-201N	CLH-45	4.75	11.77	10.40	5.76	12.50	11.63	**105.26**	**96.72**
508-203N	CLB-45	4.75	11.77	10.40	5.76	12.50	11.63	**86.51**	**79.49**
508-600N	CLLP-34	3.25	11.77	10.40	4.26	12.50	11.63	**86.29**	**79.29**
508-610N	CLLPB-34	3.25	11.77	10.40	4.26	12.50	11.63	**93.04**	**85.48**
508-620N	CLLPH-34	3.25	11.77	10.40	4.26	12.50	11.63	**113.21**	**104.02**

Series CS and CLS



Kit Models		
Basic Kit	Kit w/ Handle	Kit w/ Tilt Stand
CS-400K	CHS-400K	CBS-400K
CS-500K	CHS-500K	CBS-500K
CS-600K	CHS-600K	CBS-600K

Kit Models		
Basic Kit	Kit w/ Handle	Kit w/ Tilt Stand
CLS-625K	CLHS-625K	CLBS-625K
CLS-725K	CLHS-725K	CLBS-725K
CLS-825K	CLHS-825K	CLBS-825K

Stock No.	Mfr.'s Type	Inside Dimensions Inches			Outside Dimensions Inches			EACH	
		Height	Width	Length	Height	Width	Length	1-9	10-Up
508-301N	CS-400	3.68	7.80	8.00	4.44	8.50	9.25	**59.75**	**54.90**
508-303N	CS-500	4.68	7.80	8.00	5.44	8.50	9.25	**60.85**	**55.91**
508-304N	CS-600	5.68	7.80	8.00	6.44	8.50	9.25	**61.91**	**56.88**
508-300N	CHS-400	3.68	7.80	8.00	4.44	8.50	9.25	**75.23**	**69.13**
508-306N	CHS-500	4.68	7.80	8.00	5.44	8.50	9.25	**82.18**	**75.51**
508-307N	CHS-600	5.68	7.80	8.00	6.44	8.50	9.25	**83.55**	**76.77**
508-309N	CBS-400	3.68	7.80	8.00	4.44	8.50	9.25	**70.59**	**64.86**
508-310N	CBS-500	4.68	7.80	8.00	5.44	8.50	9.25	**73.39**	**67.43**
508-312N	CBS-600	5.68	7.80	8.00	6.44	8.50	9.25	**76.46**	**70.25**
508-500N	CLS-625	5.75	11.77	10.40	6.76	8.50	9.25	**95.88**	**86.75**
508-504N	CLHS-625	5.75	11.77	10.40	6.76	12.50	11.63	**121.63**	**111.76**
508-509N	CLBS-625	5.75	11.77	10.40	6.76	12.50	11.63	**103.04**	**94.68**
508-501N	CLS-725	6.75	11.77	10.40	7.76	12.50	11.63	**96.94**	**87.71**
508-506N	CLHS-725	6.75	11.77	10.40	7.76	12.50	11.63	**122.45**	**112.51**
508-510N	CLBS-725	6.75	11.77	10.40	7.76	12.50	11.63	**103.48**	**95.08**
508-503N	CLS-825	7.75	11.77	10.40	8.76	12.50	11.63	**98.29**	**88.93**
508-507N	CLHS-825	7.75	11.77	10.40	8.76	12.50	11.63	**123.62**	**113.58**
508-512N	CLBS-825	7.75	11.77	10.40	8.76	12.50	11.63	**104.77**	**96.27**

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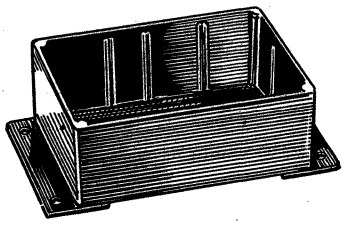
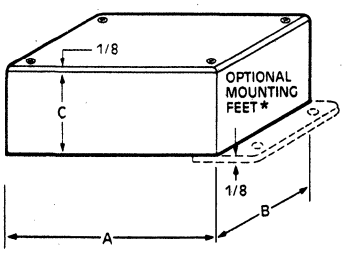




General Purpose Enclosures

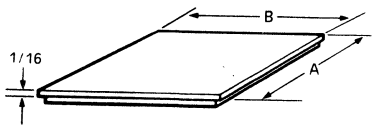
- 2 styles—plain or mounting feet
- ABS CYCOLAC(R) flame-retardant material (U/L 94V-0)
- Screw-on covers included
- Easily drilled or punched

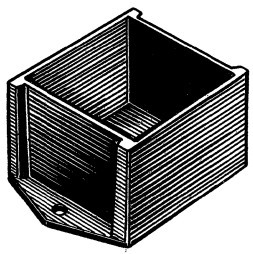
Stock No.	Mfr.'s Type	Size—Inches			EACH			
		A	B	C	1-9	10-49	50-99	100-Up
883-X600	EP-6	4.50	3.00	1.75	5.09	4.32	3.84	3.36
883-X601	EP-7	4.50	4.50	2.25	5.54	4.71	4.18	3.66
883-X602	EP-8	6.00	4.50	2.25	6.39	5.43	4.82	4.22
883-X603	EP-9	7.50	4.50	2.25	7.71	6.55	5.82	5.10

*Change X to 0 for model without feet. Change X to 1 for model with mounting feet and add $1.00 to price.

Potting/Encapsulating Boxes and Covers

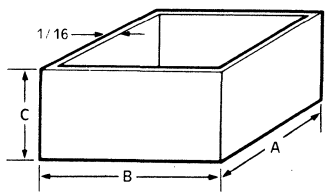
- 3 styles—plain, top or bottom mounting feet
- ABS CYCOLAC(R) flame-retardant material (U/L 94V-0)
- Exact fitting covers, glue-on
- Easily drilled or punched





Covers

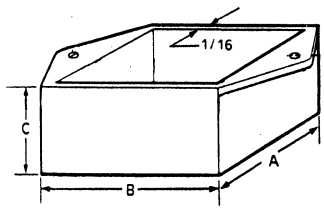
Stock No.	Mfr.'s Type	Size—Inches		EACH			
		A	B	1-9	10-49	50-99	100-Up
883-0470	C-0101	1.00	1.00	0.32	0.27	0.24	0.22
883-0471	C-1502	1.50	2.00	0.47	0.40	0.36	0.30
883-0472	C-0202	2.00	2.00	0.53	0.45	0.40	0.33
883-0473	C-0203	2.00	3.00	0.58	0.49	0.44	0.36
883-0474	C-0303	3.00	3.00	0.81	0.69	0.61	0.51



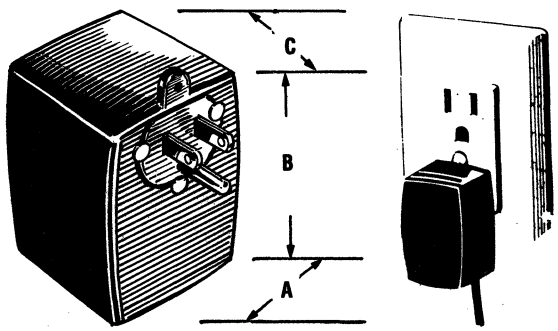
Boxes

Plain (P)		Top Feet (TF)		Bottom Feet (BF)*		Size—Inches			EACH			
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	A	B	C	1-9	10-49	50-99	100-Up
883-0420	P-010175	883-0421	TF-010175	883-0422	BF-010175	1.00	1.00	0.75	0.61	0.51	0.46	0.39
883-0430	P-150201	883-0431	TF-150201	883-0432	BF-150201	1.50	2.00	1.00	0.70	0.68	0.60	0.50
883-0440	P-020215	883-0441	TF-020215	883-0442	BF-020215	2.00	2.00	1.50	0.96	0.81	0.72	0.60
883-0450	P-020315	883-0451	TF-020315	883-0452	BF-020315	2.00	3.00	1.50	1.12	0.95	0.84	0.70
883-0460	P-030315	883-0461	TF-030315	883-0462	BF-030315	3.00	3.00	1.50	1.51	1.29	1.14	0.94

*BF Series slightly higher



TOP FEET STYLE TF



Universal Plug-In Modules

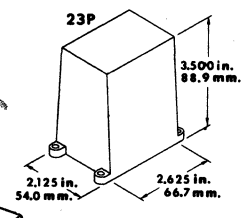
- ABS CYCOLAC(R) flame-retardant material (U/L 94V-0)
- UL recognized components
- 2 or 3 pole grounded base
- Easily drilled or punched

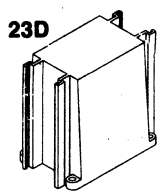
Stock No.	Mfr.'s Type	Size—Inches			Color*	EACH			
		A	B	C		1-9	10-49	50-99	100-Up
883-0500	M-0202-7	2.00	2.00	1.75	Black	2.94	2.50	2.22	1.83
883-0505	M-0203-6	2.00	3.00	1.00	Black	2.94	2.50	2.22	1.83
883-0510	M-0203-10	2.00	3.00	1.75	Black	3.13	2.66	2.38	1.99
883-0515	M-0203-13	2.00	3.00	2.25	Black	3.26	2.70	2.46	2.03

*All items available in Beige—add BE to Stock No. and $.10 to price.

Type 23

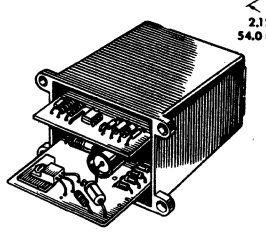
- Flame retardant POLYPROPYLENE (U/L 94V-2)
- Internal slots for PC boards
- 6 standard bases

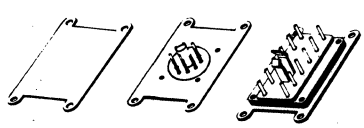




Stock No.	Mfr.'s Type	Enclosure Description	EACH			
			1-9	10-49	50-99	100-Up
883-0220	23P	Plain	2.35	2.00	1.78	1.46
883-0240	23D	Two external tracks	3.02	2.57	2.28	1.88

Stock No.	Mfr.'s Type	Base Description	EACH			
			1-9	10-49	50-99	100-Up
883-0250	B23PH	Plain	0.68	0.58	0.51	0.42
883-0260	B23OP-8	8-pin	1.91	1.62	1.49	1.32
883-0270	B23OP-11	11-pin	2.26	1.82	1.63	1.36
883-0290	B23RP-12	12-pin	3.25	2.70	2.40	2.05



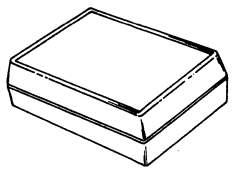


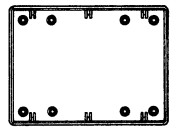
SERPAC's wide variety of packaging products provide functional utility and a professional, high tech appearance. Choose from an inventory of 9 colors. To provide a complete line of versatile enclosures, we offer models with or without 9-volt battery compartments, card guides for vertical circuit boards, bossing for horizontal circuit boards; protective non-skid elastomer feet; and a Perimeter Seal Kit which provides an effective barrier from an aqueous environment when used in conjunction with our standard enclosure.

Standard Enclosures

Standard

Stock No.	Model No.	Usable Inside Dimension			Vertical Card Position	Mounting Bosses	EACH
		Width	Length	Height			
882-003X	031*	2.750	0.650	4.000	—	—	4.61
882-203X	032*	2.750	1.150	4.000	—	—	4.98
882-303X	033*	2.750	1.650	4.000	—	—	5.26
882-X051	051*	2.875	5.250	0.625	—	4	5.96
882-X052	052*	2.750	5.125	1.125	—	4	6.45
882-X053	053*	2.750	5.125	1.625	—	4	6.81
882-X111	111	1.875	3.250	1.250	2	4	3.53
882-X131	131	2.875	4.000	1.250	3	4	4.61
882-X151	151	2.875	5.250	1.250	3	4	5.96
882-X171	171	4.500	6.500	1.250	5	8	8.41
882-X112	112	1.750	3.125	1.750	2	4	3.78
882-X132	132	2.750	3.875	1.750	3	4	4.98
882-X152	152	2.750	5.250	1.750	4	4	6.45
882-X172	172	4.375	6.375	1.750	5	8	9.10
882-X113	113	1.750	3.000	2.250	2	4	3.98
882-X133	133	2.750	3.875	2.250	3	4	5.26
882-X153	153	2.750	5.125	2.250	4	4	6.81
882-X173	173	4.375	6.375	2.250	5	8	9.58





Standard With Inserting Capability

Stock No.	Model No.	Usable Inside Dimension			Vertical Card Position	Mounting Bosses	EACH
		Width	Length	Height			
882-X054	051-I	2.875	5.250	0.625	—	4	5.96
882-X110	110-I	1.875	3.250	0.750	2	4	2.98
882-X141	131-I	2.875	4.000	1.250	3	4	4.61
882-X121	151-I	2.875	5.250	1.250	4	4	5.96
882-X161	171-I	4.500	6.500	1.250	5	8	8.41
882-X162	172-I	4.375	6.375	1.750	5	8	9.10

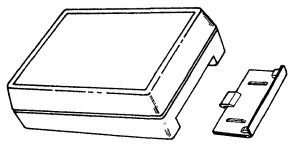
Insert color where X appears. 0 — Gray, 1 — Black, 2 — White, 3 — Almond, 4 — Blue, 5 — Green, 6 — Red, 7 — Orange, 8 — Yellow. * Indicates model available in wall mount version from factory

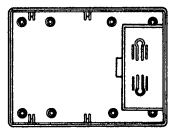
9 Volts Enclosures

Standard With 9V Compartment

Stock No.	Model No.	Usable Inside Dimension			Vertical Card Position	Mounting Bosses	EACH
		Width	Length	Height			
882-X211	211	2.250	2.625	1.250	1	4	4.40
882-X231	231*	2.875	2.875	1.250	2	4	5.50
882-X251	251*	2.875	4.125	1.250	3	4	6.85
882-X271	271	4.500	5.375	1.250	4	6	9.28
882-X232	232*	2.750	2.875	1.750	2	4	5.85
882-X252	252*	2.750	4.125	1.750	3	4	7.33
882-X272	272	4.375	5.375	1.750	4	6	9.96
882-X233	233*	2.750	2.875	2.250	2	4	6.13
882-X253	253*	2.750	4.125	2.250	3	4	7.68
882-X273	273	4.375	5.375	2.250	4	6	10.15

Insert color where X appears. 0 — Gray, 1 — Black, 2 — White, 3 — Almond, 4 — Blue, 5 — Green, 6 — Red, 7 — Orange, 8 — Yellow. * Indicates model available in wall mount version from factory





9V With Inserting Capability

Stock No.	Model No.	Usable Inside Dimension			Vertical Card Position	Mounting Bosses	EACH
		Width	Length	Height			
882-X321	231-I	2.875	2.875	1.250	2	4	5.50
882-X521	251-I	2.875	4.125	1.250	3	4	6.85
882-X721	271-I	4.500	5.375	1.250	4	6	9.28

Slope Enclosures

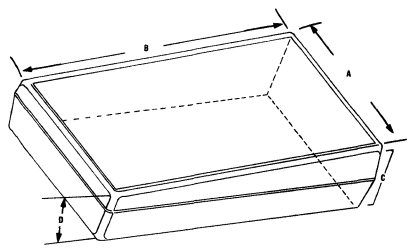
Slope Models

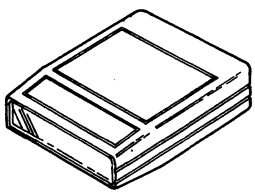
Stock No.	Model No.	A	B	C	D	V.C.P.	M.B.	EACH
882-X055	051-S*	2.875	5.250	0.625	0.325	—	4	5.96
882-X056	15-S*	2.875	5.250	1.250	0.750	3	4	5.96

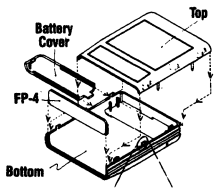
9V Slope

Stock No.	Model No.	A	B	C	D	V.C.P.	M.B.	EACH
882-X057	25-S*	2.875	4.125	1.250	0.750	3	4	6.85

* Indicates model available in wall mount version from factory







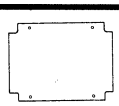
M-Series

Stock No.	Description	Width	Length	Height	Mounting Posts	EACH
882-X042	M-4	2.000	1.875	0.375	4	6.55
882-X058	M-6 AA	2.125	2.625	0.500	4	8.27
882-X059	M-6 9V	2.125	2.625	0.500	4	9.10

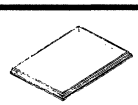
Insert color where X appears: 0 — Gray, 1 — Black, 2 — White, 3 — Almond, 4 — Blue.

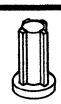
Accessories

Stock No.	Model No. Grid Board	Stock No.	Model No. Clad Board	Fits Enclosure Number	EACH
882-0310	310	882-0410	410	111, 112, 113, 110-I	4.91
882-0330	330	882-0430	430	131, 132, 133	4.56
882-0350	350	882-0450	450	151, 152, 153	5.95
882-0370	370	882-0470	470	171, 172, 173	8.10
882-0319	319	882-0419	419	211	4.24
882-0339	339	882-0439	439	231, 232, 233	4.29
882-0359	359	882-0459	459	251, 252, 253	4.92
882-0379	379	882-0479	479	271, 272, 273	6.09
882-0311	311	882-0411	411	111	2.30
882-0331	331	882-0431	431	131, 151, 231, 251	2.30
882-0371	371	882-0471	471	171, 271	2.30
882-0312	312	882-0412	412	112	2.35
882-0332	332	882-0432	432	132, 152, 232, 252	2.35
882-0372	372	882-0472	472	172, 272	2.35
882-0313	313	882-0413	413	113	2.40
882-0333	333	882-0433	433	133, 153, 233, 253	2.40
882-0373	373	882-0473	473	173, 273	2.40
882-0043	G.B.	—	—	M-4	4.55
—	—	882-0044	C.B.	M-4	3.85


Grid Board

Copper Clad Board


PS Gasket Kit


50

Stock No.	Kit No.	Fits Enclosure Number	EACH
882-0011	PS-11	111, 112, 113	3.60
882-0013	PS-13	131, 132, 133	4.10
882-0015	PS-15	151, 152, 153	4.90
882-0050	50	All	1.39 (PK/4)
882-X602	Pocketclip	All M-Series	1.49

Front Plate

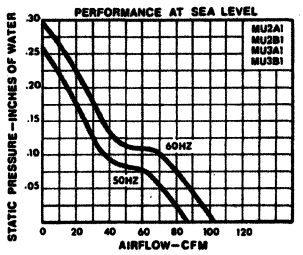
882-0041	FP-4 (Red)	M-4	1.49
882-0040	FP-4 (Clear)	M-4	1.49
882-0060	FP-4 (Violet)	M-4	1.49
882-0045	FP-6 (Red)	M-6	1.49
882-0046	FP-6 (Clear)	M-6	1.49
882-0061	FP-6 (Violet)	M-6	1.49

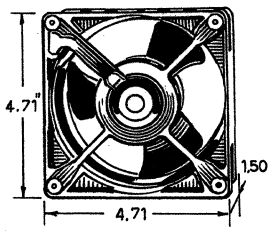
3

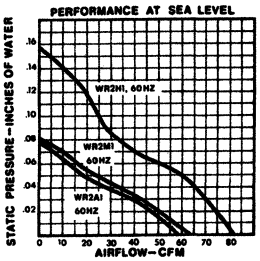
Muffin® AC Fans

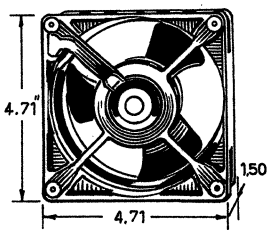
The most requested cooling fan available. At 105 CMF (free air), this 4.71" square × 1.50" deep fan is available in either sintered bronze sleeve or stainless steel ball bearings. UL recognized and CSA certified. Flame retardant plastic housing and propeller. Impedance protected. Terminal versions only.

Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-23	24-Up
599-0150	MU2A1	028021	Sleeve	115	2650/3100	88/105	22.30	20.20	17.60
599-0155	MU3A1	028023	Sleeve	220/230	2650/3100	88/105	22.85	20.75	18.10
599-0160	MU2B1	028027	Ball	115	2650/3100	88/105	31.10	29.00	25.25
599-0165	MU3B1	028029	Ball	220/230	2650/3100	88/105	31.55	29.45	26.65









Whisper® AC Fans

The silent airmover, from 55 to 80 CFM, this fan is similar in construction and bearing design to the Muffin® UL recognized and CSA certified. Impedance protected. Acoustic rated as low as 30 dBA. Terminal versions only.

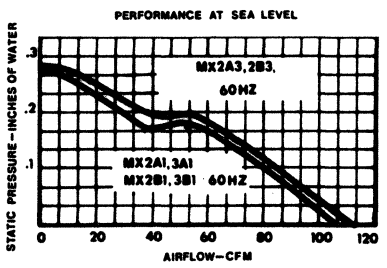
Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-23	24-Up
599-0170	WR2A1	027117	Sleeve	115	1640/1660	55/57	23.50	21.40	18.65
599-0175	WR2H1	027119	Sleeve	115	2100/2400	70/80	24.55	22.45	19.55
599-0176	WR2M1	028291	Sleeve	115	2000/1960	63/63	25.55	23.45	20.45
599-0177	WR3A1	028171	Sleeve	220/230	1590/2000	53/62	25.55	23.45	20.45

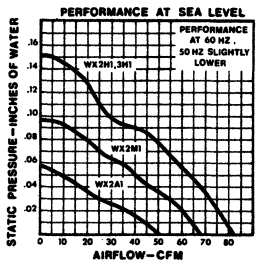
Muffin® XL AC Fans

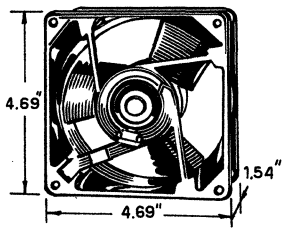
The zinc diecast, plastic, propeller partner to the Muffin employs identical bearing systems and features the unique Feathered Edge™ propeller. UL recognized, CSA certified, VDE approved. Reverse flow models have airflow entering motor-strut side, exits propeller side.

Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-23	24-Up
599-0180	MX2A1*	028318	Sleeve	115	2700/3100	92/108	23.35	21.25	18.55
599-0185	MX2A3	028316	Sleeve	115	2700/3100	98/115	23.35	21.25	18.55
599-0190	MX2B3	028422	Ball	115	2700/3100	98/115	32.55	30.45	26.55
599-0191	MX3A1*	028326	Sleeve	220/230	2700/3100	92/108	24.05	21.95	19.10

*Reverse flow models







Whisper® XL AC Fans

The zinc diecast partner to the Whisper® featuring the Feathered Edge™ plastic propeller. Uses sintered bronze sleeve bearings for long, quiet life. UL recognized, CSA certified and VDE approved. Impedance protected.

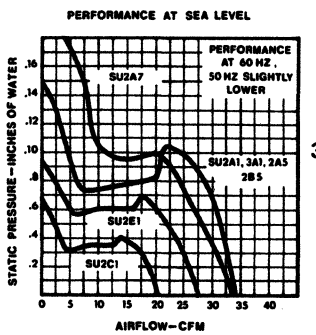
Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-23	24-Up
599-0195	WX2A1	028778	Sleeve	115	1450/1500	48/50	25.30	23.20	20.20
599-0200	WX2H1	028858	Sleeve	115	2200/2500	70/83	24.65	22.55	19.65
599-0205	WH2M1	028322	Sleeve	115	1900/2000	65/70	24.85	22.75	19.80

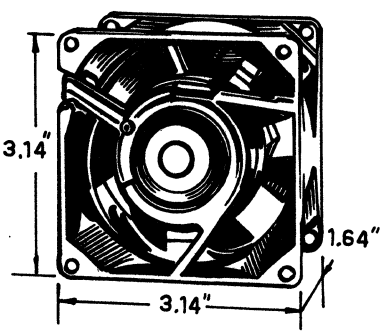
Sprite® AC Fans

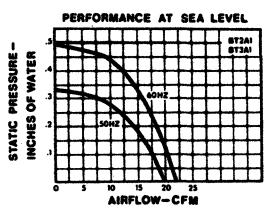
The run-away favorite of small tubeaxial fans. Only 3.14" square × 1.645" deep, this airmover uses sintered bronze sleeve or stainless steel bearings. UL recognized, CSA certified, and VDE approved. Terminal or leadwire versions, as well as reverse flow models, are all available.

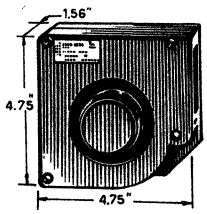
Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-23	24-Up
599-0210	SU2A1†	028267	Sleeve	115	2750/3250	28/34	22.85	20.65	18.00
599-0220	SU2C1†	028270	Sleeve	115	1750/1900	17/20	23.80	21.70	18.90
599-0225	SU2E1†	028275	Sleeve	115	2200/2600	23/27	24.65	22.45	19.55
599-0230	SU2G1†	028278	Sleeve	115	2700/3150	27/32	23.60	21.40	18.65
599-0235	SU3A1†	028269	Sleeve	220/230	2750/3250	28/34	23.70	21.50	18.75
599-0240	SU2A5‡	028279	Sleeve	115	2750/3250	28/34	24.15	21.95	19.15
599-0245	SU2B5‡	028410	Ball	115	2750/3250	28/34	34.85	32.65	28.45
599-0250	SU2A7*†	030272	Sleeve	115	2780/3350	27/33	22.79	20.65	18.00
599-0255	SU2E7*†	030271	Sleeve	115	2370/2750	23/27	24.55	22.45	19.55

*Reverse flow model. †With leadwires. ‡With terminals.









Biscuit® AC Blowers

The Integral motor centrifugal blower producing 22 CFM (free air). 4.75" square × 1.56" deep, with sintered bronze sleeve bearings. UL94V-0 plastic housing, UL94V-2 propeller. UL recognized and CSA certified. Impedance protected.

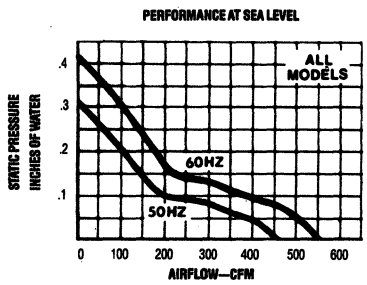
Stock No.	Mfr.'s Type	Part No.	Type of Bearing	AC Volts	RPMs	CFM	EACH		
							1-9	10-23	24-Up
599-0260	BT2A1	028448	Sleeve	115	2500/2700	20/22	30.40	28.20	24.60
599-0265	BT3A1	028449	Sleeve	220/230	2500/2700	20/22	31.25	28.85	25.15

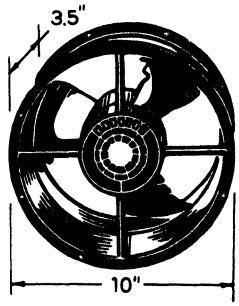
Caravel® AC Fans

Features Feathered Edge™ blade design for low noise. Auto reset thermal protector. 9.688″ mounting center holes. For ambients of −30° to +60°C. Die-cast aluminum housing. **Weight:** 4.4 lbs. (2kg). Ball bearing, UL recognized, CSA certified.

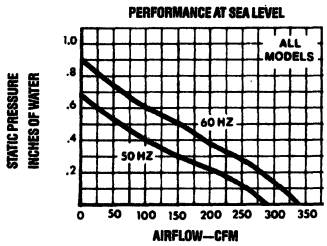
Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-23	24-Up
599-0270*	CL2L2	020188	115	1400/1650	455/550	51.82	49.51	43.15
599-0275†	CL2T2	020189	115	1400/1650	455/550	52.71	51.14	44.58
599-0280*	CL3L2	020190	220/230	1400/1650	455/550	53.03	50.72	44.21
599-0285†	CL3T2	020191	220/230	1400/1650	455/550	54.71	52.39	45.63

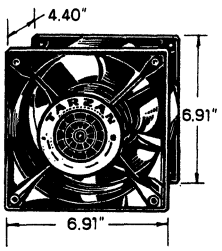
* With Leadwire. †With .110″ Solder Terminals.





Tarzan® AC Fans





Features auto reset thermal protector. 6″ mounting hole centers. For ambients of −18° to +60°C. Flame retardant black phenolic housing. **Weight:** 5 lbs. (2.27kg). Ball bearing, UL recognized, CSA certified.

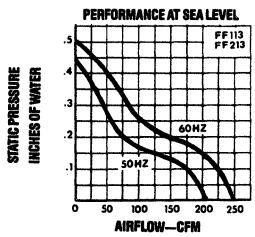
Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-23	24-Up
599-0290†	TN3A2	020174	115	2820/3350	280/340	72.14	69.83	60.85
599-0295†	TN3A3	020172	220/230	2820/3350	280/340	73.35	71.25	62.06
599-0300*	TN3C2	020169	115	2820/3350	280/340	70.56	68.25	59.49

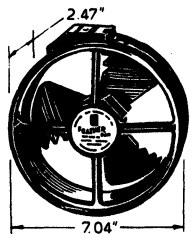
* With Leadwire. †With Terminals.

Feather® AC Fans

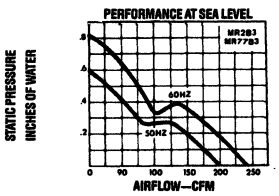
Features Feathered Edge™ blade design for low noise and auto reset thermal protector. For ambients of −54° to +65°C. Flame retardant black polycarbonate housing. **Weight:** 1.5 lbs. (0.68 kg). Ball bearing, UL recognized, CSA certified.

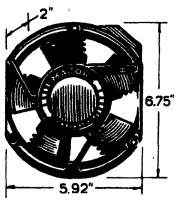
Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-23	24-Up
599-0310	FF113	026165	115	2700/3200	200/245	68.57	65.31	56.91
599-0315	FF213	026166	220/230	2700/3200	200/245	74.66	71.46	62.27





Major® AC Fans





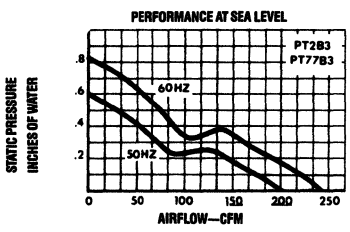
Features Feathered Edge™ blade design for low noise and auto reset thermal protector. For ambients of −10° to +70°C. Die-cast aluminum housing. UL recognized, CSA certified, VDE approved. **Weight:** 1.84 lbs. (0.84kg). Ball bearing.

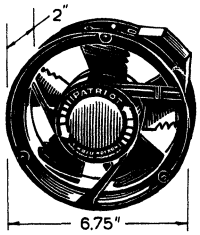
Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-23	24-Up
599-0320	MR2B3	028245	115	2850/3350	200/240	52.08	49.88	43.42
599-0325	MR77B3	028309	220/230	2850/3350	200/240	53.87	51.66	44.94

Patriot® AC Fans

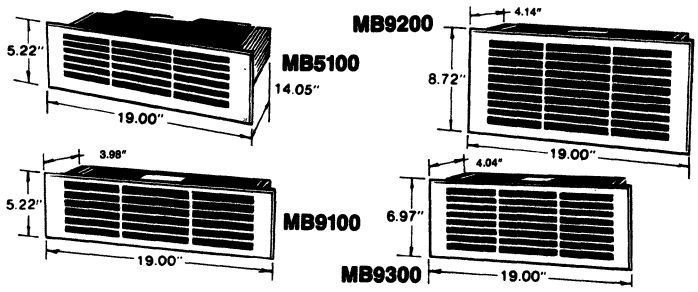
Features Feathered Edge™ blade design for low noise and auto reset thermal protector. For ambients of −10° to +70°C. Die-case aluminum housing. UL approved, CSA certified, VDE approved. **Weight:** 1.84 LBS. Ball Bearing.

Stock No.	Mfr.'s Type	Part No.	AC Volts	RPM	CFM	EACH		
						1-9	10-23	24-Up
599-0330	PT2B3	028254	115	2850/3350	200/240	52.08	49.88	43.42
599-0335	PT77B3	028312	220/230	2850/3350	200/240	53.87	51.66	49.94





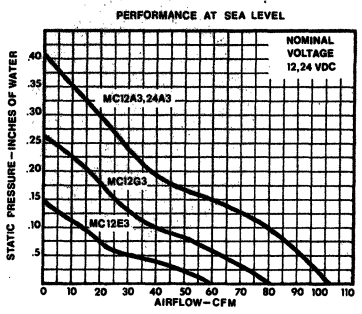
Modular Cabinet Blowers

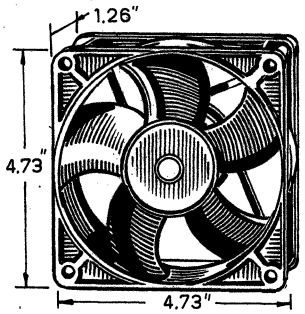


Designed for use in EIA 19″ racks. Each blower includes grill, cleanable airfilter, and finger guards. **Model MB5100** is powered by 2 Feather fans; continuous duty life of 6 years at 25°C. **Model MB9100** is powered by 3 Muffin fans; continuous duty life of 10 years at 25°C. **Model MB9200** is powered by 2 Feather fans; continuous duty life of 6 years at 25°C. **Model MB9300** is powered by 2 Major fans; continuous duty life of 5 years at 70°C. All operate from 115 VAC 50/60 Hz.

Stock No.	Mfr.'s Type	CFM 60 Hz	Part No.	EACH		
				1	2-5	6-9
599-0340	MB5100-100	320	020099	233.10	210.00	189.00
599-0345	MB9100-100	235	024475	137.55	123.90	111.30
599-0350	MB9200-100	370	024488	213.15	192.15	172.20
599-0355	MB9300-100	350	027384	238.35	214.20	200.07

Muffin® DC Fans



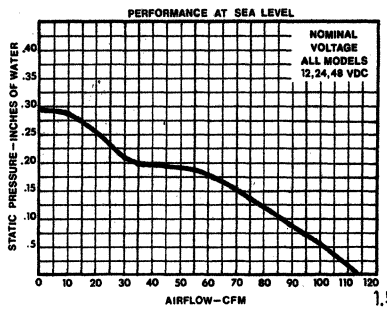


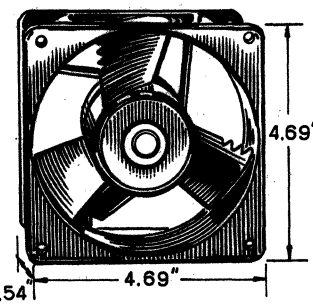
Muffin fans feature low noise, electronic locked rotor protection, and polarity protection. 58 to 102 CFM (27 to 48 L/Sec.); 12VDC nominal. For ambients of – 10°C to + 60°C. Encased in black plastic UL 94V-0 housing. Meets FCC and VDE EMI requirements. 4.73″ square × 1.26″ deep; 8.5 oz. (.24kg). 4.125″ mounting hole centers. Ball bearing and sleeve bearing versions available.

Stock No.	Mfr.'s Type	Bearing	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
							1-9	10-23	24-Up
599-0065	MC12A3	SB	032207	9-14	3700	102	**17.90**	**15.59**	**14.02**
599-0070	MC12E3	SB	032140	10-14	2150	58	**17.90**	**15.59**	**14.02**
599-0075	MC12G3	SB	032141	8-14	2850	80	**17.90**	**15.59**	**14.02**

*Airflow will vary proportional to voltage.

Muffin XL® DC Fans



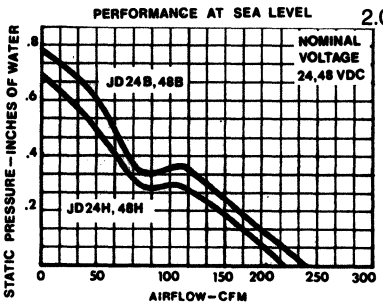


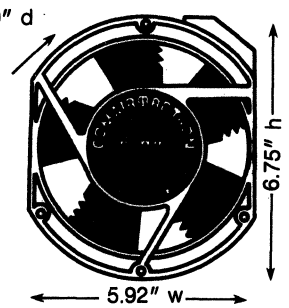
These ball-bearing fans feature the famous Feathered Edge™ blade design for lower noise. Electronic locked rotor protection; polarity protected. 4.125″ mounting hole centers. For ambients of – 10° to + 70°C. Cased in a die-cast zinc housing. Meets FCC and VDE EMI requirements. UL Yellow Card Recognized; CSA Certified. **Weight:** 21.5 oz (.61kg).

Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-23	24-Up
599-0120	MD12B1	028865	6-14	3100	110	**39.90**	**37.83**	**35.64**
599-0125	MD24B1	028866	12-28	3100	110	**39.90**	**37.83**	**35.64**
599-0130	MD48B1	028867	22-56	3100	110	**39.90**	**37.83**	**35.64**

*Airflow will vary proportional to voltage.

Major® DC Fans



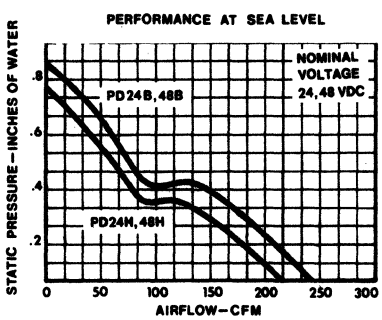


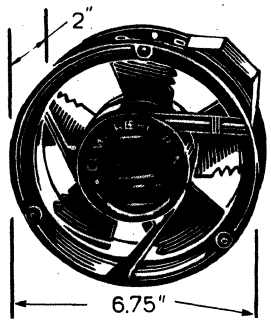
Featuring Feathered Edge™ blade design for lower noise with rugged die-cast aluminum housing and electronic locked rotor protection. Polarity protected. Ball bearing construction. Meets FCC and VDE EMI requirements. UL yellow card recognized and CSA certified. 210 to 240 CFM (99.1 to 123 L/Sec.). 6.375″ mounting hole centers. **Size:** 6.75″ × 5.92″ × 2″ (171.5 mm × 150.4 mm × 50.8 mm). **Weight:** 1.84 lbs. (.84kg). **Temperature Range:** – 10°C to + 70°C.

Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-23	24-Up
599-0101	JD24B2	032018	12-28	3350	240	**97.86**	**95.97**	**82.68**
599-0102	JD48B2	032150	24-56	3350	240	**95.23**	**92.30**	**79.54**
599-0103	JD24H2	032374	12-28	3000	210	**101.16**	**98.49**	**84.84**
599-0104	JD48H2	032375	24-56	3100	210	**97.02**	**95.13**	**81.95**

*Airflow will vary proportional to voltage.

Patriot® DC Fans



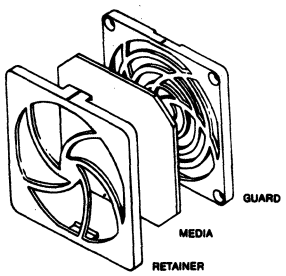


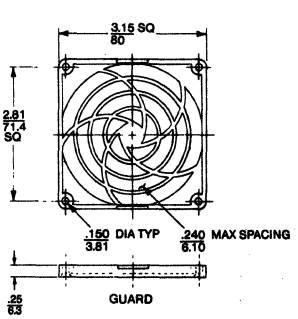
Features the famous Feathered Edge™ blade design for lower noise level. Electronic locked rotor protection; polarity protected. 6.375″ mounting hole centers. For ambients of – 10°C to + 70°C. Cased in a die-case aluminum housing. Meets FCC and VDE EMI requirements. UL Yellow Card Recognized; CSA Certified. **Weight:** 1.84 lbs. (.84kg).

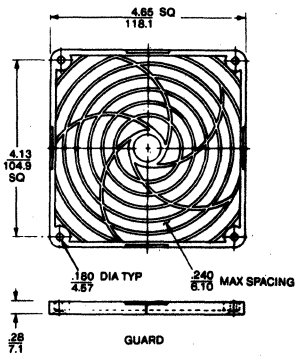
Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-23	24-Up
599-0100	PD24B2	032032	12-28	3350	240	**94.92**	**81.63**	**76.88**
599-0105	PD48B2	032033	24-56	3350	240	**91.25**	**78.47**	**73.91**
599-0110	PD24H2	032016	12-28	3000	210	**97.44**	**83.80**	**78.93**
599-0115	PD48H2	032017	24-56	3100	210	**94.08**	**80.91**	**76.21**

*Airflow will vary proportional to voltage.

Filter Guard Assemblies







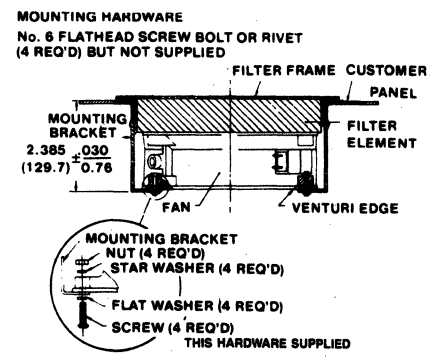
TYPE 554141: For Flight 80, Sprint DC Sprite Fans.

599-0480. 1-9 ..... **EACH 2.63**
10-23 ..... **EACH 2.37**
24-47 ..... **EACH 2.16**
48-95 ..... **EACH 1.95**

TYPE 554148: For Flight 120, Muffin DC, Muffin XL DC, Whisper, Whisper XL, Muffin, and Muffin XL Fans.

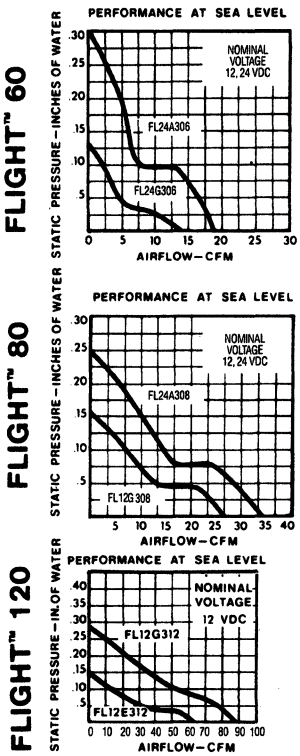
599-0485. 1-9 ..... **EACH 4.80**
10-23 ..... **EACH 3.82**
24-47 ..... **EACH 3.28**
48-95 ..... **EACH 2.92**

Filter Assembly



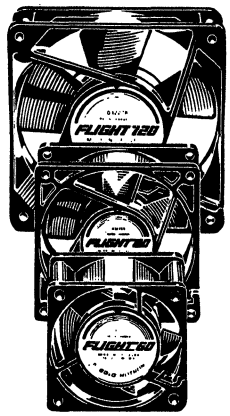
TYPE 551590: For Muffin and Muffin XL DC, Whisper, Whisper XL, and Muffin XL fans.

599-0365. 1-9 ..... **EACH 14.15**
10-23 ..... **EACH 12.75**
24-47 ..... **EACH 11.10**
48-95 ..... **EACH 9.95**



FLIGHT® DC Fans

Solid-state circuitry for brushless electronic commutation. Features stainless steel ball bearings, 100% dielectric (tested at 600VAC/1 sec., 500 microamps maximum leakage), low noise, electronic locked rotor protection, and polarity protection. UL recognized and CSA certified. **Operating Temperature Range:** – 10 to + 60°C. 12/24VDC nominal. **Venturi:** PBT with glass; black; meets UL94V-0. **Propeller:** PBT; black; meets UL94V-0. Designed to EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, and per VDE Specification 0871/6.78 for category A and B requirements.
FLIGHT 60. 8 to 21 CFM (3.7 to 9.9 L/Sec.); 2.36″ square × 1.00″ deep; 3.5 oz. (.10 kg).
FLIGHT 80. 20 to 40 CFM (9 to 19 L/Sec.); 3.15″ square × 1.00″ deep; 4.3 oz. (.12 kg).
FLIGHT 120. 45 to 95 CFM (21.2 to 44.8 L/Sec.); 4.73″ square × 1.00″ deep; 7.1 oz. (.20 kg).



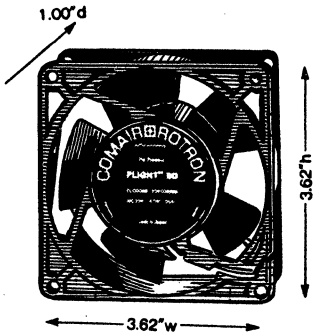
Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0005	FL12A306	032269	6-14	5300	18	21.11	16.89	14.07
599-0010	FL24A306	032270	12-28	5300	18	21.11	16.89	14.07
599-0015	FL12G306	032271	9-14	3500	12	21.11	16.89	14.07
599-0020	FL24G306	032272	18-28	3800	13	21.11	16.89	14.07
599-0025	FL12A308	032258	6-14	4100	33	22.05	17.64	14.70
599-0030	FL24A308	032259	12-28	4100	33	22.05	17.64	14.70
599-0035	FL12G308	032260	9-14	3100	26	22.05	17.64	14.70
599-0040	FL24G308	032261	18-28	3450	29	22.05	17.64	14.70
599-0045	FL12G312	032275	6-14	3300	89	23.31	18.65	15.54
599-0050	FL24G312	032295	12-28	3300	89	23.31	18.65	15.54
599-0055	FL12E312	032278	9-14	2100	60	23.31	18.65	15.54
599-0060	FL24E312	032276	18-28	2100	60	23.31	18.65	15.54

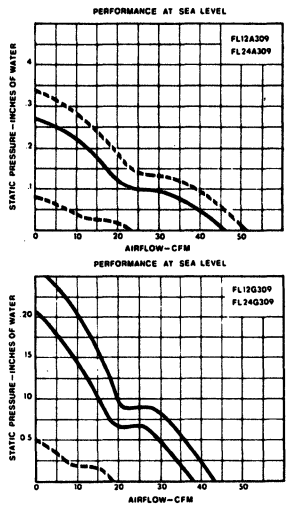
*CFM will vary proportional to voltage.

FLIGHT® 90 Series DC Fans

- 20 to 50 CFM (9 to 24 L/Sec)
- 12 and 24 VDC (Nominal)
- Low Noise Level
- Operating Temperature Range: – 10° to + 60°
- Ball Bearing

Venturi: PBT with glass; black; meets UL94V-0. **Propeller:** PBT; black; meets UL94V-0. Designed to EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, and per VDE Specification 0871/6.78 for category A and B requirements. **Dimensions:** 3.62″ square × 1.0″ deep (92mm × 25.4mm). **Weight:** 4.9 oz. (.14 kg).



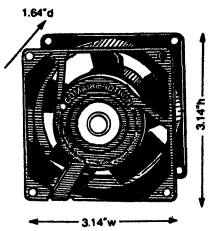


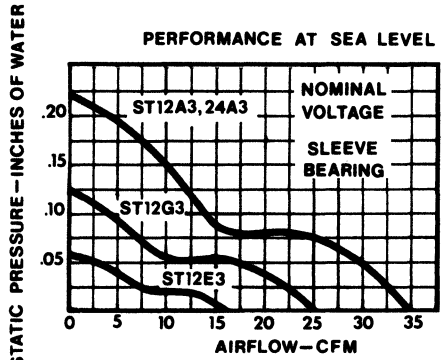
Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0031	FL12A309	032280	6-14	3325	45	22.84	18.27	15.22
599-0032	FL24A309	032281	8-28	3325	45	22.84	18.27	15.22
599-0033	FL12G309	032282	6-14	2750	38	22.84	18.27	15.22
599-0034	FL24G309	032283	8-28	2750	38	22.84	18.27	15.22

*CFM (Airflow) will vary proportional to voltage.

SPRINT® DC Fans

Sprint fans feature low noise, electronic locked rotor protection or impedance protection, and polarity protection. 12 to 39 CFM (8.0 to 18 L/Sec.); 12 or 24VDC nominal. For ambients of – 10°C to + 70°C. Encased in a black plastic UL94V-0 housing. Meets FCC and VDE EMI requirements. 3.15″ square x 1.25″ deep; 6.3 oz. (.18 kg). 2.812″ mounting hole centers. Features sleeve bearing models, with stainless steel ball bearing models available.

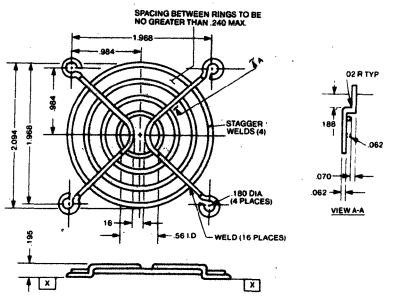




Stock No.	Mfr.'s Type	Part No.	DCV Range	RPMs	Nominal CFM*	EACH		
						1-9	10-24	25-Up
599-0080	ST12A3	032107	9-14	3400	34	22.05	19.22	17.27
599-0085	ST12G3	032126	10-14	2500	25	22.05	19.22	17.27
599-0090	ST12E3	032162	10-14	1700	16	22.05	19.22	17.27
599-0095	ST24A3	032127	18-28	3400	34	22.05	19.22	17.27

*CFM (Airflow)will vary proportional to voltage.

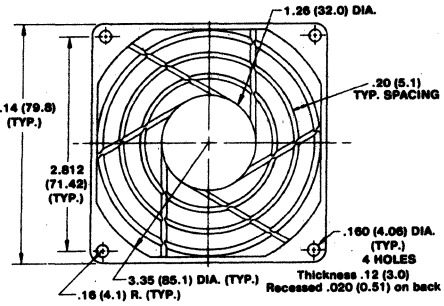
Finger Guard



For Flight 60. Meets U.L. 0.250 dia. plug gage test finish—bright nickel chrome 0.0005 min. 0.010 over wire dia. max. at butt joints, 0.005 max. depth of serration on wire. **Ribs:** 0.062 dia. **Rings:** 0.062 dia. Surface X to be flat within 0.060.

599-0460. Type 572621. 1-9 ..... **EACH 1.65**
10-23 ..... **EACH 1.50** **24-47** ..... **EACH 1.30**

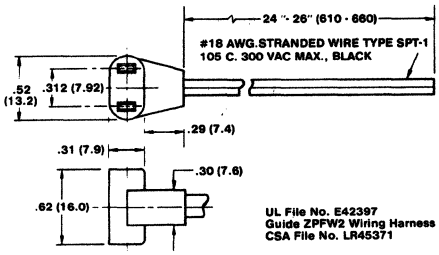
Finger Guard



For Flight 80, Sprint DC, and Sprite. Meets U.L., CSA 0.250/6.35 spacing. Made of Fiberite RTP 305 glass reinforced polycarbonate or GE Valox 420 polyester rated UL 94V-0.

599-0400. Type 550648. 1-9 ..... **EACH .70**
10-23 ..... **EACH .65** **24-47** ..... **EACH .60**

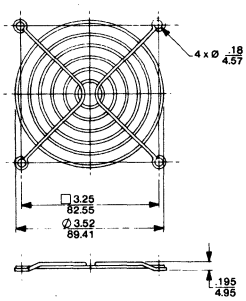
Plug and Cord



For Sprite, Whisper, Whisper XL, Muffin, Muffin XL, Skeleton, Major, Patriot, Caravel, Tarzan, and Biscuit. U.L. File #E42397. GUIDE ZPFW2 wiring harness. CSA File #LR45371.

599-0440. Type 428056. 1-9 ..... **EACH 1.10**
10-23 ..... **EACH 1.00** **24-47** ..... **EACH .95**

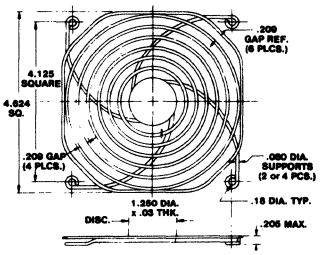
Finger Guard



For Flight 90. Welded steel wire, nickel chrome finish. Meets U.L., CSA 0.250/6.35 spacing.

599-0465. Type 554172. 1-9 ..... **EACH 1.65**
10-23 ..... **EACH 1.50** **24-47** ..... **EACH 1.30**

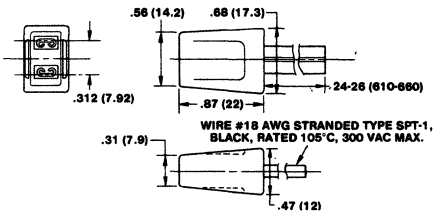
Finger Guard



For Flight 120, Muffin DC, Muffin XL DC, Whisper, Whisper XL, Muffin, Muffin XL, and Skeleton. Meets U.L., CSA 0.250/6.35 spacing. **Center Disc:** 0.03 (0.76) thk. **C.R.S. Wire Rings:** 0.062 (1.57) dia. steel. **Support:** 0.080 (2.03) dia. steel. **Finish:** Bright zinc plate with chromate treatment.

599-0415. Type 552934. 1-9 ..... **EACH 1.90**
10-23 ..... **EACH 1.75** **24-47** ..... **EACH 1.65**

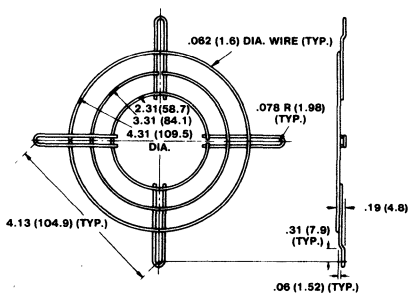
Plug and Cord



For Sprite, Whisper XL, Muffin XL, Skeleton, Major, Patriot, Caravel, Tarzan, and Biscuit. U.L. File #E42397. GUIDE ZPFW2 wiring harness. CSA File #LR45371.

599-0445. Type 550440. 1-9 ..... **EACH 1.15**
10-23 ..... **EACH 1.10** **24-47** ..... **EACH 1.00**

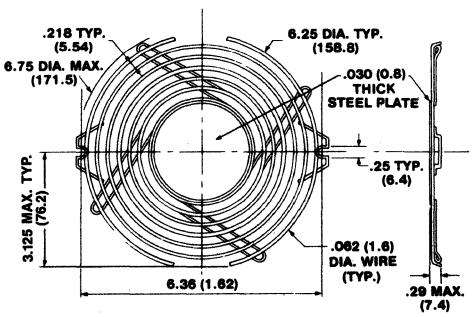
Finger Guard



For Flight 120, Muffin DC, Muffin XL DC, Whisper, Whisper XL, Muffin, Muffin XL, and Skeleton. Welded steel wire, bright zinc plated.

599-0470. Type 476042. 1-9 ..... **EACH 1.35**
10-23 ..... **EACH 1.25** **24-47** ..... **EACH 1.15**

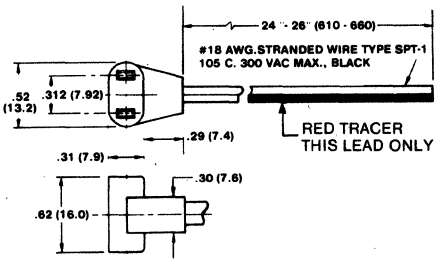
Finger Guard



For Major DC and Major. Welded steel wire, bright zinc plated.

599-0390. Type 550272. 1-9 ..... **EACH 3.05**
10-23 ..... **EACH 2.85** **24-47** ..... **EACH 2.65**

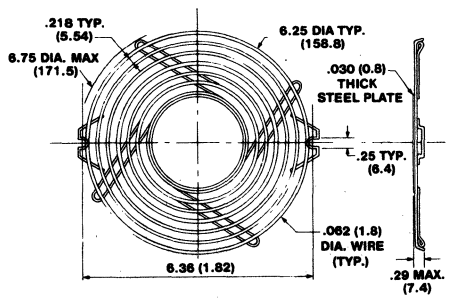
Plug and Cord



For Muffin XL DC. Polarized with red tracer.

599-0450. Type 571064. 1-9 ..... **EACH 1.70**
10-23 ..... **EACH 1.55** **24-47** ..... **EACH 1.45**

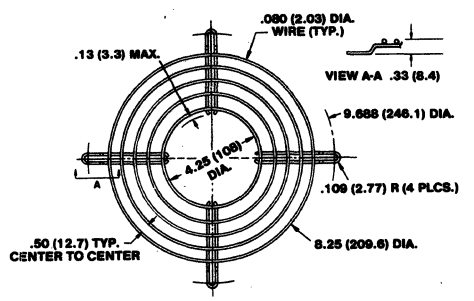
Finger Guard



For Patriot DC and Patriot. Identical to Type 550272 (Stock Number 599-0390) except outer ring is continuous.

599-0410. Type 551199. 1-9 ..... **EACH 2.85**
10-23 ..... **EACH 2.65** **24-47** ..... **EACH 2.50**

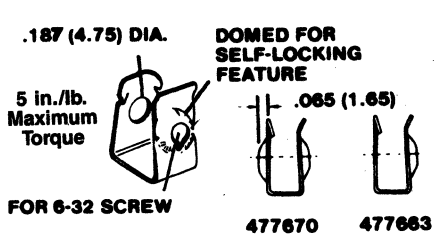
Finger Guard



For Caravel. Made of steel wire with bright zinc finish. Mountings using #8 machine screws in the 4 legs equally spaced on 9.688 (246.1) dia.

599-0380. Type 476323. 1-9 ..... **EACH 4.15**
10-23 ..... **EACH 3.85** **24-47** ..... **EACH 3.60**

Mounting Clips



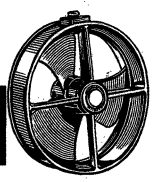
For Major DC, Patriot DC, Whisper, Muffin, Major, and Patriot. 0.017 (0.43) thick tempered spring steel finished in black phosphate with oil dip. Fits over flanges from 0.22 (5.59) to 0.30 (7.62). 5 in./lb. max. torque.

599-0425. Type 477663 (Flush). **1-9** ..... **EACH .16**
10-23 ..... **EACH .15** **24-47** ..... **EACH .14**
599-0430. Type 477670 (Standoff). **1-9** ..... **EACH .16**
10-23 ..... **EACH .15** **24-47** ..... **EACH .14**

Fan	Mfr.'s Type	Part No.	Bearings	Volts	Hz	Watts	Line Amps	Locked Rotor Amps	Cap. Mfd.	PH.	RPM	CFM	L/Sec.	Max. Amb. °C
Invertafan Spartan	IFR24SP1035	010313	Ball	24 DC	—	11.0	0.560	0.600	10.00	1	3080	104	50.0	70
	IFR48SP1780	010276	Ball	48 DC	—	15.4	0.280	0.400	3.00	1	3200	111	52.0	70
	IFR28SP1035	010314	Ball	28 DC	—	18.2	0.650	0.800	10.00	1	3100	105	50.0	70
Spartan	682YF	020284 (M) 020027 (L) 020028 (T)	Ball	115	50/60	13.0	0.120	0.150	1.00	1	3250	113	53.0	100
	810DF	026985 (L) 026984 (T)	Ball	115	400	13.0	0.120	0.130	0.39	1	3750	132	62.0	100
	778YF	026983 (L) 026982 (T)	Ball	115	50/60/400	13.0	0.120	0.130	0.25	1	2250	75	35.0	90
	942WF	026987 (L) 026986 (T)	Ball	200	400	37.0	0.140	0.220	—	3	5300	185	87.0	72
	1395YF	026989 (L) 026988 (T)	Ball	115	400	45.0	0.390	0.410	0.50	1	5300	198	96.0	75
Saucer	340ZH	026990 (T)	Ball	115	50/60	24.0	0.210	0.310	2.00	1	3300	280	132.0	125
	650JH	026991 (T)	Ball	200	400	33.0	0.150	0.220	—	3	3970	330	142.0	125
	656JH	026992 (T)	Ball	115	400	34.0	0.270	0.400	—	3	3800	336	146.0	125
	654DH	026993 (T)	Ball	115	400	30.0	0.280	0.320	1.00	1	3600	310	146.0	125
	654DH	020596 (M)	Ball	115	400	30.0	0.280	0.320	1.00	1	3600	310	146.0	125
	340ZH	020743 (M)	Ball	115	50/60	24.0	0.210	0.310	2.00	1	3300	280	132.0	125
Aximax 1	623YH	026942 (T)	Ball	115	400	18.0	0.160	0.400	0.25	1	22000	21	10.0	125
	367JH	026943 (T)	Ball	200	400	18.0	0.100	0.300	—	3	22500	21	10.0	125
	464YH	026944 (T)	Ball	115	400	9.0	0.100	0.170	0.15	1	11100	10	4.7	125
Aximax 2	606NH	026958 (T)	Ball	115	50/60	7.0	0.060	0.060	1.00	1	3000	7	3.3	100
					400	10.0	0.090	0.090	1.00	1	4800	12	5.7	100
	464YH	026952 (T)	Ball	115	400	11.0	0.110	0.160	0.15	1	10200	28	13.0	125
	368YH	026948 (T)	Ball	115	400	38.0	0.330	0.450	0.50	1	20000	57	27.0	125
	367JH	026950 (T)	Ball	200	400	34.0	0.130	0.310	—	3	20500	57	27.0	125
	415YH**	026954 (T)	Ball	115	400	18.0	0.180	0.190	0.15	1	11000	32	15.0	100
	395JH**	026956 (T)	Ball	200	400	22.0	0.110	0.130	—	3	12000	34	16.0	125
Aximax 2H	415YH	027686 (L)	Ball	115	400	18.0	0.180	0.190	0.15	1	11000	32	15.0	100
	606NH	026959 (T)	Ball	115	50/60	7.0	0.060	0.060	1.00	1	3000	7	3.0	100
					400	10.0	0.090	0.090	1.00	1	4800	12	5.7	100
	464YH	026953 (T)	Ball	115	400	11.0	0.110	0.160	0.15	1	10200	28	13.0	125
	367JH	026951 (T)	Ball	200	400	34.0	0.130	0.310	—	3	20500	57	27.0	125
	368YH	026949 (T)	Ball	115	400	38.0	0.330	0.450	0.50	1	20000	57	27.0	125
	415YH	026955 (T)	Ball	115	400	18.0	0.180	0.190	0.15	1	11000	32	15.0	100
	395JH	026957 (T)	Ball	200	400	22.0	0.110	0.130	—	3	12000	34	16.0	125
Aximax 3	528YH	026963 (T)	Ball	115	400	135.0	1.200	2.100	2.00	1	22300	155	73.0	100
	422DH	026964 (T)	Ball	115	400	26.0	0.310	0.710	1.00	1	11200	76	56.0	125
	341JH	020372 (T)	Ball	200	400	125.0	0.430	1.730	—	3	22200	160	76.0	125
	599NH	026965 (T)	Ball	115	50/60	3.0	0.040	0.050	0.50	1	3300	21	10.0	125
	400YH**	026961 (T)	Ball	115	400	38.0	0.330	0.360	0.50	1	10700	75	35.0	100
	387JH**	026962 (T)	Ball	200	400	58.0	0.260	0.370	—	3	13700	97	46.0	100
	500JH**	020297 (T)	Ball	200	400	70.0	0.240	0.460	—	3	16200	114	54.0	100
Propimax 2	366ZH	026966 (T)	Ball	115	400	41.0	0.400	0.510	0.75	1	21000	120	57.0	100
	464ZH	026967 (T)	Ball	115	400	11.0	0.110	0.160	0.15	1	10500	58	27.0	125
	367JH	026968 (T)	Ball	200	400	34.0	0.130	0.290	—	3	20400	118	56.0	100
	704WH	026969 (T)	Ball	200	400	22.0	0.120	0.200	—	3	11300	64	43.0	100
	606NH	026970 (T)	Ball	115	50/60/400	6.5	0.060	0.060	1.00	1	3200	17	8.0	100
	415ZH**	026971 (T)	Ball	115	400	18.0	0.170	0.180	0.15	1	11600	65	31.0	100
	395JH**	026972 (T)	Ball	200	400	18.0	0.090	0.110	—	3	12100	64	30.0	125
Propimax 3	341JH	026974 (T)	Ball	200	400	80.0	0.320	1.700	—	3	22800	220	104.0	125
	409ZH	026973 (T)	Ball	115	400	105.0	1.000	2.000	2.50	1	21900	220	104.0	100
Propimax 3B	473JH	026976 (T)	Ball	200	400	62.0	0.280	0.750	—	3	10900	190	90.0	125
	718ZH	026977 (T)	Ball	115	400	27.0	0.310	0.480	0.25	1	7200	120	57.0	125
	754DH	026975 (T)	Ball	115	400	63.0	0.610	1.250	2.00	1	11100	190	90.0	115
	763ZH	026978 (T)	Ball	115	60	13.0	0.130	0.180	0.50	1	3450	56	26.0	125
	805ZH	026979 (T)	Ball	115	50/60/400	23.0	0.240	0.280	0.25	1	3300	52	25.0	100
	387JH	026981 (T)	Ball	200	400	69.0	0.300	0.360	—	3	8200	140	66.0	125
	400ZH	026980 (T)	Ball	115	400	37.0	0.330	0.340	0.50	1	5950	100	47.0	125
Propimax 3BM	473JH	021086 (M)	Ball	200	400	62.0	0.280	0.740	—	3	10900	190	89.0	125
	754DH	023303 (M)	Ball	115	400	63.0	0.610	1.250	2.00	1	11100	190	89.0	115
MIL 901	1790YF	033037 (L)	Ball	115	60	35.0	0.300	0.550	3.00	1	3250	225	106.0	125
Model D Blower	†	033461 (M)	Ball	115	60	138.0	1.200	2.400	4.00	1	3200	140	66.0	100
MIL 80	1891DF	033559 (L)	Ball	115	400	10.0	0.090	0.155	0.39	1	5650	58	28.0	125
	682ZF	033561 (L)	Ball	115	50/60	13.9/13.3	.123/.117	.143/.147	1.00	1	2915	28	13.5	100
	1891DF	033587 (T)	Ball	115	400	10.0	0.090	0.155	0.39	1	5650	58	28.0	125
	682ZF	033588 (T)	Ball	115	50/60	13.9/13.3	.123/.117	.143/.147	1.00	1	2915	28	13.5	100
	1891DF	033589 (M)	Ball	115	400	10.0	0.090	0.155	0.39	1	5650	58	28.0	125
	682ZF	033590 (M)	Ball	115	50/60	13.9/13.3	.123/.117	.143/.147	1.00	1	2915	28	13.5	100
Spartan ECDC	1940SF	011032 (T)	Ball	12 DC	—	7.56	0.540	2.400‡	—	—	3200	108	52.0	100
	1943SF	011035 (T)	Ball	26 DC	—	9.1	0.350	0.770‡	—	—	3200	108	52.0	100
	1928SF	011036 (T)	Ball	26 DC	—	11.7	0.450	1.470‡	—	—	3800	133	65.0	100
MIL 80 ECDC	1929SF	011066 (T)	Ball	12 DC	—	2.2	0.180	1.400‡	—	—	3200	30	14.4	100
	1930SF	011067 (T)	Ball	12 DC	—	3.2	0.270	2.300‡	—	—	3800	38	18.3	100
	1933SF	011068 (T)	Ball	12 DC	—	9.6	0.800	3.900‡	—	—	5800	60	28.8	75
	1934SF	011070 (T)	Ball	26 DC	—	3.1	0.120	0.630‡	—	—	3200	30	14.4	100
	1935SF	011064 (T)	Ball	26 DC	—	3.9	0.150	0.800‡	—	—	3800	38	18.3	100
	1936SF	011072 (T)	Ball	26 DC	—	10.4	0.400	2.600‡	—	—	6400	65	28.8	100
	1959SF	011073 (T)	Ball	48 DC	—	8.6	0.180	0.600‡	—	—	4200	43	18.3	100
Saucer ECDC	1950SF	011056 (T)	Ball	12 DC	—	9.6	0.800	4.000‡	—	—	3000	250	120.0	100
	1945SF	011058 (T)	Ball	26 DC	—	12.5	0.480	2.200‡	—	—	3200	270	130.0	100
	1960SF	011071 (T)	Ball	26 DC	—	20.8	0.800	3.200‡	—	—	3800	325	156.3	70
	1949SF	011075 (T)	Ball	48 DC	—	16.3	0.340	1.200‡	—	—	3200	270	130.0	100
	1974SF	011087 (T)	Ball	48 DC	—	24.0	0.500	2.700‡	—	—	3800	325	156.3	72

†DRFPI (X)/KS-505-CW-329XF **Altivar (high altitude motor) (L) = leadwire models (T) = terminal models (M) = MS connector ‡Starting Amps

Saucer® Fan

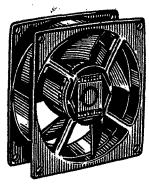


Delivers both high volume and high pressure from a minimum of fan space. .280 cfm (132 L/Sec) free air delivery. Generates pressures up to .5″ (12.7 mm) H_2O. Features driving motor entirely within hub for minimum depth 2.50″ (63.5 mm), diameter 7″ (177.8 mm). Withstands ambients from −60° to 257°F (−54° to +125°C). With prelubricated stainless steel ball bearings and clamping rings at venturi ends for easy mounting. Meet all applicable military specifications. See selection guide on page 75 for specifications.

Stock No.	Mfr.'s Type	Model No.
598-1070	026990	340ZH
598-1075*	026991	650JH
598-1080*	026992	656JH
598-1085*	026993	654DH
598-1090*	020596	654DH
598-1095	020743	340ZH

*Non-stocking item at Allied—Call Allied for price and delivery.

Spartan Fan and Invertafan® Spartan

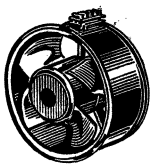


This MIL SPEC version of the famous Muffin fan gives 113 cfm (53 L/Sec) free air delivery, up to 188 cfm (89 L/Sec) for some 400 Hz models. Offers an efficient multi-slot motor, double shielded stainless steel ball bearings, and high pressure characteristics of up to .8″ (20.3 mm) H_2O. These fans are dimensionally interchangeable with the Muffin fan, 4.71″ sq. × 1.50″ (119.6 mm × 38.1 mm). Venturi, spiders, and hub are single aluminum casting for shock and vibration resistance. Withstands ambients from −60° to +212°F (−54° to +100°C). Some models are lower. Lubricated for life. Meet all applicable military specs. Invertafan models run off 12, 24, and 48 VDC, and are brushless. See selection guide on page 75 for specifications.

Stock No.	Mfr.'s Type	Model No.	Description
598-1000*	010313	IFR24SP1035	Invertafan Spartan
598-1005*	010276	IFR48SP1780	Invertafan Spartan
598-1010*	010314	IFR28SP1035	Invertafan Spartan
598-1015	020284	682YF	Spartan
598-1020	020027	682YF	Spartan
598-1025	020028	682YF	Spartan
598-1030	026985	810DF	Spartan
598-1035	026984	810DF	Spartan
598-1040	026983	778YF	Spartan
598-1045*	026982	778YF	Spartan
598-1050*	026987	942WF	Spartan
598-1055*	026986	942WF	Spartan
598-1060*	026989	1395YF	Spartan
598-1065*	026988	1395YF	Spartan

*Non-stocking item at Allied—Call Allied for price and delivery.

Propimax® 2, 3, 3B, and 3BM

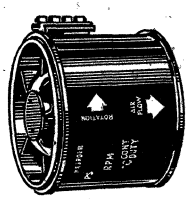


Made for airborne equipment, these large volume, high pressure air movers offer free air delivery from 22 to 225 cfm (10.3 to 106.2 L/Sec), and pressures as high as 7″ (177.8 mm) H_2O at cut-off. For 115 VAC, 1 phase, 400 Hz; 200 VAC, 3 phase, 400 Hz; 115 VAC, 1 phase, 60 Hz. Life expectancies of 10,000 hours at 72°C, at 22,000 RPM. Withstands ambients up to 257°F (125°C). Meet all applicable military specs. **Size and Weight:** Propimax 2—3 1/4 × 1 1/2″ (82.5mm × 38.1 mm), 6.5 oz. (184.3g); Propimax 3 and 3B—3 3/4 × 2″ (95.3 mm × 50.8 mm), 15.2 oz. (431 g). Optional Altivar® motors automatically increase speed with altitude. See selection guide on page 75 for specifications.

Stock No.	Mfr.'s Type	Model No.	Description
598-1245*	026966	366ZH	Propimax 2
598-1250	026967	464ZH	Propimax 2
598-1255*	026968	367JH	Propimax 2
598-1260*	026969	704WH	Propimax 2
598-1265*	026970	606NH	Propimax 2
598-1270*	026971	415ZH	Propimax 2
598-1275*	026972	395JH	Propimax 2
598-1280*	026974	341JH	Propimax 3
598-1285*	026973	409ZH	Propimax 3
598-1290*	026976	473JH	Propimax 3B
598-1295*	026977	718ZH	Propimax 3B
598-1300*	026975	754DH	Propimax 3B
598-1305*	026978	763ZH	Propimax 3B
598-1310*	026979	805ZH	Propimax 3B
598-1315*	026981	387JH	Propimax 3B
598-1320*	026980	400ZH	Propimax 3B
598-1325*	021086	473JH	Propimax 3BM
598-1330*	023303	754DH	Propimax 3BM

*Non-stocking item at Allied—Call Allied for price and delivery.

Aximax® 1, 2, 2H and 3

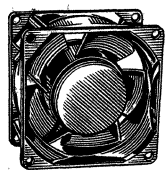


These miniature air movers meet all applicable military specifications and are made for airborne and other critical space/weight/performance applications. Features free air delivery from 10 cfm to 155 cfm (4.7 to 73 L/Sec), and life expectancies from 10,000 hours at 72°C, at 22,000 RPM. Withstands ambients up to 257°F (125°C). For 115 VAC, 1 phase, 400 Hz; 200 VAC, 3 phase, 400 Hz; 115 VAC, 1 phase, 60 Hz. **Size and Weight:** Aximax 1—1 1/2 × 1 1/2″ (38.1 mm × 38.1 mm), 4 oz. (113 g), Aximax 2 and 2H—2 × 1 1/2″ (50.8 mm × 38.1 mm), 4 1/2 oz. (128 g); Aximax 3—3 × 2 5/16″ (76.2 mm × 58.7 mm), 14 oz (.4 kg). Optional Altivar motors automatically increase speed with altitude. See selection guide on page 75 for specifications.

Stock No.	Mfr.'s Type	Model No.	Description
598-1100*	026942	623YH	Aximax 1
598-1105*	026943	367JH	Aximax 1
598-1110*	026944	464YH	Aximax 1
598-1115*	026958	606NH	Aximax 2
598-1120	026952	464YH	Aximax 2
598-1125*	026948	368YH	Aximax 2
598-1130*	026950	367YH	Aximax 2
598-1135*	026954	415YH	Aximax 2
598-1140*	026956	395JH	Aximax 2
598-1145*	027686	415YH	Aximax 2H
598-1150*	026959	606NH	Aximax 2H
598-1155*	026953	464YH	Aximax 2H
598-1160*	026951	367JH	Aximax 2H
598-1165*	026949	368YH	Aximax 2H
598-1170*	026955	415YH	Aximax 2H
598-1175*	026957	395JH	Aximax 2H
598-1180*	026963	528YH	Aximax 3
598-1185*	026964	422DH	Aximax 3
598-1190*	020372	341JH	Aximax 3
598-1195*	026965	599NH	Aximax 3
598-1200*	026961	400YH	Aximax 3
598-1205*	026962	387JH	Aximax 3
598-1210*	020297	500JH	Aximax 3

*Non-stocking item at Allied—Call Allied for price and delivery.

MIL 80

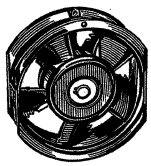


The MIL SPEC version of the Sprite fan provides free air delivery from 28 to 58 cfm (13 to 27 L/Sec). Features pressure building capability up to .5″ (12.7 mm) H_2O at cut-off. Withstands ambients up to 257°F (125°C). Meets all applicable military specifications. See selection guide on page 75 for specifications.

Stock No.	Mfr.'s Type	Model No.
598-1215*	033559	1891DF
598-1220*	033561	682ZF
598-1225*	033587	1891DF
598-1230*	033588	682ZF
598-1235*	033589	1891DF
598-1240*	033590	682ZF

*Non-stocking item at Allied—Call Allied for price and delivery.

MIL 901



MIL SPEC version of Major/Patriot fans with free air delivery to 280 cfm (104 L/Sec). Pressure building capability up to .8″ (20.3 mm) H_2O at cut-off. Withstands MIL-S-901 shock levels. Meets all applicable military specifications. QPL accepted under MIL-B-23071/29-001. See the selection guide on page 75 for specifications.

Stock No.	Mfr.'s Type	Model No.
598-1335*	033037	1790YF

*Non-stocking item at Allied—Call Allied for price and delivery.

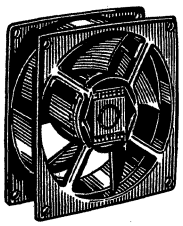
U.S. Government Specified Products

Mfr.'s Type	Fan/Blower	Connector	Slash Sheets	NSN
020743	Saucer 340ZH*	MS3112E8-4P	MIL-B-23071/1-001	4140-925-5188
020284	Spartan 682YF*	MS3112E8-4P	MIL-B-23071/7-001	4140-236-0730
021086	Propimax 3BM 473JH*	MS3112E8-4P	MIL-B-23071/8-001	4140-437-7858
033461	Model D*	MS3112E8-4P	MIL-B-23071/9-001	4140-143-9301
033037	MIL 901 1790YF*	Leads	MIL-B-23071/29-001	—

*QPL accepted.

MIL Grade Brushless DC Fans

These Electronically Commutated Direct Current (ECDC) fans are designed to meet the tough requirements of defense and aerospace users, as well as others requiring top caliber performance. There are no brushes to wear out, so you get long life and low maintenance. Features low power consumption, low EMI/RFI, and high operating temperature capability (to 100°C on some models). The rotational speed (RPM) change is accomplished by simply varying the voltage. Included as a built-in, standard feature, the performance sensor monitors fan rotation. This, coupled with the optional Low Speed Warning Detector, ensures state of the art reliability.



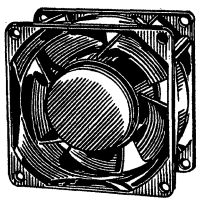
Spartan ECDC

These fans give up to 135 cfm (65 L/Sec) free air delivery at 12 VDC and 180 cfm (86.5 L/Sec) at 26 VDC. Designed to meet applicable military specs, these 12 and 26 VDC models withstand ambients from −54°C to 100°C. Dimensionally interchangeable with Muffin and Spartan AC and DC fans. Features built-in performance sensor and the same housing, ball bearing suspension system, and lubricant in proven high reliability AC designs. Low maintenance because there are no brushes to wear out. See the Selection Guide on page 75 for specifications. **Call your nearest Allied facility for pricing.**

Stock No.	Mfr.'s Type	Model No.
598-1340*	011032	1940SF
598-1345*	011033	1941SF
598-1350*	011035	1943SF
598-1355*	011036	1928SF

*Non-stocking item at Allied—allow for extra lead time.

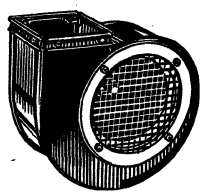
MIL 80 ECDC



Dimensionally interchangeable with Sprite and MIL 80 AC fans, the MIL 80 ECDC models provide up to 65 cfm (28.8 L/Sec) free air delivery at 12 V and 26 VDC; and 38 cfm (18.3 L/Sec) at 48 VDC. 12, 26 and 48 VDC models are designed to meet all applicable military specs. Feature built-in fan performance sensor and low maintenance (without any brushes to wear out). Withstand ambients from −54°C to 100°C. Housing, ball bearing suspension system and lubricant are the same as those supplied in high reliability AC designs. See the Selection Guide on page 75 for specifications. **Call you nearest Allied facility for pricing.**

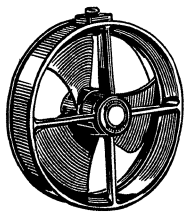
Stock No.	Mfr.'s Type	Model No.
598-1360*	011066	1929SF
598-1365*	011067	1930SF
598-1370*	011068	1933SF
598-1375*	011070	1934SF
598-1380*	011064	1935SF
598-1385*	011072	1936SF
598-1390*	011073	1959SF

*Non-stocking item at Allied—allow for extra lead time.



Model D Blower

Model DRFPI (X)/KS-505-CW-329XF. This rugged centrifugal blower, designed for defense/aerospace applications, provides free air delivery to 130 cfm (61 L/Sec). Features pressure building capability up to 2.0″ (50.8 mm) H_2O at cut-off. Handles pressure building with relatively less noise than fans. QPL accepted under MIL-B-23071/9-001 and -002. Allow for extra lead time—not a stocking item. See the Selection Guide on page 75 for specifications. **Call your nearest Allied facility for pricing.**
598-1430. Type 033461.



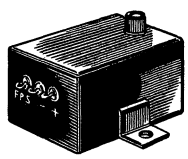
Saucer ECDC

12, 26, and 48 VDC models give 250 cfm (120L/Sec) free air delivery at 12 VDC and up to 325 cfm (156.3 L/Sec) at 26 V or 48 VDC. These fans are dimensionally interchangeable with Feather and Saucer AC fans and meet all applicable military specs. There are no brushes to wear out for low maintenance. Withstand ambients from −54°C to 100°C. Feature built-in fan performance sensor and the same housing, ball bearing suspension system and lubricant found in high reliability AC designs. For specifications see Selection Guide on page 75. **Call your nearest Allied facility for pricing.**

Stock No.	Mfr.'s Type	Model No.
598-1395*	011056	1950SF
598-1400*	011058	1945SF
598-1405*	011071	1960SF
598-1410*	011075	1949SF
598-1415*	011087	1974SF

*Non-stocking item at Allied—allow for extra lead time.

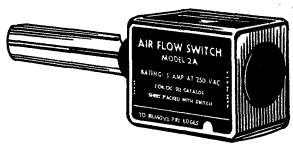
Low Speed Warning Detector



The Low Speed Warning Detector (LSWD) is designed for use with ECDC airmovers equipped with fan performance sensors. Housed in a defense/aerospace system "black box." If your airmover stops operating or falls below the required RPM output, the LSWD will warn you with an LED warning signal or contact closure. This early warning system is optional.

Stock No.	Mfr.'s Type	Model No.	Description	EACH
598-1420	LSWD	034053	For 9-15 V ECDC Fans*	**202.15**
598-1425	LSWD	034054	For 16-48 V ECDC Fans*	**212.90**

*With LED Display.



Airflow Interlock Switch

Model 2A. This SPDT 5 amp, 250 VAC switch features 8 velocity ratings and interchangeable actuating vanes. Mounts on round and flat ducts with a single screw. Life expectancy is 500,000 operations. **Weight:** 4.5 oz. (0.13 kg).

Stock No.	Mfr.'s Type	Model No.	EACH
598-1435	020038	2A (Switch Only)	**60.15**
598-1440	020030	2A/1000	**68.30**
598-1445	020031	2A/1350	**68.95**
598-1450	020032	2A/1600	**69.10**
598-1455	020033	2A/1800	**68.86**
598-1460	020034	2A/2000	**69.75**
598-1465	020035	2A/2450	**70.05**
598-1470	020036	2A/3000	**70.20**
598-1475	020037	2A/4000	**71.30**

Accessories

Stock No.	Mfr.'s Type	Description	For	EACH
598-1480	272261	Finger Guard, mil. finish	Spartan, Spartan ECDC	**10.20**
598-1485	501513	Finger Guard, stainless steel	Spartan, Spartan ECDC	**22.90**
598-1490	501578	Rim Mount Guard	Saucer, Saucer ECDC	**26.75**
598-1495	501579	Panel Mount Guard	Saucer, Saucer ECDC	**26.70**
598-1500	476324	Filter Box	Saucer, Saucer ECDC	**403.90**
598-1510	501577	Panel Mounting Clip	Saucer, Saucer ECDC	**1.60**
598-1515	271167*	Synclamp	Saucer, Saucer ECDC	**6.60**
598-1520	271166*	Reverse Synclamp	Saucer, Saucer ECDC	**7.60**
598-1525	476752	Guard Mounting Clip (3 required)	Saucer, Saucer ECDC	**3.00**
598-1530	476771	Finger Guard, mil. finish	Propimax 3, 3B, 3BM	**39.25**
598-1535	503206	Mounting Clip (3 required)	Propimax 3, 3B, 3BM	**7.30**
598-1540	502657	Finger Guard, mil. finish	MIL 80, MIL 80 ECDC	**12.45**
598-1545	502656	Finger Guard, stainless steel	MIL 80, MIL 80 ECDC	**98.70**
598-1550	020039	Determinator Kit (includes switch)	Airflow Switch	**148.10**
598-1555	476665	Terminal Boot (to cover terminals)	All products with terminals	**13.55**

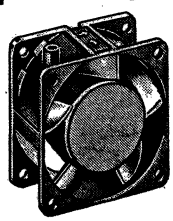
*Also used on Aximax and Propimax .3 per fan required.

The Globe Motors commercial cooling fan product line provides cooling solutions for industrial applications from office copiers, micro-computers and laboratory instrumentation to industrial control cabinets.

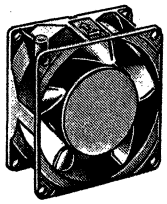
Through the use of CAD/CAM and strict statistical process controls (SPC), our fans have a life expectancy of 60,000 hours and a 0.005% field failure rate (50 parts per million).

Special care has been taken to design-in long operating life and low acoustical noise. All fans use precision, life-lubricated ball bearings.

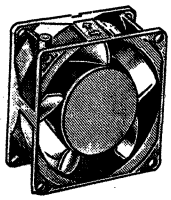
AC Cooling Fans



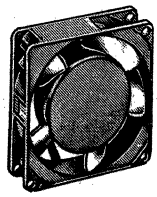
A24T12



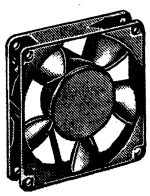
A31T10



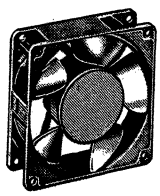
A31T15



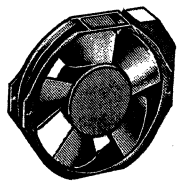
A36T10



A47T10



A47T15



A59T15

Dimensions—Inches (mm): 2.36 sq. × 1.18 (60 sq. × 30)

Stock No.	Mfr.'s Type	Nominal Voltage VAC	Acoustic Noise dBA	RPM	CFM	EACH
965-0100	A24-B12A-15W3-000	115	28/29	2350/2900	8/10	20.00

Dimensions—Inches (mm): 3.15 sq. × 1.00 (80 sq. × 25)

965-0105	A31-B10A-15W3-000	115	37/40	2700/3250	17/20	20.00

Dimensions—Inches (mm): 3.15 sq. × 1.50 (80 sq. × 38) on all models

965-0110	A31-B15A-15T1-000	115	23/25	1750/2050	18/21	20.00
965-0115	A31-B15A-15T2-000	115	27/31	2200/2500	21/25	20.00
965-0120	A31-B15A-15T3-000	115	33/38	2750/3250	28/33	20.00
965-0125	A31-B15A-15W1-000	115	23/25	1750/2050	18/21	20.00
965-0130	A31-B15A-15W2-000	115	27/31	2200/2500	21/25	20.00
965-0135	A31-B15A-15W3-000	115	33/38	2750/3250	28/33	20.00
965-0140	A31-B15A-23W1-000	230	23/26	1900/2300	19/24	20.00
965-0145	A31-B15A-23W2-000	230	29/34	2300/2700	22/27	20.00
965-0150	A31-B15A-23W3-000	230	33/38	2750/3300	27/33	20.00

Dimensions—Inches (mm): 3.64 sq. × 1.00 (92 sq. × 25) on all models

965-0155	A36-B10A-15T1-000	115	22/25	1600/2000	18/23	19.50
965-0160	A36-B10A-15T2-000	115	30/35	2300/2700	25/30	19.50
965-0165	A36-B10A-15T3-000	115	33/38	2650/3200	29/36	19.50
965-0170	A36-B10A-23T1-000	230	22/26	1700/2250	20/25	19.50
965-0175	A36-B10A-23T2-000	230	30/35	2300/2700	25/30	19.50
965-1080	A36-B10A-23T3-000	230	34/39	2650/3200	30/36	19.50

Dimensions—Inches (mm): 4.69 sq. × 1.00 (119 sq. × 25) on all models

965-0185	A47-B10A-15T2-000	115	29/30	2050/2250	52/57	19.50
965-0190	A47-B10A-15T3-000	115	34/38	2550/2950	68/77	19.50
965-0195	A47-B10A-23T2-000	230	29/30	2050/2300	52/58	19.50
965-0200	A47-B10A-23T3-000	230	34/38	2500/2850	65/74	19.50

Dimensions—Inches (mm): 4.69 sq. × 1.50 (119 sq. × 25) on all models

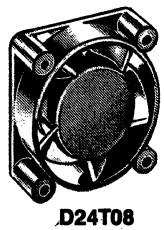
965-0205	A47-B15A-15T1-000	115	28/28	1650/1650	53/53	19.50
965-0210	A47-B15A-15T2-000	115	40/43	2600/2900	85/95	19.50
965-0215	A47-B15A-15T3-000	115	42/46	2750/3200	90/105	19.50
965-0220	A47-B15A-23T1-000	230	28/28	1770/1770	58/58	19.50
965-0225	A47-B15A-23T2-000	230	40/43	2600/2850	85/95	19.50
965-0230	A47-B15A-23T3-000	230	43/47	2750/3150	90/105	19.50

Dimensions—Inches (mm): 5.91 sq. × 6.78 × 1.50 deep (150 sq. × 172 × 38) on all models

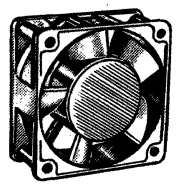
965-0235	A59-B15A-15T1-000	115	35/38	1450/1720	86/105	45.00
965-0240	A59-B15A-15T2-000	115	46/50	2360/2750	144/170	45.00
965-0245	A59-B15A-15T3-000	115	52/56	2800/3370	178/215	45.00
965-0250	A59-B15A-23T1-000	230	35/38	1450/1600	86/105	45.00
965-0255	A59-B15A-23T2-000	230	46/50	2420/2800	144/170	45.00
965-0260	A59-B15A-23T3-000	230	52/56	2870/3400	178/215	45.00

Note Capacitor Values: 115 VAC Series—3.0 mF at 250 VAC; 230 VAC Series—1.0 mF at 350 VAC.

DC Cooling Fans



D24T08



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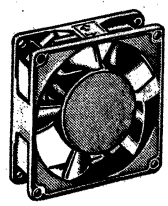

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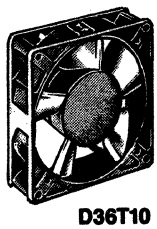
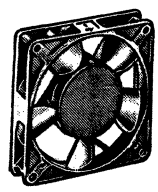
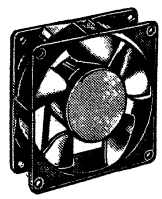


D36T10



D47T10



D47T15

Dimensions—Inches (mm): 2.36 sq. × 0.79 (60 sq. × 20) on all models

Stock No.	Mfr.'s Type	Nominal Voltage VAC	Acoustic Noise dBA	RPM	CFM	EACH
965-0265	D24-808A-04W3-000	12	28	3150	9	19.50
965-0270	D24-808A-04W4-000	12	37	4400	13	19.50
965-0275	D24-808A-05W3-000	24	28	3250	9	19.50
965-0280	D24-808A-05W4-000	24	37	4500	13	19.50

Dimensions—Inches (mm): 2.36 sq. × 1.00 (60 sq. × 25) on all models

965-0285	D24-810A-04W3-000	12	28	3200	15	19.50
965-0290	D24-810A-04W4-000	12	34	4000	19	19.50
965-0295	D24-810A-05W3-000	24	28	3100	14	19.50
965-0300	D24-810A-05W4-000	24	34	4000	19	19.50

Dimensions—Inches (mm): 3.15 sq. × 1.00 (80 sq. × 25) on all models

965-0310	D31-810A-04W2-000	12	27	2450	21	20.00
965-0315	D31-810A-04W3-000	12	34	3150	30	20.00
965-0320	D31-810A-05W2-000	24	27	2500	24	20.00
965-0325	D31-810A-05W3-000	24	34	3300	31	20.00

Dimensions—Inches (mm): 3.62 sq. × 1.00 (92 sq. × 25) on all models

965-0330	D36-B10A-04W2-000	12	33	2350	36	20.50
965-0335	D36-B10A-04W3-000	12	39	2950	48	20.50
965-0340	D36-B10A-05W2-000	24	33	2400	37	20.50
965-0345	D36-B10A-05W3-000	24	39	2950	48	20.50

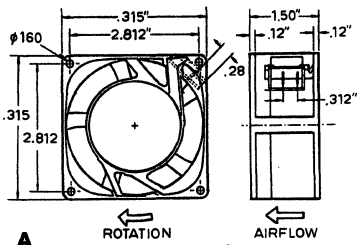
Dimensions—Inches (mm): 4.69 sq. × 1.00 (119 sq. × 25) on all models

965-0350	D47-B10A-04W2-000	12	33	2200	55	21.00
965-0355	D47-B10A-04W3-000	12	38	2850	73	21.00
965-0360	D47-B10A-05W2-000	24	33	2100	54	21.00
965-0365	D47-B10A-05W3-000	24	38	2850	73	21.00

Dimensions—Inches (mm): 4.69 sq. × 1.50 (119 sq. × 38) on all models

965-0370	D47-B15A-04T2-000	12	41	2400	81	21.00
965-0375	D47-B15A-04T3-000	12	47	3000	102	21.00
965-0380	D47-B15A-05T2-000	24	41	2350	79	21.00
965-0385	D47-B15A-05T3-000	24	47	2950	100	21.00
965-0390	D47-B15A-04W2-000	12	41	2400	81	20.00
965-0395	D47-B15A-04W3-000	12	47	3000	102	20.00
965-0400	D47-B15A-05W2-000	24	41	2350	79	20.00
965-0405	D47-B15A-06W3-000	24	47	2950	100	20.00

AC Fans



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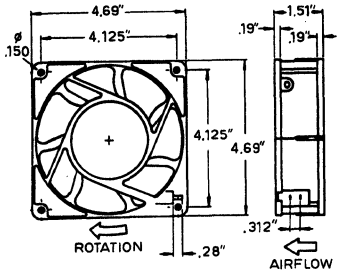

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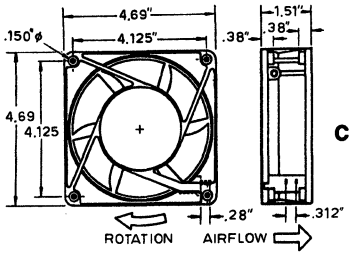

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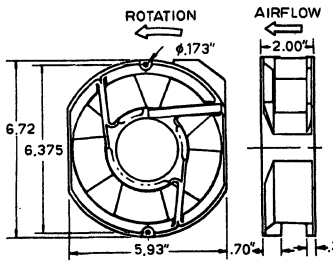
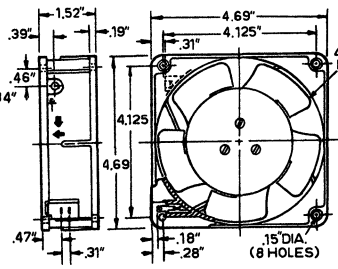


D

E47145 LR 35886



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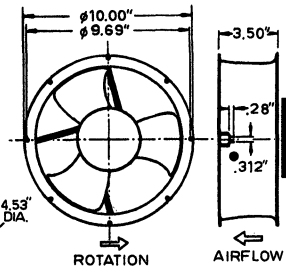


F

Cyclohm Series Fans

Deliver large volumes of air over a wide angle with whisper quiet performance. Designed for 10 years of continuous use without lubrication. Airflow reversable by turning fan end-for-end. Rugged cast aluminum venturi block for durability. Lexan molded impellers.

Special Features

- **3.15" × 3.15" × 1.5" (80 mm × 80 mm × 38 mm)**
- **17 to 30 CFM**
- **Impedance protected**
- **Zinc die cast venturi**
- **Thermoplastic impeller—UL Rated 94 VO**
- **Sleeve bearing construction**
- **12" 22 AWG leads or .110" quick connect terminals**

3-15-13XX (Sleeve Bearing)

Stock No.	Lead	Stock No.	Term	CFM	Volts	Fig.	RPM	L_{PA} dBA	EACH 1-24	EACH 25-49	EACH 50-Up
613-1325	1325	613-1335	1335	17	115	A	2200/2200	26/27	**19.65**	**18.10**	**16.90**
613-1323	1323	613-1333	1333	23	115	A	2325/2450	29/31	**19.45**	**17.90**	**16.70**
613-1321	1321	613-1331	1331	30	115	A	2550/3050	32/36	**19.25**	**17.70**	**16.55**

3-15-25XX/35XX/44XX (Sleeve Bearing)

613-2532	2532	613-2544	2544	50	115	B	1700/1600	34/31	**18.45**	**17.00**	**15.85**
613-2533	2533	613-2545	2545	50	230	B	1700/1600	34/31	**18.80**	**17.30**	**16.15**
613-2537	2537	613-2547	2547	70	115	B	1950/2100	36/38	**18.45**	**17.00**	**15.85**
613-2538	2538	613-2548	2548	70	230	B	1950/2100	36/38	**18.80**	**17.30**	**16.15**
613-3508	3508	613-3510	3510	100	115	B	2550/2900	44/47	**17.80**	**16.40**	**15.30**
613-3502	3509	613-3511	3511	100	230	B	2550/2900	44/47	**17.95**	**16.50**	**15.45**
613-4486	4486	613-4488	4488	110	115	C	2600/3100	51/53	**22.80**	**21.00**	**19.60**
613-4485	4485	613-4487	4476	110	230	C	2600/3100	51/53	**23.35**	**21.50**	**20.10**

3-15-5XXX/6XXX (Ball Bearing)

613-6002	6002	613-6000	6000	120	115	D	1450/1700	38/42	**58.15**	**53.50**	**50.00**
613-5614	5614	613-5610	5610	180	115	D	2400/2300	49/49	**61.20**	**56.30**	**52.65**
613-5612	5612	613-5617	5617	240	115	D	2900/3400	53/57	**51.50**	**44.40**	**41.45**
613-5613	5613	613-5618	5618	240	230	D	2900/3400	53/57	**52.70**	**48.50**	**45.30**
		613-0340	3450	100	115	E	2500/3000	34/38	**19.00**	**17.50**	**16.35**
		613-0320	2450	60	115	E	1600/1900	21/24	**19.45**	**17.90**	**16.70**
		613-0350	2455	60	115	E	1700/2100	24/28	**19.80**	**18.20**	**17.00**

5-50-XXXX (Ball Bearing)

613-0101	0101	613-0100	0100	115	34/37	F	1400/1650	49/53	**65.45**	**60.20**	**56.30**
613-5101	5101	613-5100	5100	230	34/37	F	1400/1650	49/53	**66.95**	**61.60**	**57.60**

Brushless DC Fans

Features include high-strength thermoplastic impellers and venturi for improved aerodynamic and acoustic properties, lower noise under load, higher pressure versus flow characteristics and lower power requirements than equivalent AC fans. Variation of input voltage over a ± 25% range will increase or decrease nominal airflow.

3-15-81XX (Ball Bearing)

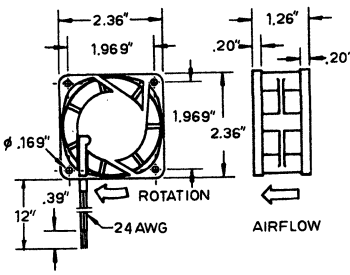
Stock No.	Mfr.'s Type	Fig.	CFM	Volts	EACH 1-24	EACH 25-49	EACH 50-Up
613-8101	8101	G	10	12	**19.00**	**17.45**	**16.35**
613-8102	8102	G	10	24	**19.00**	**17.45**	**16.35**
613-8104	8104	G	14	24	**19.00**	**17.45**	**16.35**

3-15-83XX (Ball Bearing)

613-8301	8301	H	13	12	**19.00**	**17.45**	**16.35**
613-8302	8302	H	13	24	**19.00**	**17.45**	**16.35**
613-8303	8303	H	19	12	**19.00**	**17.45**	**16.35**
613-8304	8304	H	19	24	**19.00**	**17.45**	**16.35**
613-8305	8305	H	27	12	**19.00**	**17.45**	**16.35**
613-8306	8306	H	27	24	**19.00**	**17.45**	**16.35**

3-15-85XX (Ball Bearing)

613-8501	8501	J	30	12	**21.55**	**19.80**	**17.00**
613-8503	8503	J	40	12	**21.55**	**19.80**	**17.00**
613-8504	8504	J	40	24	**21.55**	**19.80**	**17.00**
613-8506	8506	J	50	24	**21.55**	**19.80**	**17.00**



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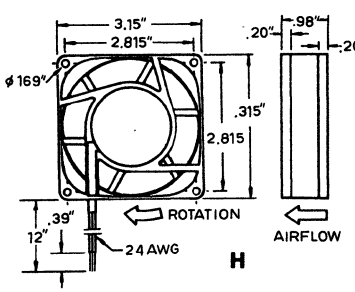

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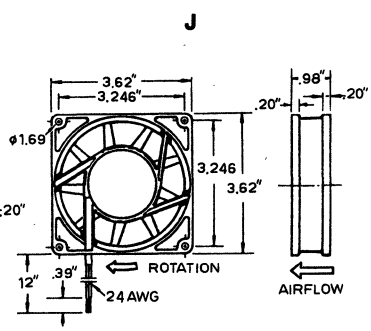
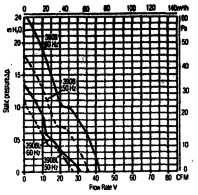
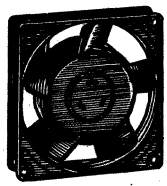


J

Models 3908 and 3908L Series

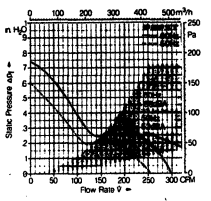




1 in. flat axial fans. Metal fan housing, impeller of fiberglass reinforced plastic (PC). Internal rotor shaded pole motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ120 plug and cord set, or soldered. Mass 10 oz. (280 g). **4.68" × 4.68" × 1.0" (119 mm × 119 mm × 25 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-3908	3908	115/60	41	3100	41.5	**32.15**	**29.67**	**26.78**
600-3909	3908L	115/60	33	2300	31.0	**34.60**	**31.93**	**28.82**

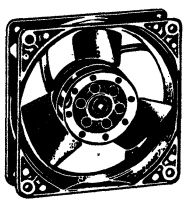
Model 6078

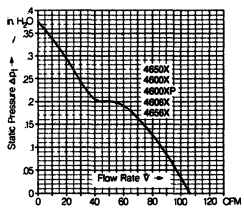


Metal fan housing, impeller of fiberglass reinforced plastic (PPO). Capacitor motor, with thermal switch. Running capacitor integrated into housing. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 39.6 oz. (1100 g). Ball bearing. **6.75" dia. × 2.16" (172 mm dia. × 55 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-6078	6078S	230/60	57	3300	294.3	**76.85**	**70.92**	**64.02**

Models 4600X/4606X/4650X/4656X/4600XP*



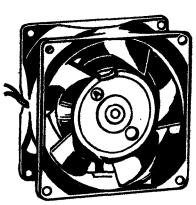


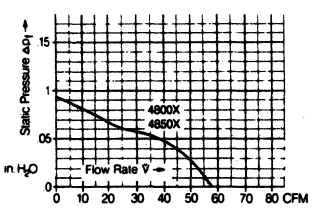
Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 19.8 oz. (550 g). **4.68" × 4.68" × 1.5" (119 mm × 119 mm × 38 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4600	4600X	115/60	47	3100	105.9	**20.60**	**19.01**	**17.16**
600-4606	4606X	115/60	48	3100	105.9	**34.50**	**31.84**	**28.74**
600-4650	4650X	230/60	47	3100	105.9	**22.55**	**20.81**	**18.78**
600-4656	4656X	230/60	48	3100	105.9	**36.45**	**33.64**	**30.36**
600-4601*	4600XP	115/60	47	3100	105.9	**27.60**	**25.47**	**22.99**

*5 year warranty

Model 4800X

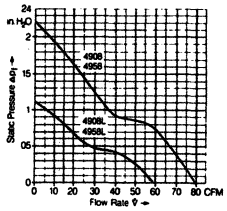


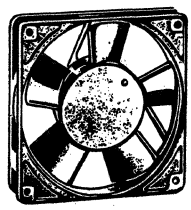


Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 18.7 oz. (520 g). **4.68" × 4.68" × 1.5" (119 mm × 119 mm × 38 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4800	4800X	115/60	32	1800	58.3	**23.10**	**21.32**	**19.24**

4900 Series

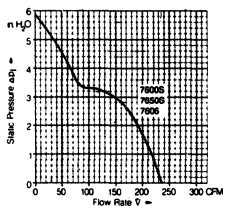


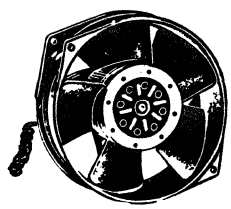


Metal fan housing, impeller of fiberglass reinforced plastic (PC). Internal rotor shaded pole motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 11.5 oz. (320 g). Ball bearing. **4.68" × 4.68" × 1.0" (119 mm × 119 mm × 25 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4908	4908	115/60	44.5	2850	79.5	**30.00**	**27.69**	**24.99**

Models 7600S/7606/7650S

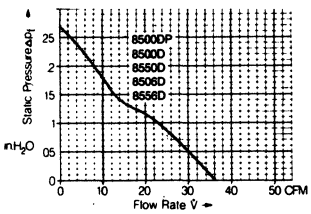


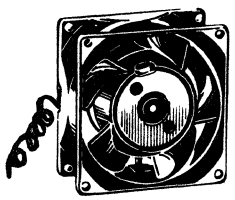


Metal housing and impeller. Shaded pole motor, with thermal switch (only for models with sleeve bearings). Counterclockwise rotation viewed from rotor, air input over struts. Elec. connection via 2 leads AWG 18, 14 in. (365 mm). Mass 39.6 oz. (1100 g). **5.9" dia. × 2.16" (150 mm dia. × 55 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-7500	7600S	115/60	60	3350	235.4	**42.00**	**38.76**	**34.99**
600-7506	7606	115/60	60	3350	235.4	**65.30**	**60.27**	**54.39**
600-7650	7650S	230/60	60	3350	235.4	**43.65**	**40.28**	**36.36**

Models 8500D/8506D/8550D/8500DP*



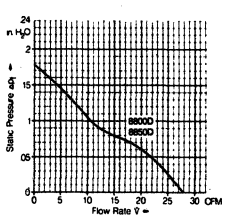


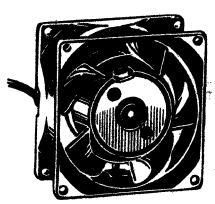
Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 18, 12 in. (310 mm). Mass 17.3 oz. (480 g). **3.13" × 3.13" × 1.5" (80 mm × 80 mm × 38 mm).**

Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8500	8500D	115/60	39	3150	35.9	**21.00**	**19.38**	**23.32**
600-8506	8506D	115/60	40	3300	35.9	**34.90**	**32.21**	**29.07**
600-8550	8550D	230/60	39	3150	35.9	**22.95**	**21.18**	**19.12**
600-8501*	8500DP	115/60	39	3150	35.9	**28.00**	**25.84**	**17.49**

*5 year warranty

Model 8800D

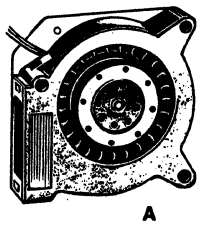




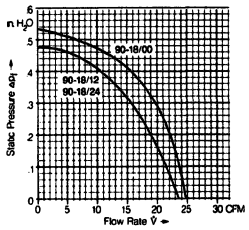
Metal housing and impeller. Shaded pole motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection via 2 leads AWG 18, TR 64, 17 in. (440 mm). Mass 17.3 oz. (480 g). **3.13" × 3.13" × 1.5" (80 mm × 80 mm × 38 mm).**

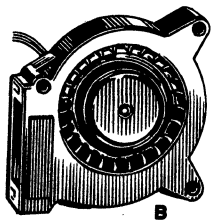
Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8800	8800D	115/60	34	2550	27.7	**23.55**	**21.73**	**19.62**

Models RL90-18/00 and RL90-18/24 Blowers



A





B

Fig. A. Model RL90-18/00 Blower
Housing of fiberglass reinforced plastic (PC) and metal plate, impeller of fiberglass reinforced plastic (PA). Shaded pole motor. Clockwise rotation viewed from rotor, air output through housing window. Elec. connection via 2 leads AWG 18, TR 64, 12 in. (310 mm). Mass 24.5 oz. (680 g).

4.75" × 4.75" × 1.45" (121 mm × 121 × 37 mm)

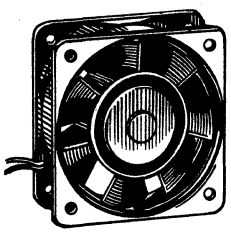
Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-1005	RL90-18/00	115/60	51	2600	23.5	32.25	29.76	26.86

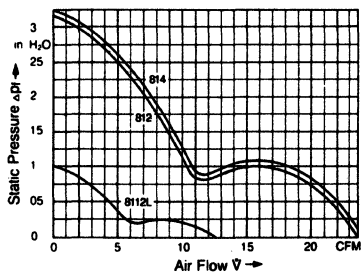
Fig. B Model RL90-18/24 Blower
Housing of fiberglass reinforced plastic (PC) or metal plate, impeller of fiberglass reinforced plastic (PA). Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output through housing window. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (210 mm). Mass 23.8 oz (660 g). Ball bearing.

4.75" × 4.75" × 1.45" (121 mm × 121 × 38 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-1010	RL90-18/24	24	51	2500	23.5	70.05	64.65	58.35

800 Series Multifans



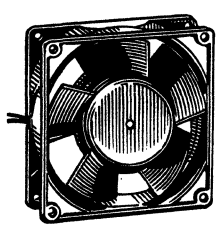


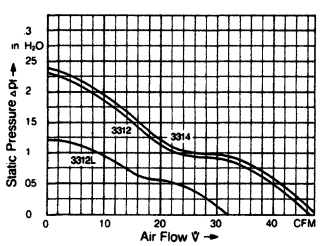
Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 3 oz. (85 g). Ball bearing.

2.44" × 2.44" × 1.0" (62 mm × 62 × 25 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-0805	805L	5	26	3000	12.4	27.20	25.10	22.66
600-0811	812L	12	26	3000	12.4	25.20	23.26	20.99
600-0812	812	12	40	5300	23.5	25.20	23.26	20.99
600-0814	814	24	40	5300	23.5	25.20	23.26	20.99

3300 Series Multifans



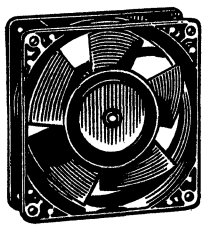


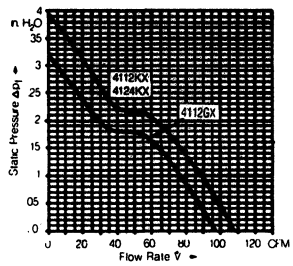
Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 6.8 oz. (190 g). Ball bearing.

3.62" × 3.62" × 1.26" (92 mm × 92 × 32 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-3312	3312	12	37	3000	47.1	25.25	23.30	21.03
600-3314	3314	24	37	3000	47.1	25.25	23.30	21.03
600-3311	3312L	12	29	2150	33.0	25.25	23.30	21.03

4100 Series Fans





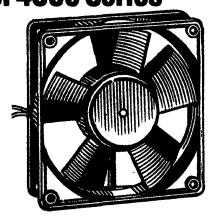
Metal fan housing, impeller of fiberglass reinforced plastic (PA). Electronically commutated DC motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered. Mass 17.3 oz. (480 g). Model 4112KX and 4124KX: Mass 18 oz. (500 g).

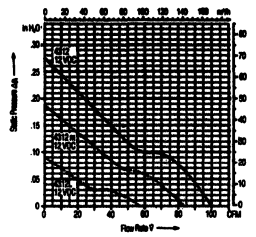
4.68" × 4.68" × 1.5" (119 mm × 119 × 38 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4113†	4112GX	12	44	2800	94.2	40.20	37.10	33.49
600-4124†	4124GX	24	44	2800	94.2	40.20	37.10	33.49
600-4111†	4112GXL	12	28	1450	50.0	40.20	37.10	33.49
600-4114*	4112KX	12	49	3200	105.9	45.10	41.62	37.57
600-4125*	4124KX	24	49	3200	105.9	45.10	41.62	37.57

*Ball Bearing. †Sleeve Bearing.

Model 4300 Series



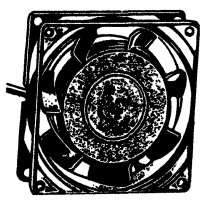


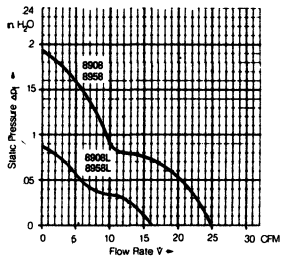
Fan of fiberglass reinforced plastic. PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 8 oz. (220 g).

4.68" × 4.68" × 1.26" (119 mm × 119 × 32 mm)

Stock No.	Mfr.'s Type	DC Volts	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4312	4312	12	45	2800	100.0	28.25	26.07	23.53
600-4311	4312M	12	40	1550	82.4	28.25	26.07	23.53
600-4310	4312L	12	30	2300	55.9	28.25	26.07	23.53

8900 Series





Metal fan housing, impeller of fiberglass reinforced plastic (PC). Internal rotor shaded pole motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, 12 in. (300 mm). Mass 8.6 oz. (240 g). Ball bearing.

3.13" × 3.13" × 1.0" (80 mm × 80 × 25 mm)

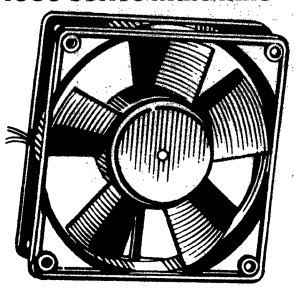
Stock No.	Mfr.'s Type	AC V/Hz	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8908	8908	115/60	35	3000	24.5	30.40	28.06	25.32
600-8958	8958	230/60	35	3000	24.5	32.30	29.81	26.91

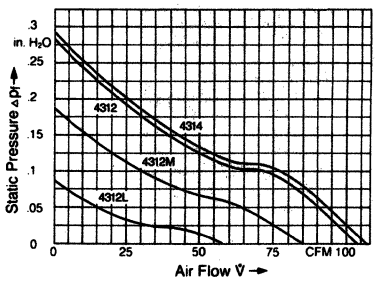
Accessories

Stock No.	Mfr.'s Type	Description	Fits Series	EACH
600-5508	LZ22N-1	Metal Finger Guard	8000	2.67
600-5500	LZ23-1	Metal Finger Guard	3000	2.61
600-5506	LZ24-A	Metal Finger Guard	6000	5.33
600-5507	LZ28	Metal Finger Guard	800	1.85
600-5504	LZ30-1	Metal Finger Guard	2500S/4000	3.10
600-5512	LZ30P-1	Plastic Finger Guard	2500S/4000	2.67
600-5501	LZ40-1	Hardware	2500S/4000	1.83
600-5503	LZ40N	Screen	2500S/4000	8.25
600-5502	LZ60	Filter	2500S/4000	4.10
600-5505	LZ120	Plus and Cord Set	300/4000/6000	1.75

3

4300 Series Multifans



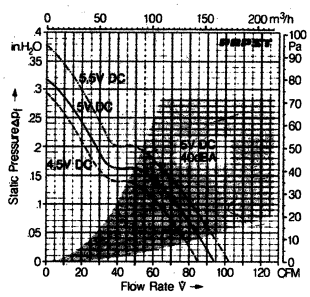


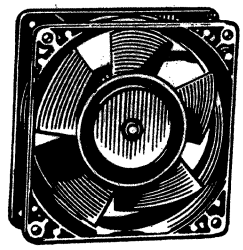
Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 8 oz. (220 g). Ball bearing.

4.68" × 4.68" × 1.26" (119 mm × 119 mm × 32 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4312	4312	12	45	2800	100.0	**28.25**	**26.07**	**23.53**
600-4314	4314	24	45	2800	100.0	**28.25**	**26.07**	**23.53**
600-4310	4312L	12	30	1550	55.9	**28.25**	**26.07**	**23.53**
600-4311	4312M	12	40	2300	82.4	**28.25**	**26.07**	**23.53**

4105GX Series Fans



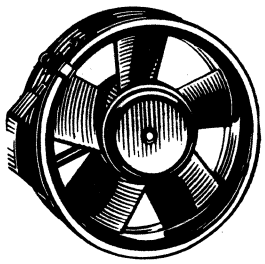


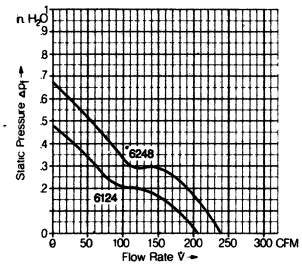
Metal fan housing, impeller of fiberglass reinforced plastic (PA). Electronically commutated DC motor. Clockwise rotation viewed from rotor, air input over struts. Elec. connection with LZ 120 plug and cord set, or soldered.

4.68" × 4.68" × 1.5" (119 mm × 119 mm × 38 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-4105	4015GX	5	44	2800	94.2	**41.10**	**37.93**	**34.24**

6100/6200 Series Fans



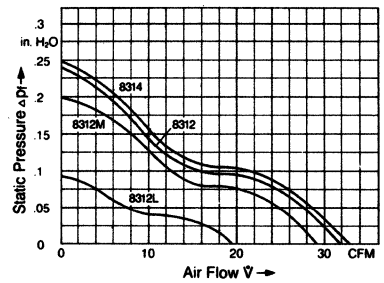


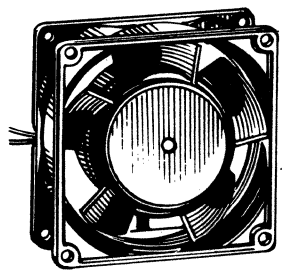
Metal fan housing, impeller of fiberglass reinforced plastic (PPO). Electronically commutated DC motor. Counterclockwise rotation viewed from rotor, air output over struts. Elec. connection with LZ 120 plug and cord set, or soldered. **6100 Series:** Mass 36 oz. (1000 g). **6200 Series:** Mass 30.6 oz. (850 g). Ball bearing.

6100: 6.75" dia. × 2.16" (1.72 mm dia. × 55 mm)
6200: 6.75" dia. × 2.00" (1.72 mm dia. × 51 mm)

Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-6124	6124	24	50	2850	206.0	**98.05**	**90.49**	**81.68**
600-6148	6148	48	50	2850	206.0	**98.05**	**90.49**	**81.68**
600-6224	6224	24	55	3400	241.3	**81.25**	**74.99**	**67.68**
600-6248	6248	48	55	3400	241.3	**81.25**	**74.99**	**67.68**

8300 Series Multifans



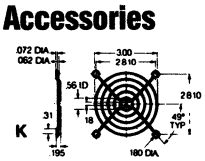


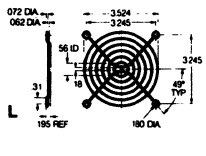
Fan of fiberglass reinforced plastic: PBTP housing, PA impeller. Electronically commutated DC motor. Clockwise rotation viewed from rotor, air output over struts. Elec. connection via 2 leads AWG 22, TR 64, 12 in. (310 mm). Mass 6.1 oz. (170 g). Ball bearing.

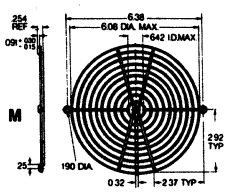
3.13" × 3.13" × 1.26" (80 mm × 80 mm × 32 mm)

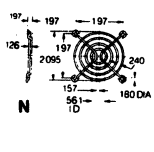
Stock No.	Mfr.'s Type	Volts DC	dB (Noise)	RPM	CFM	EACH		
						1-9	10-24	25-49
600-8312	8312	12	36	3300	31.8	**24.90**	**22.98**	**20.74**
600-8314	8314	24	36	3300	31.8	**24.90**	**22.98**	**20.74**
600-8310	8312L	12	26	2000	18.8	**24.90**	**22.98**	**20.74**
600-8311	8312M	12	34	3000	28.3	**24.90**	**22.98**	**20.74**

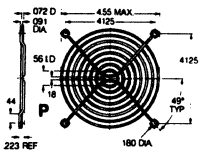
Accessories

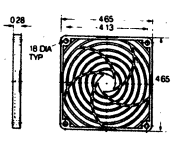


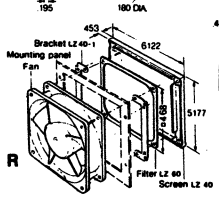


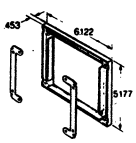


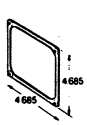


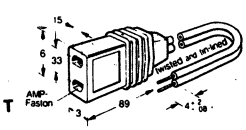












Finger Guards

Fig. K LZ 22 N-1: Welded, nickel chrome-plated steel wire, .062 in. (1.6 mm) diameter. For series 8000.
600-5508 ..... **EACH 2.00**

Fig. L LZ 23-1: Welded, nickel chrome-plated steel wire, .062 in. (1.6 mm) diameter. For series 3000.
600-5500 ..... **EACH 2.15**

Fig. M LZ 24-1: Welded, nickel chrome-plated steel wire, .072 in. (1.8 mm) diameter. For series 6000.
600-5506 ..... **EACH 4.00**

Fig. N LZ 28: Welded, chrome-plated steel wire, .063 in. (1.6 mm) dia. For 800 MULTIFAN.
600-5507 ..... **EACH 1.85**

Fig. P LZ 30-1: Welded, nickel chrome-plated steel wire, .072 in. (1.8 mm) diameter. For series 2500S, 4000 and model 5500S.
600-5504 ..... **EACH 2.25**

Fig. Q LZ 30 P-1: Fiberglass reinforced plastic (PPO). For series 2500S, 4000 and model 5500S.
600-8400 ..... **EACH 2.00**

Fig. R LZ 40 N Screen. Frame of black fiberglass reinforced plastic (PPO), fitted with stainless steel wire mesh. LZ 40-1 included for mounting. For series 2500S, 4000 and model 5500S.
600-5503 ..... **EACH 6.20**

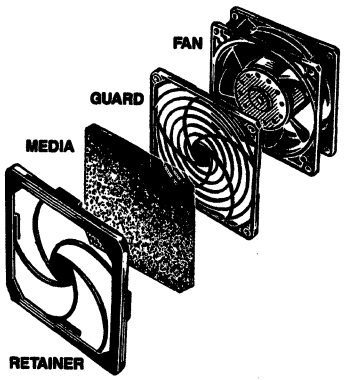
Fig. S LZ 60 Filter. Light metal frame with crimped-on aluminum mesh. Mesh size .003 in. (0.7 mm), wire dia. .012 in (0.3 mm). For series 2500S, 4000 and model 5500S.
500-5502 ..... **EACH 3.00**

Fig. T LZ 120 Plug and Cord Set. 24 in. (610 mm) long. UL-approved. Connecting cable with moulded plug. PVC, black. For series 3000, 4000 and 6000.
600-5505 ..... **EACH 1.30**

Fig. U LZ 210 Screw Clip. For mounting fans with self-tapping screw 6-32 UNC or 3.5 DIN 7970. Made of hardened and tempered steel, deburred surface lightly oiled. For series 2500S, 4000, 7000 and model 5500S. (Not for MULTIFAN series 4300).
600-5509 ..... **EACH .20**

Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

Plastic Fan Filter Assemblies



General Description. Fan-S offers a unique fan filter package consisting of a guard, foam filter media and media retainer, manufactured with UL listed 94-V0 material for 80 mm - 3 1/8", 92 mm - 3 5/8" and 120 mm - 4 1/2" tubeaxial fans for the removal of dust and contaminating particles. Installation is quick and simple: four mounting screws secure the guard portion, then snap on the retainer and filter media with no extra hardware or brackets required.

The two major features of our filter package are safety and low down time. When the filter media requires maintenance, simply taking the retainer off, the media is exposed for cleaning or replacement thus leaving the guard attached to the fan assuring employee protection and eliminating possible damage of the fan component during handling. Leaving the fan operational during servicing thus eliminating down time.

80 mm - 3 1/8"

Stock No.	Mfr.'s Type	Description	Size (")				EACH		
			H	W	T	M/C	1-9	10-24	25-99
609-5600	09325-F/30	Guard, Retainer, Media	3.29	3.29	.39	2.81	3.91	3.13	2.70
609-5601	09325-F/45	Guard, Retainer, Media	3.29	3.29	.39	2.81	3.91	3.13	2.70
609-5602	09325-G	Guard Only	3.15	3.15	.26	2.81	1.56	1.24	1.08
609-5603	09325-R	Retainer Only	3.29	3.29	.39	—	1.62	1.29	1.12
609-5604*	09325-M/30	30 ppi Media only	—	—	—	—	2.60	2.05	1.80
609-5605*	09325-M/45	45 ppi Media only	—	—	—	—	2.60	2.05	1.80

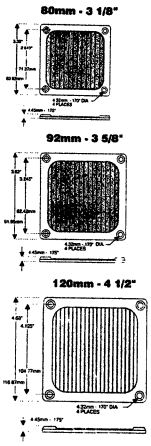
92 mm - 3 5/8"

609-5606	09362-F/30	Guard, Retainer, Media	3.80	3.80	.39	3.25	3.84	3.07	2.64
609-5607	09362-F/45	Guard, Retainer, Media	3.80	3.80	.39	3.25	3.84	3.07	2.64

120 mm - 4 1/2"

609-5612	09450-F/30	Guard, Retainer, Media	4.87	4.87	.42	4.13	4.92	3.91	3.36
609-5613	09450-F/45	Guard, Retainer, Media	4.87	4.87	.42	4.13	4.92	3.91	3.36
609-5614	09450-G	Guard Only	4.65	4.65	.28	4.13	2.00	1.59	1.38
609-5616*	09450-M/30	30 ppi Media Only	—	—	—	—	3.10	2.45	2.15

*Per pack of 5.



Aluminum Fan Filters

General Description. These tested and proven filters provide maximum airflow with effective filtering. Mill and irridite finishes are offered to enhance EMI/RFI shielding as well as an anodized finish for esthetic purposes. The tightly woven aluminum corrugated mesh screen is encased in a formed aluminum frame built for ruggedness and durability. The units are easily washed in a solvent or degreaser and can be mounted directly to the fan or to a panel.

80 mm - 3 1/8"

Stock No.	Mfr.'s Type	Finish	EACH		
			1-9	10-24	25-99
609-5620	06325-B	Anodized (Black)	3.94	3.70	3.44
609-5623	06325-M	Mill (No Finish)	3.26	3.06	2.85

92 mm - 3 5/8"

609-5624	06362-B	Anodized (Black)	4.84	3.87	3.33
609-5627	06362-M	Mill (No Finish)	3.17	2.54	2.18

120 mm - 4 1/2"

609-5628	06450-B	Anodized (Black)	5.47	4.38	3.76
609-5629	06450-C	Irridite (Clear)	5.47	4.38	3.76
609-5631	06450-M	Mill (No Finish)	4.53	3.62	3.11

Fan Power Cords

07100

07145

07190

07199

General Description. Fan-S offers a complete line of high quality fan power cords designed to be used with tubeaxial fans. Available in four configurations. A strain relief is incorporated for added safety. Standard cord lengths are 12", 24", 36", 40", 50", 60" and 80".

Straight Style

Stock No.	Mfr.'s Type	Cord Length	EACH		
			1-9	10-24	25-99
609-5640	07100-12	12"	1.77	1.41	1.22
609-5641	07100-24	24"	1.88	1.51	1.30
609-5642	07100-36	36"	1.97	1.58	1.36

T-Plus Style

609-5649	07199-12	12"	1.77	1.41	1.22
609-5650	07199-24	24"	1.88	1.51	1.30
609-5651	07199-36	36"	1.97	1.58	1.36

45-Degree Style

Stock No.	Mfr.'s Type	Cord Length	EACH		
			1-9	10-24	25-99
609-5643	07145-12	12"	1.77	1.41	1.22
609-5644	07145-24	24"	1.88	1.51	1.30
609-5645	07145-36	36"	1.97	1.58	1.36

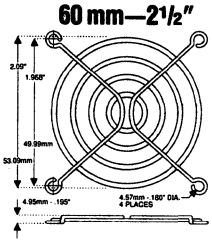
90-Degree Style

609-5646	07190-12	12"	1.77	1.41	1.22
609-5647	07190-24	24"	1.88	1.51	1.30
609-5648	07190-36	36"	1.97	1.58	1.36

Wire Form Fan Guards

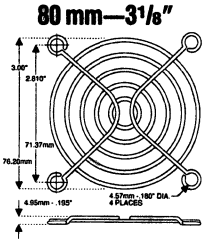
General Description. The 08 series wire form fan guards are designed for use with tubeaxial fan sizes 40 mm - 1 1/2", 50 mm - 2", 60 mm - 2 1/2", 80 mm - 3 1/8", 92 mm - 3 5/8", 120 mm 4 1/2", 127 mm - 5", 150 mm - 6" and 254 mm - 10". Our 3/16" and 1/4" maximum ring spacing designs were developed to assist our customers in complying with domestic and international safety agency requirements that are in effect today or that may develop in the future. We maintain the highest level of quality control by insuring that we use only the highest grade of materials that must pass a very stringent level of incoming inspection prior to being accepted to our manufacturing inventory. All wire form fan guards are inspected during the manufacturing process to assure compliance to our rigid specifications. They receive an additional final inspection prior to shipment that insures compliance with both mechanical and esthetic parameters.

60 mm—2 1/2"



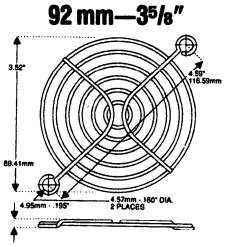
08147 Ribs—1.60 mm/.063" Dia. Rings—1.60 mm/.063" Dia. Finish—Nickel Chrome Plated

80 mm—3 1/8"



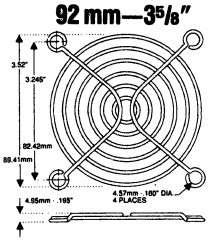
08132 Ribs—1.80 mm/.071" Dia. Rings—1.60 mm/.063" Dia. Finish—Nickel Chrome Plated

92 mm—3 5/8"



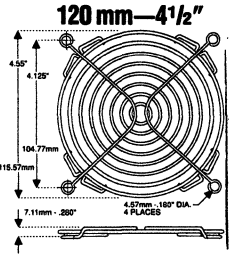
08133 Ribs—1.80 mm/.071" Dia. Rings—1.60 mm/.063" Dia. Finish—Nickel Chrome Plated

92 mm—3 5/8"



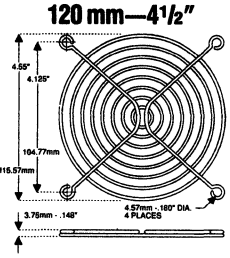
08134 Ribs—1.80 mm/.071" Dia. Rings—1.60 mm/.063" Dia. Finish—Nickel Chrome Plated

120 mm—4 1/2"



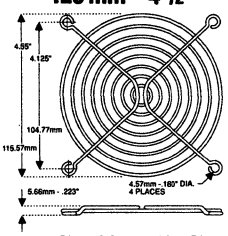
08128 Ribs—2.31 mm/.091" Dia. Rings—1.80 mm/.071" Dia. Finish—Nickel Chrome Plated

120 mm—4 1/2"



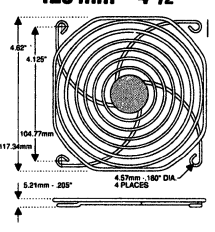
08129 Ribs—2.31 mm/.091" Dia. Rings—1.80 mm/.071" Dia. Finish—Nickel Chrome Plated

120 mm—4 1/2"



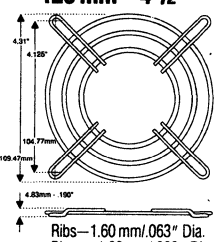
08130 Ribs—2.31 mm/.091" Dia. Rings—1.80 mm/.071" Dia. Finish—Nickel Chrome Plated

120 mm—4 1/2"



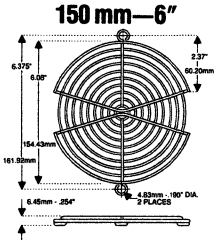
08141 Ribs—2.03 mm/.080" Dia. Rings—1.60 mm/.063" Dia. Finish—Nickel Chrome Plated

120 mm—4 1/2"



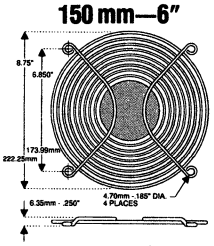
08146 Ribs—1.60 mm/.063" Dia. Rings—1.60 mm/.063" Dia. Finish—Nickel Chrome Plated
*Does not meet 1/4" max. ring spacing

150 mm—6"



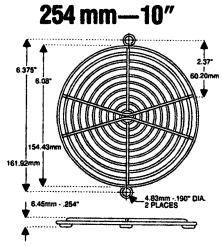
08125 Ribs—2.31 mm/.091" Dia. Rings—1.80 mm/.071" Dia. Finish—Nickel Chrome Plated

150 mm—6"



08126 Ribs—2.31 mm/.091" Dia. Rings—1.80 mm/.071" Dia. Finish—Nickel Chrome Plated

254 mm—10"



08127 Ribs—2.31 mm/.091" Dia. Rings—2.31 mm/.091" Dia. Finish—Nickel Chrome Plated

Specifications. All guards are designed to ensure safe operation and comply with U.L., CSA, and VDE requirements. Nickel chrome plating is standard finish for all wire formed guards. All wire form fan guards listed above are also available in zinc or black electro deposit.

Stock No.	Mfr.'s Type	For Use With Fan Size		Mounting Hole Centers (In.)	EACH		
		(mm)	(In.)		1-9	10-24	25-99
609-0240	08125	150	6	6.38	5.49	4.39	3.77
609-5506	08126	150	6	6.38	5.32	4.25	3.66
609-5525	08127	254	10	6.85	9.01	7.24	6.22
609-5530	08128	120	4 1/2	4.13	3.52	2.81	2.42
609-5535	08129	120	4 1/2	4.13	2.96	2.36	2.02
609-5540	08130	120	4 1/2	4.13	3.03	2.42	2.08
609-5545	08132	80	3 1/8	2.81	2.29	1.83	1.56
609-5555	08134	92	3 5/8	3.25	2.49	1.98	1.72
609-5580	08141	120	4 1/2	4.13	4.05	3.24	2.79
609-5590	08147	60	2 1/2	1.97	2.30	1.85	1.58
609-5550	08133	92	3 5/8	1.60	2.63	2.12	1.82
609-5581	08146	120	4 1/2	1.60	1.68	1.51	1.39

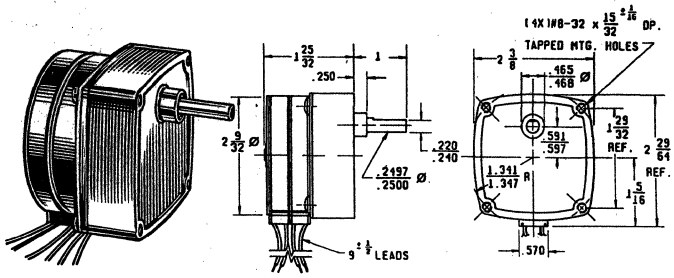
3

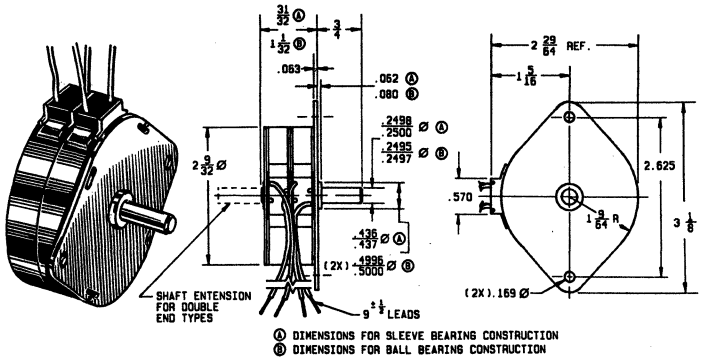
Stepping, Geared, SAS Series

Geared SAS Series motors have step angles ranging from 0.0125 to 0.75 and torque ratings from 200 ounce inches (maximum gear train loading) to 35 ounce inches. All at 200 p/s. Gear trains are industrial quality throughout. Dual sleeve bearings. **Input Power:** 8 Watts. **Winding Resistance:** 36 ohms. **Weight:** 16 oz.

Stock No.	Mfr.'s Type	Step Angle	Output Speed @ 200 p/s (rpm)	Torque @ 200 p/s* (Oz.-In.)	Steps Per Rev.	EACH 1-24	EACH 25-Up
542-0005	SAS4004-001	.0125°	0.42	200†	28,800	**37.60**	**33.80**
542-0010	SAS4004-002	.0250°	0.83	200†	14,400	**37.60**	**33.80**
542-0015	SAS4004-009	.2000°	6.67	121	1,800	**30.90**	**27.80**
542-0020	SAS4004-014	.7500°	25.00	35	480	**27.30**	**24.60**

*Torque measured at nominal voltage with L/R drive. †Max. gear train loading.





Stepping, Direct Drive, SAS Series

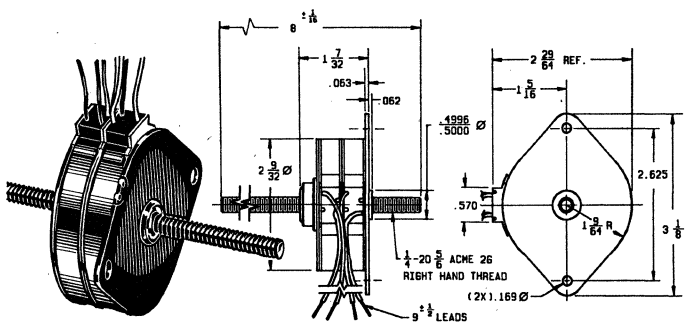
Industrial quality, economical SAS Series direct stepping motors have excellent torque/size ration: 7.5 ounce inches at 4-5 p/s. Unipolar operation at 12VDC is standard. Step angle is 7.5°. Dual sleeve bearings. 48 steps per revolution. **2-Phase Holding Torque (oz-in):** 10.5. **Winding Resistance:** 36 Ohms. **Weight:** 8 oz.

Stock No.	Mfr.'s Type	Step Angle	Rated Torque @ 4-5 p/s (Oz.-In.)	Input Power (Watts)	Rotor Inertia (Oz.-In.)	EACH 1-24	EACH 25-Up
542-0025	SAS4003-002	7.5°	7.5	8	0.17	**20.35**	**18.35**

Stepping, Linear Actuator, SLS Series

Stepping SLS Linear actuator has a reversible, permanent magnet rotor with unipolar operations. Rotor assembly features sintered bronze nut for extended life. Nut accepts 1/4" diameter, .048 pitch Acme screw that provides linear motion for pushing, pulling, lifting and positioning applications. Standard 8" screw with maximum travel of 6.75" and maximum thrust of 25 pounds. Ball bearings. **Winding Resistance:** 25 ohms. **Weight:** 10.5 oz. (with screw).

Stock No.	Mfr.'s Type	Steps/ Inch	Max. Rec. Load	Input Power (Watts)	Nominal Voltage (DC)	EACH 1-24	EACH 25-Up
542-0030	SLS4014-002	1000	15 lbs.	11.5	12	**58.60**	**52.80**

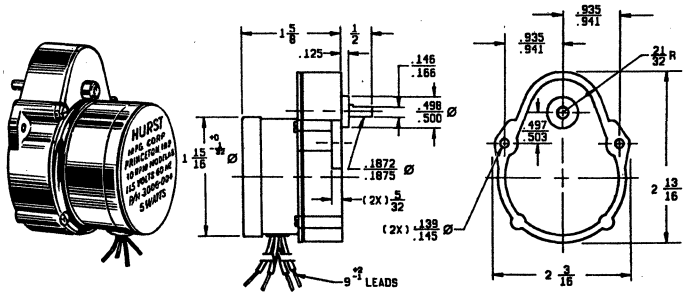


Stepping, Geared, AS and ABS Series

Geared AS and ABS stepping motors have a die cast housing, hardened steel gears and pinions running on ground, and hardened steel studs. No plastic or fiber parts are used. These dependable motors are used in precision instruments and computer peripherals. **Winding Resistance:** Models 3004-001 and -008, 100 ohms; Models 3008-005, 53 ohms.

Stock No.	Mfr.'s Type	Step Angle	Output Speed @ 200 p/s (rpm)	Torque @ 200 p/s* (Oz.-In.)	Steps Per Rev.	EACH 1-24	EACH 25-Up
542-0035	AS3004-001	.025°	0.83	150†	3.5	**36.10**	**32.50**
542-0040	ABS3008-003	.200°	6.70	86	4.5	**32.20**	**29.00**
542-0045	ABS3008-005	.750°	25.00	23	4.5	**33.00**	**29.70**
542-0050	AS3004-008	1.800°	60.00	5	3.5	**31.10**	**28.00**

*Torque measured at nominal voltage with L/R drive. †Max. gear train loading.



Stepping Motor Control With Display

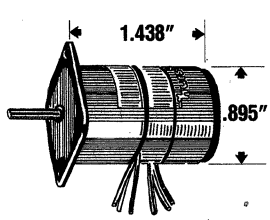
Model EPC-015. General purpose controller with step frequency display. Operates from a single external 6-24 VDC power display. Will drive 4-phase stepping motors requiring up to 1.0 Amp per phase. Also includes adjustable step frequency, and phase driver disable control. Continuous, single step, or jog operation. Bi-directional control.
542-0060 .....**EACH 150.00**

SUPERSMALL Synchronous Motor

This instrument-grade, SUPERSMALL, synchronous motor is reversible and operates at 720 rpm on 115 VAC, 60 Hz. It weighs just 2.1 ounces and is less than an inch in diameter.

The new BA Series synchronous motor is a practical solution to control problems in equipment where space is at a premium. It also is suited to products employing variable frequency AC controls. **Note:** Capacitor is furnished with motor, 115 V.

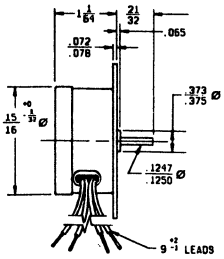
Model: BA. **Speed at Output Shaft:** 720 rpm. **Rated Torque:** 0.625 oz-in. **Input Power:** 1.5 watts. **Capacitor Value:** 0.15 ± 10%, 400 VDC. **Full Load Temperature Rise:** 30 °C. **Weight:** 2.1 oz. **Shaft Bearing:** Sleeve.
542-0200. Type BA 4201-001 .....**EACH 26.80**

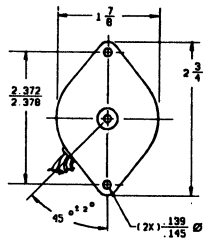


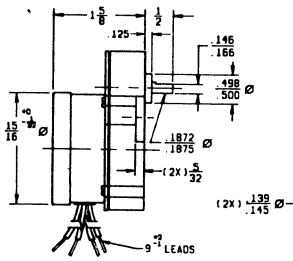
Synchronous, Direct Drive, A and AB Series

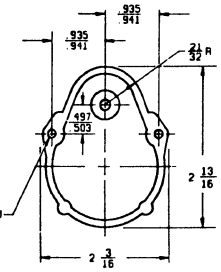
A and AB Series permanent magnet, reversible motors have speeds of 300 or 600 rpm at 60 Hz. Sleeve bearings are standard. Capacitor furnished. Designed for heavy-duty applications, these motors are very popular. **Full load temperature rise:** A Series, 21°C; AB Series, 36°C. **Weight:** 6.8 oz.

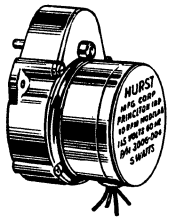
Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz-In)	Input Power (Watts)	Cap Value (mfd)	EACH	
						1-9	10-Up
542-0065	A3001-001	300	2.0	3	.25	22.70	21.00
542-0070	AB3005-001	600	2.3	5	.50	20.50	18.90











Synchronous, Geared, A and AB Series

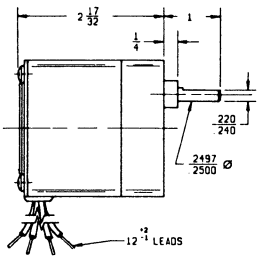
Permanent magnet, reversible, A and AB Series synchronous motors have gear trains engineered for heavy-duty industrial use. Both pinion and gear teeth are case hardened for wear resistance and rotate upon hardened and ground steel studs. No plastic or fiber parts are used. Capacitor furnished. **Weight:** 11 oz.

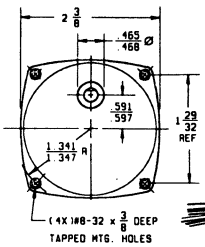
Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz-In)	Input Power (Watts)	Cap Value (mfd)	EACH	
						1-9	10-Up
542-0075	A3002-001	1	150	3	.25	36.40	32.80
542-0080	A3002-003	2	131	3	.25	36.20	32.60
542-0085	A3002-005	4	110	3	.25	32.50	29.50
542-0090	AB3006-002	6	105	5	.50	38.90	35.00
542-0095	AB3006-004	10	88	5	.50	34.60	31.20
542-0100	AB3006-009	30	29	5	.50	35.50	32.00
542-0105	AB3006-013	60	16	5	.50	33.40	30.10
542-0110	AB3006-014	120	8	5	.50	32.05	28.85

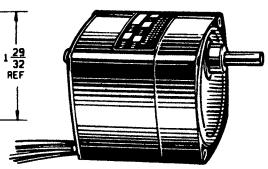
Synchronous, Geared, T Series

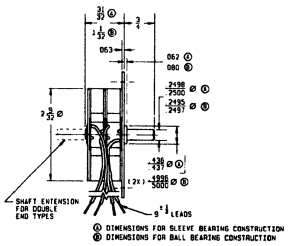
Enclosed in a rugged die cast housing. T Series permanent magnet, reversible, synchronous motors have a rated torque of 233 ounce-inches (maximum gear train loading) at 2 rpm. Sleeve bearings. 24 poles. When operated at 60 Hz, rotor speed is 300 rpm. Capacitor is furnished. 115V, 60 Hz.

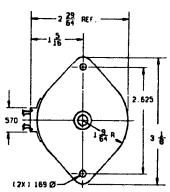
Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz-In)	Input Power (Watts)	Cap Value (mfd)	EACH	
						1-9	10-Up
542-0115	T2602-004	2	233	7	.68	52.40	47.20
542-0120	T2602-013	6	210	7	.68	48.20	43.40
542-0125	T2602-015	120	16	7	.68	47.70	42.90

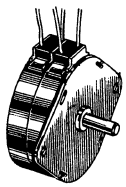












Synchronous, Direct Drive, SA Series

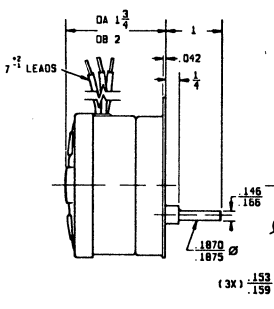
Compact, low cost SA Series direct drive, reversible AC, synchronous motors have a rotor speed of 300 rpm when operated at 60 Hz. Sleeve bearings. Full load temperature rise is 28°C. These permanent magnet motors are ideal for use where space is at a premium and dependable, long-life service is demanded. Capacitor furnished. **Weight:** 8 oz.

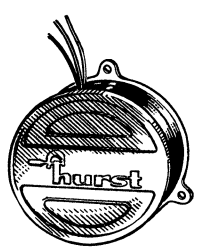
Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz-In)	Input Power (Watts)	Cap Value (mfd)	EACH	
						1-9	10-Up
542-0130	SA4001-001	300	6	5	.50	20.70	18.65

Hysteresis Synchronous, Geared, Reversible, DA Series

Heavy duty DA Series gearmotors maintain timing accuracy and are available in shaft speeds from 1 to 120 rpm. Recommended for applications requiring high gear torque rating. Rated pull-out torque is as great as 100 ounce inches (maximum gear train loading) at 1 rpm. Capacitor furnished. All motors are 115V, 60 Hz models. Temperature Rise: 40°C above ambient. **Weight:** 14 oz.

Stock No.	Mfr.'s Type	Shaft Speed (rpm)	Rated Torque (Oz-In)	Input Power (Watts)	Cap Value (mfd)	EACH	
						1-9	10-Up
542-0135	DA990182	1	100.00	5	.50	40.70	36.60
542-0140	DA990181	2	75.00	5	.50	40.70	36.50
542-0145	DA990184	4	37.50	5	.50	41.20	37.10
542-0150	DA990185	6	25.00	5	.50	40.00	36.00
542-0155	DA990187	10	15.00	5	.50	39.40	35.50
542-0160	DA990195	30	5.00	5	.50	38.10	34.30
542-0165	DA990263	60	2.50	5	.50	38.80	34.90
542-0170	DA990200	120	1.25	5	.50	36.90	33.20





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Globe Motor Division approved modification centers in Dallas, Texas and San Jose, California are staffed with Globe factory-trained personnel, some of whom have been meeting customer needs for more than 20 years.

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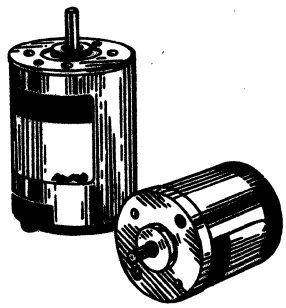
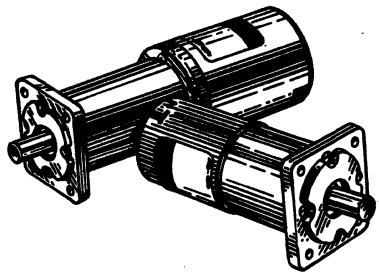
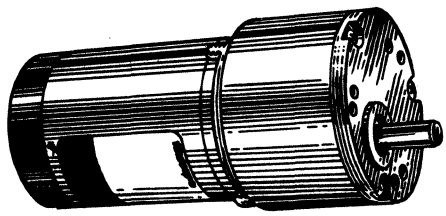


FRACTIONAL HP DC PLANETARY GEARMOTORS
Standard Gear Ratios: from 4:1 to 46,656:1
Continuous Torque: from .75 oz. in. to 1,250 oz. in.

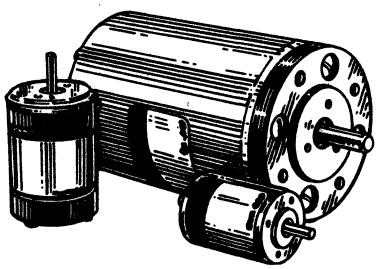


FRACTIONAL HP DC MOTORS
Continuous Torque: from .25 oz. in. to 43.0 oz. in.
Diameter: from 1.3" to 2.6"
VDC: 4, 6, 12, 24, 50, 115

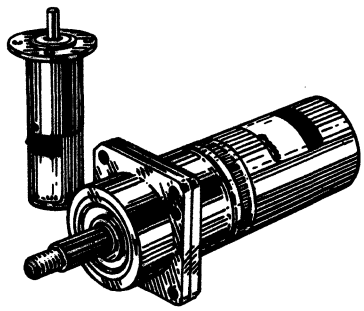


IM-13 SPUR GEARMOTORS
Standard Gear Reduction: from 3.97:1 to 1,276.09:1
Continuous Torque: from 3.0 oz. in. to 60.0 oz. in.

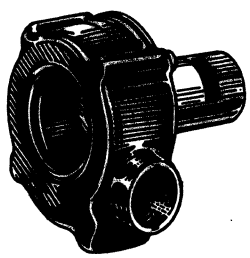
Motors for Military Applications

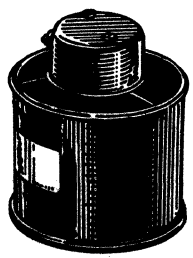


FRACTIONAL HP DC PM MOTORS
Continuous Torque: from 0.20 oz. in. to 16.0 oz. in.
Diameter: from .75" to 2.25"
VDC: 5, 12, 27, 50, 115



FRACTIONAL HP DC PM GEARMOTORS
Standard GEar Ratios: from 3.82:1 to 36,873:1
Continuous Torque: from 1.0 oz. in. to 550 lb. in.





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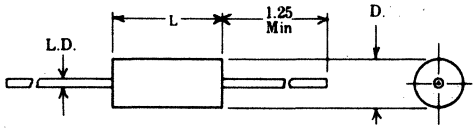
  - 150D Series 114
  - 199D Series 115

MIL-C-39014/Axial Leads



Size Specification

Per Mil Spec	Case Size—mm (In.)		
MIL-C-39014	Length (L)	Diameter (D)	Lead Diameter (L.D.)
CKR11	4.07 ± .25 (.160 ± .010)	2.29 ± .25 (.090 ± .010)	.48 ± .05 (.019 ± .002)
CKR12	6.35 ± .25 (.250 ± .010)	2.29 ± .25 (.090 ± .010)	.48 ± .25 (.019 ± .010)
CKR14	9.91 ± .25 (.390 ± .010)	3.36 ± .25 (.140 ± .010)	.63 ± .25 (.025 ± .002)
CKR15	12.70 ± .51 (.500 ± .020)	6.35 ± .38 (.250 ± .015)	.63 ± .05 (.025 ± .002)
CKR16	17.53 ± .51 (.690 ± .020)	8.89 ± .51 (.350 ± .010)	.63 ± .05 (.025 ± .002)

CKR11 (BX)

Stock No.	Mfr's Type*	Failure Rate Level (%/1000 Hrs.)			Capacitance (pF)	WVDC	EACH	
		1.0 (M)	0.1 (P)	0.01 (R)			1-24	25-99
881-2XXX	CKR11BX100K	2601	2801	2001	10	100	.85	.61
881-2XXX	CKR11BX100M	2602	2802	2002	10	100	.82	.58
881-2XXX	CKR11BX120K	2603	2803	2003	12	100	.85	.61
881-2XXX	CKR11BX150K	2604	2804	2004	15	100	.82	.58
881-2XXX	CKR11BX150M	2605	2805	2005	15	100	.82	.58
881-2XXX	CKR11BX180K	2606	2806	2006	18	100	.85	.61
881-2XXX	CKR11BX220K	2607	2807	2007	22	100	.85	.61
881-2XXX	CKR11BX220M	2608	2808	2008	22	100	.82	.58
881-2XXX	CKR11BX270K	2609	2809	2009	27	100	.85	.61
881-2XXX	CKR11BX330K	2610	2810	2010	33	100	.85	.61
881-2XXX	CKR11BX330M	2611	2811	2011	33	100	.82	.58
881-2XXX	CKR11BX390K	2612	2812	2012	39	100	.85	.61
881-2XXX	CKR11BX470K	2613	2813	2013	47	100	.85	.61
881-2XXX	CKR11BX470M	2614	2814	2014	47	100	.82	.58
881-2XXX	CKR11BX560K	2615	2815	2015	56	100	.85	.61
881-2XXX	CKR11BX680K	2616	2816	2016	68	100	.85	.61
881-2XXX	CKR11BX680M	2617	2817	2017	68	100	.82	.58
881-2XXX	CKR11BX820K	2618	2818	2018	82	100	.85	.61
881-2XXX	CKR11BX101K	2619	2819	2019	100	100	.85	.61
881-2XXX	CKR11BX101M	2620	2820	2020	100	100	.82	.58
881-2XXX	CKR11BX121K	2621	2821	2021	120	100	.85	.61
881-2XXX	CKR11BX151K	2622	2822	2022	150	100	.85	.61
881-2XXX	CKR11BX151M	2623	2823	2023	150	100	.82	.58
881-2XXX	CKR11BX181K	2624	2824	2024	180	100	.85	.61
881-2XXX	CKR11BX221K	2625	2825	2025	220	100	.85	.61
881-2XXX	CKR11BX221M	2626	2826	2026	220	100	.82	.58
881-2XXX	CKR11BX271K	2627	2827	2027	270	100	.85	.61
881-2XXX	CKR11BX331K	2628	2828	2028	330	100	.98	.70
881-2XXX	CKR11BX331M	2629	2829	2029	330	100	.82	.58
881-2XXX	CKR11BX391K	2630	2830	2030	390	100	.85	.61
881-2XXX	CKR11BX471K	2631	2831	2031	470	100	.85	.61
881-2XXX	CKR11BX471M	2632	2832	2032	470	100	.82	.58
881-2XXX	CKR11BX561K	2633	2833	2033	560	100	.85	.61
881-2XXX	CKR11BX681K	2634	2834	2034	680	100	.85	.61
881-2XXX	CKR11BX681M	2635	2835	2035	680	100	.85	.61
881-2XXX	CKR11BX821K	2636	2836	2036	820	100	.82	.58
881-2XXX	CKR11BX102K	2637	2837	2037	1000	100	.85	.61
881-2XXX	CKR11BX102M	2638	2838	2038	1000	100	.82	.58
881-2XXX	CKR11BX122K	2639	2839	2039	1200	100	.85	.61
881-2XXX	CKR11BX152K	2640	2840	2040	1500	100	.85	.61
881-2XXX	CKR11BX152M	2641	2841	2041	1500	100	.82	.58
881-2XXX	CKR11BX182K	2642	2842	2042	1800	100	.85	.61
881-2XXX	CKR11BX222K	2643	2843	2043	2200	100	.85	.61
881-2XXX	CKR11BX222M	2644	2844	2044	2200	100	.82	.58
881-2XXX	CKR11BX272K	2645	2845	2045	2700	100	.85	.61
881-2XXX	CKR11BX332K	2646	2846	2046	3300	100	.85	.61
881-2XXX	CKR11BX332M	2647	2847	2047	3300	100	.82	.58
881-2XXX	CKR11BX392K	2648	2848	2048	3900	100	.85	.61
881-2XXX	CKR11BX472K	2649	2849	2049	4700	100	.85	.61
881-2XXX	CKR11BX472M	2650	2850	2050	4700	100	.82	.58
881-2XXX	CKR11BX562K	2651	2851	2051	5600	50	.85	.61
881-2XXX	CKR11BX682K	2652	2852	2052	6800	50	.85	.61
881-2XXX	CKR11BX682M	2653	2853	2053	6800	50	.82	.58
881-2XXX	CKR11BX822K	2654	2854	2054	8200	50	.85	.61
881-2XXX	CKR11BX103K	2655	2855	2055	10000	50	.85	.61
881-2XXX	CKR11BX103M	2656	2856	2056	10000	50	.82	.58

CKR12 (BX)

881-2XXX	CKR12BX562K	2657	2857	2057	5600	100	.85	.61
881-2XXX	CKR12BX682K	2658	2858	2058	6800	100	.85	.61
881-2XXX	CKR12BX682M	2659	2859	2059	6800	100	.82	.58
881-2XXX	CKR12BX822K	2660	2860	2060	8200	100	.85	.61
881-2XXX	CKR12BX103K	2661	2861	2061	10000	100	.85	.61
881-2XXX	CKR12BX103M	2662	2862	2062	10000	100	.82	.58
881-2XXX	CKR12BX123K	2663	2863	2063	12000	50	1.01	.72
881-2XXX	CKR12BX153K	2664	2864	2064	15000	50	1.01	.72
881-2XXX	CKR12BX153M	2665	2865	2065	15000	50	.97	.69
881-2XXX	CKR12BX183K	2666	2866	2066	18000	50	1.01	.72
881-2XXX	CKR12BX223K	2667	2867	2067	22000	50	1.01	.72
881-2XXX	CKR12BX223M	2668	2868	2068	22000	50	.97	.69
881-2XXX	CKR12BX273K	2669	2869	2069	27000	50	1.01	.72
881-2XXX	CKR12BX333K	2670	2870	2070	33000	50	1.09	.78
881-2XXX	CKR12BX333M	2671	2871	2071	33000	50	1.01	.72
881-2XXX	CKR12BX393K	2672	2872	2072	39000	50	1.09	.78
881-2XXX	CKR12BX473K	2673	2873	2073	47000	50	1.09	.78
881-2XXX	CKR12BX473M	2674	2874	2074	47000	50	1.01	.72

CKR14 (BX)

Stock No.	Mfr's Type*	Failure Rate Level (%/1000 Hrs.)			Capacitance (pF)	WVDC	EACH	
		1.0 (M)	0.1 (P)	0.01 (R)			1-24	25-99
881-2XXX	CKR14BX123K	2675	2875	2075	12000	100	1.18	.85
881-2XXX	CKR14BX153K	2676	2876	2076	15000	100	1.18	.85
881-2XXX	CKR14BX153M	2677	2877	2077	15000	100	1.14	.82
881-2XXX	CKR14BX183K	2678	2878	2078	18000	100	1.18	.85
881-2XXX	CKR14BX223K	2679	2879	2079	22000	100	1.18	.85
881-2XXX	CKR14BX223M	2680	2880	2080	22000	100	1.14	.82
881-2XXX	CKR14BX273K	2681	2881	2081	27000	100	1.18	.85
881-2XXX	CKR14BX333K	2682	2882	2082	33000	100	1.26	.90
881-2XXX	CKR14BX333M	2683	2883	2083	33000	100	1.17	.84
881-2XXX	CKR14BX393K	2684	2884	2084	39000	100	1.26	.90
881-2XXX	CKR14BX473K	2685	2885	2085	47000	100	1.26	.90
881-2XXX	CKR14BX473M	2686	2886	2086	47000	100	1.17	.84
881-2XXX	CKR14BX563K	2687	2887	2087	56000	50	1.30	.93
881-2XXX	CKR14BX683K	2688	2888	2088	68000	50	1.30	.93
881-2XXX	CKR14BX683M	2689	2889	2089	68000	50	1.21	.86
881-2XXX	CKR14BX823K	2690	2890	2090	82000	50	1.30	.93
881-2XXX	CKR14BX104K	2691	2891	2091	100000	50	1.30	.93
881-2XXX	CKR14BX104M	2692	2892	2092	100000	50	1.21	.86

CKR14 (BR)

881-2XXX	CKR14BR563K	2693	2893	2093	56000	100	1.30	.93
881-2XXX	CKR14BR683K	2694	2894	2094	68000	100	1.30	.93
881-2XXX	CKR14BR683M	2695	2894	2095	68000	100	1.21	.86
881-2XXX	CKR14BR823K	2696	2896	2096	82000	100	1.30	.93
881-2XXX	CKR14BR104K	2697	2897	2097	100000	100	1.30	.93
881-2XXX	CKR14BR104M	2698	2898	2098	100000	100	1.21	.86
881-2XXX	CKR14BR124K	2699	2899	2099	120000	50	.12	.09
881-2XXX	CKR14BR154K	2700	2900	2100	150000	50	1.82	1.30
881-2XXX	CKR14BR154M	2701	2901	2101	150000	50	1.78	1.27
881-2XXX	CKR14BR184K	2702	2902	2102	180000	50	1.93	1.38
881-2XXX	CKR14BR224K	2703	2903	2103	220000	50	1.93	1.38
881-2XXX	CKR14BR224M	2704	2904	2104	220000	50	1.93	1.38
881-2XXX	CKR14BR274K	2705	2905	2105	270000	50	2.24	1.60

CKR15 (BX)

881-2XXX	CKR15BX563K	2706	2906	2106	56000	100	2.32	1.66
881-2XXX	CKR15BX683K	2707	2907	2107	68000	100	2.32	1.66
881-2XXX	CKR15BX683M	2708	2908	2108	68000	100	2.32	1.66
881-2XXX	CKR15BX823K	2709	2909	2109	82000	100	2.39	1.71
881-2XXX	CKR15BX104K	2710	2910	2110	100000	100	2.39	1.71
881-2XXX	CKR15BX104M	2711	2911	2111	100000	100	2.36	1.68

CKR15 (BR)

881-2XXX	CKR15BR124K	2712	2912	2112	120000	100	2.86	2.04
881-2XXX	CKR15BR154K	2713	2913	2113	150000	100	2.86	2.04
881-2XXX	CKR15BR154M	2714	2914	2114	150000	100	2.78	1.99
881-2XXX	CKR15BR184K	2715	2915	2115	180000	100	3.20	2.29
881-2XXX	CKR15BR224K	2716	2916	2116	220000	100	3.20	2.29
881-2XXX	CKR15BR224M	2717	2917	2117	220000	100	3.13	2.23
881-2XXX	CKR15BR274K	2718	2918	2118	270000	100	4.01	2.86
881-2XXX	CKR15BR334K	2719	2919	2119	330000	100	4.01	2.86
881-2XXX	CKR15BR334M	2720	2920	2120	300000	100	3.90	2.79
881-2XXX	CKR15BR474K	2721	2921	2121	470000	50	4.79	3.42
881-2XXX	CKR15BR474M	2722	2922	2122	470000	50	4.74	3.39
881-2XXX	CKR15BR684K	2723	2923	2123	680000	50	6.03	4.31
881-2XXX	CKR15BR684M	2724	2924	2124	680000	50	5.68	4.06
881-2XXX	CKR15BR105K	2725	2925	2125	1000000	50	7.07	5.05
881-2XXX	CKR15BR105M	2726	2926	2126	1000000	50	6.44	4.60

CKR16 (BR)

881-2XXX	CKR16BR474K	2727	2927	2127	470000	100	9.64	6.89
881-2XXX	CKR16BR474M	2728	2928	2128	470000	100	9.61	6.86
881-2XXX	CKR16BR684K	2729	2929	2129	680000	100	10.59	7.56
881-2XXX	CKR16BR684M	2730	2930	2130	680000	100	10.55	7.54
881-2XXX	CKR16BR105K	2731	2931	2131	1000000	100	9.12	6.51
881-2XXX	CKR16BR105M	2732	2932	2132	1000000	100	9.08	6.49
881-2XXX	CKR16BR225K	2733	2933	2133	2200000	50	13.53	9.66
881-2XXX	CKR16BR225M	2734	2934	2134	2200000	50	13.49	9.64
881-2XXX	CKR16BR335K	2735	2935	2135	3300000	50	17.17	12.26
881-2XXX	CKR16BR335M	2736	2936	2136	3300000	50	17.13	12.24

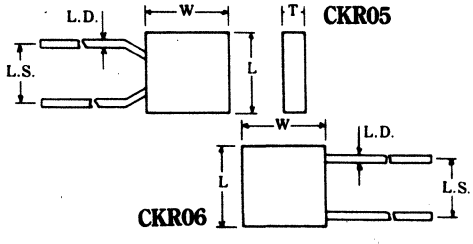
*K = ± 10%; M = ± 20%. **NOTE:** Use last three digits in failure rate column as last three digits to complete stock number. Example: for CKR11BX100KR, Stock Number will be 881-2001.

MIL-C-39014/Radial Leads

General purpose ceramic dielectric fixed capacitors. **Temperature Range:** – 55°C to + 125°C. Available on tape and reel (2500 pieces per reel) as special order item. Call for price and delivery.

Size Specification

Per Mil Spec	Case Size—mm (In.)				
MIL-C-39014	Length (L)	Width (W)	Thickness (T)	Lead Spacing (L.S.)	Lead Diameter (L.D.)
CKR04	4.83 ± .25 (.190 ± .010)	4.83 ± .25 (.190 ± .010)	2.29 ± .25 (.090 ± .010)	2.54 ± .38 (.100 ± .015)	.64 ± .05 (.025 ± .002)
CKR05	4.83 ± .25 (.190 ± .010)	4.83 ± .25 (.190 ± .010)	2.29 ± .25 (.090 ± .010)	5.08 ± .38 (.200 ± .015)	.64 ± .05 (.025 ± .002)
CKR06	7.37 ± .25 (.290 ± .010)	7.37 ± .25 (.290 ± .010)	2.29 ± .25 (.090 ± .010)	5.08 ± .38 (.200 ± .015)	.64 ± .05 (.025 ± .002)



NOTE: See following page for stock number, part number and price listing.

MIL-C-39014/Radial Leads

NOTE: See drawings and specs on previous page.

CKR04 (BX)

Stock No.	Mfr.'s Type*	Failure Rate Level (%/1000 Hrs.) 1.0 (M)	0.1 (P)	0.01 (R)	Capacitance (pF)	WVDC	EACH 1-24	25-99
881-0XXX	CKR04BX100K	0001	0101	0201	10	200	1.03	.74
881-0XXX	CKR04BX100M	0002	0102	0202	10	200	1.02	.73
881-0XXX	CKR04BX120K	0003	0103	0203	12	200	1.03	.74
881-0XXX	CKR04BX150K	0004	0104	0204	15	200	1.03	.74
881-0XXX	CKR04BX150M	0005	0105	0205	15	200	1.02	.73
881-0XXX	CKR04BX180M	0006	0106	0206	18	200	1.03	.74
881-0XXX	CKR04BX220K	0007	0107	0207	22	200	1.03	.74
881-0XXX	CKR04BX220M	0008	0108	0208	22	200	1.02	.73
881-0XXX	CKR04BX270K	0009	0109	0209	27	200	1.03	.74
881-0XXX	CKR04BX330K	0010	0110	0210	33	200	1.03	.74
881-0XXX	CKR04BX330M	0011	0111	0211	33	200	1.02	.73
881-0XXX	CKR04BX390K	0012	0112	0212	39	200	1.02	.73
881-0XXX	CKR04BX470K	0013	0113	0213	47	200	1.03	.74
881-0XXX	CKR04BX470M	0014	0114	0214	47	200	1.02	.73
881-0XXX	CKR04BX560K	0015	0115	0215	56	200	1.03	.74
881-0XXX	CKR04BX680K	0016	0116	0216	68	200	1.03	.74
881-0XXX	CKR04BX680M	0017	0117	0217	68	200	1.02	.73
881-0XXX	CKR04BX820K	0018	0118	0218	82	200	1.03	.74
881-0XXX	CKR04BX101K	0019	0119	0219	100	200	1.03	.74
881-0XXX	CKR04BX101M	0020	0120	0220	100	200	1.02	.73
881-0XXX	CKR04BX121K	0021	0121	0221	120	200	1.03	.74
881-0XXX	CKR04BX151K	0022	0122	0222	150	200	1.02	.73
881-0XXX	CKR04BX151M	0023	0123	0223	150	200	1.02	.73
881-0XXX	CKR04BX181K	0024	0124	0224	180	200	1.03	.74
881-0XXX	CKR04BX221K	0025	0125	0225	220	200	1.03	.74
881-0XXX	CKR04BX221M	0026	0126	0226	220	200	1.02	.73
881-0XXX	CKR04BX271K	0027	0127	0227	270	200	1.02	.73
881-0XXX	CKR04BX331K	0028	0128	0228	330	200	1.03	.74
881-0XXX	CKR04BX331M	0029	0129	0229	330	200	1.02	.73
881-0XXX	CKR04BX391K	0030	0130	0230	390	200	1.03	.74
881-0XXX	CKR04BX471K	0031	0131	0231	470	200	1.03	.74
881-0XXX	CKR04BX471M	0032	0132	0232	470	200	1.02	.73
881-0XXX	CKR04BX561K	0033	0133	0233	560	200	1.03	.74
881-0XXX	CKR04BX681K	0034	0134	0234	680	200	1.03	.74
881-0XXX	CKR04BX680M	0035	0135	0235	680	200	1.02	.73
881-0XXX	CKR04BX821K	0036	0136	0236	820	200	1.03	.74
881-0XXX	CKR04BX102K	0037	0137	0237	1000	200	1.03	.74
881-0XXX	CKR04BX102M	0038	0138	0238	1000	200	1.02	.73
881-0XXX	CKR04BX122K	0039	0139	0239	1200	100	1.03	.74
881-0XXX	CKR04BX152K	0040	0140	0240	1500	100	1.03	.74
881-0XXX	CKR04BX152M	0041	0141	0241	1500	100	1.02	.73
881-0XXX	CKR04BX182K	0042	0142	0242	1800	100	1.03	.74
881-0XXX	CKR04BX222K	0043	0143	0243	2200	100	1.03	.74
881-0XXX	CKR04BX222M	0044	0144	0244	2200	100	1.02	.73
881-0XXX	CKR04BX272K	0045	0145	0245	2700	100	1.03	.74
881-0XXX	CKR04BX332K	0046	0146	0246	3300	100	1.03	.74
881-0XXX	CKR04BX332M	0047	0147	0247	3300	100	1.02	.73
881-0XXX	CKR04BX392K	0048	0148	0248	3900	100	1.03	.74
881-0XXX	CKR04BX472K	0049	0149	0249	4700	100	1.03	.74
881-0XXX	CKR04BX472M	0050	0150	0250	4700	100	1.02	.73
881-0XXX	CKR04BX562K	0051	0151	0251	5600	100	1.03	.74
881-0XXX	CKR04BX682K	0052	0152	0252	6800	100	1.03	.74
881-0XXX	CKR04BX682M	0053	0153	0253	6800	100	1.02	.73
881-0XXX	CKR04BX822K	0054	0154	0254	8200	100	1.03	.74
881-0XXX	CKR04BX103K	0055	0155	0255	10000	100	1.03	.74
881-0XXX	CKR04BX103M	0056	0156	0256	10000	100	1.02	.73
881-0XXX	CKR04BX123K	0057	0157	0257	12000	50	1.07	.76
881-0XXX	CKR04BX153K	0058	0158	0258	15000	50	1.07	.76
881-0XXX	CKR04BX153M	0059	0159	0259	15000	50	1.05	.75
881-0XXX	CKR04BX183K	0060	0160	0260	18000	50	1.07	.76
881-0XXX	CKR04BX223K	0061	0161	0261	22000	50	1.07	.76
881-0XXX	CKR04BX223M	0062	0162	0262	22000	50	1.05	.75
881-0XXX	CKR04BX273K	0063	0163	0263	27000	50	1.07	.76
881-0XXX	CKR04BX333K	0064	0164	0264	33000	50	1.09	.78
881-0XXX	CKR04BX333M	0065	0165	0265	33000	50	1.07	.77
881-0XXX	CKR04BX393K	0066	0166	0266	39000	50	1.09	.78
881-0XXX	CKR04BX473K	0067	0167	0267	47000	50	1.09	.78
881-0XXX	CKR04BX473M	0068	0168	0268	47000	50	1.07	.77
881-0XXX	CKR04BX563K	0069	0169	0269	56000	50	1.11	.79
881-0XXX	CKR04BX683K	0070	0170	0270	68000	50	1.11	.79
881-0XXX	CKR04BX683M	0071	0171	0271	68000	50	1.09	.78
881-0XXX	CKR04BX823K	0072	0172	0272	82000	50	1.11	.79
881-0XXX	CKR04BX104K	0073	0173	0273	100000	50	1.11	.79
881-0XXX	CKR04BX104M	0074	0174	0274	100000	50	1.09	.78

CKR05 (BX)

Stock No.	Mfr.'s Type*	Failure Rate Level (%/1000 Hrs.) 1.0 (M)	0.1 (P)	0.01 (R)	Capacitance (pF)	WVDC	EACH 1-24	25-99
881-0XXX	CKR05BX100K	1201	1241	1281	10	200	.68	.49
881-0XXX	CKR05BX100M	1202	1242	1282	10	200	.67	.48
881-0XXX	CKR05BX120K	1203	1243	1283	12	200	.68	.49
881-0XXX	CKR05BX150K	1204	1244	1284	15	200	.68	.49
881-0XXX	CKR05BX150M	1205	1245	1285	15	200	.67	.48
881-0XXX	CKR05BX180M	1206	1246	1286	18	200	.68	.49
881-0XXX	CKR05BX220K	1207	1247	1287	22	200	.68	.49
881-0XXX	CKR05BX220M	1208	1248	1288	22	200	.67	.48
881-0XXX	CKR05BX270K	1209	1249	1289	27	200	.68	.49
881-0XXX	CKR05BX330K	1210	1250	1290	33	200	.68	.49
881-0XXX	CKR05BX330M	1211	1251	1291	33	200	.67	.48
881-0XXX	CKR05BX390K	1212	1252	1292	39	200	.68	.49
881-0XXX	CKR05BX470K	1213	1253	1293	47	200	.68	.49
881-0XXX	CKR05BX470M	1214	1254	1294	47	200	.67	.48
881-0XXX	CKR05BX560K	1215	1255	1295	56	200	.68	.49
881-0XXX	CKR05BX680K	1216	1256	1296	68	200	.68	.49
881-0XXX	CKR05BX680M	1217	1257	1297	68	200	.67	.48
881-0XXX	CKR05BX820K	1218	1258	1298	82	200	.68	.49
881-0XXX	CKR05BX101K	1219	1259	1299	100	200	.68	.49
881-0XXX	CKR05BX101M	1220	1260	1300	100	200	.67	.48
881-0XXX	CKR05BX121K	1221	1261	1301	120	200	.68	.49

CKR05 (BX)

Stock No.	Mfr.'s Type*	Failure Rate Level (%/1000 Hrs.) 1.0 (M)	0.1 (P)	0.01 (R)	Capacitance (pF)	WVDC	EACH 1-24	25-99
881-1XXX	CKR05BX151K	1222	1262	1302	150	200	.68	.49
881-1XXX	CKR05BX151M	1223	1263	1303	150	200	.67	.48
881-1XXX	CKR05BX181K	1224	1264	1304	180	200	.68	.49
881-1XXX	CKR05BX221K	1225	1265	1305	220	200	.68	.49
881-1XXX	CKR05BX221M	1226	1266	1306	220	200	.67	.48
881-1XXX	CKR05BX271K	1227	1267	1307	270	200	.68	.49
881-1XXX	CKR05BX331K	1228	1268	1308	330	200	.68	.49
881-1XXX	CKR05BX331M	1229	1269	1309	330	200	.68	.49
881-1XXX	CKR05BX391K	1230	1270	1310	390	200	.68	.49
881-1XXX	CKR05BX471K	1231	1271	1311	470	200	.68	.49
881-1XXX	CKR05BX471M	1232	1272	1312	470	200	.67	.48
881-1XXX	CKR05BX561K	1233	1273	1313	560	200	.68	.49
881-1XXX	CKR05BX681K	1234	1274	1314	680	200	.68	.49
881-1XXX	CKR05BX681M	1235	1275	1315	680	200	.67	.48
881-1XXX	CKR05BX821K	1236	1276	1316	820	200	.68	.49
881-1XXX	CKR05BX102K	1237	1277	1317	1000	200	.68	.49
881-1XXX	CKR05BX102M	1238	1278	1318	1000	200	.67	.48
881-1XXX	CKR05BX122K	1239	1279	1319	1200	100	.68	.49
881-1XXX	CKR05BX152K	1240	1280	1320	1500	100	.68	.49
881-1XXX	CKR05BX152M	1441	1481	1521	1500	100	.67	.48
881-1XXX	CKR05BX182K	1442	1482	1522	1800	100	.68	.49
881-1XXX	CKR05BX222K	1443	1483	1523	2200	100	.68	.49
881-1XXX	CKR05BX222M	1444	1484	1524	2200	100	.67	.48
881-1XXX	CKR05BX272K	1445	1485	1525	2700	100	.68	.49
881-1XXX	CKR05BX332K	1446	1486	1526	3300	100	.68	.49
881-1XXX	CKR05BX332M	1447	1487	1527	3300	100	.67	.48
881-1XXX	CKR05BX392K	1448	1488	1528	3900	100	.68	.49
881-1XXX	CKR05BX472K	1449	1489	1529	4700	100	.68	.49
881-1XXX	CKR05BX472M	1450	1490	1530	4700	100	.67	.48
881-1XXX	CKR05BX562K	1451	1491	1531	5600	100	.68	.49
881-1XXX	CKR05BX682K	1452	1492	1532	6800	100	.68	.49
881-1XXX	CKR05BX682M	1453	1493	1533	6800	100	.67	.48
881-1XXX	CKR05BX822K	1454	1494	1534	8200	100	.68	.49
881-1XXX	CKR05BX103K	1455	1495	1535	10000	100	.68	.49
881-1XXX	CKR05BX103M	1456	1496	1536	10000	100	.67	.48
881-1XXX	CKR05BX123K	1457	1497	1537	12000	50	.72	.52
881-1XXX	CKR05BX153K	1458	1498	1538	15000	50	.72	.52
881-1XXX	CKR05BX153M	1459	1499	1539	15000	50	.70	.50
881-1XXX	CKR05BX183K	1460	1500	1540	18000	50	.72	.52
881-1XXX	CKR05BX223K	1461	1501	1541	22000	50	.72	.52
881-1XXX	CKR05BX223M	1462	1502	1542	22000	50	.70	.50
881-1XXX	CKR05BX273K	1463	1503	1543	27000	50	.72	.52
881-1XXX	CKR05BX333K	1464	1504	1544	33000	50	.74	.53
881-1XXX	CKR05BX333M	1465	1505	1545	33000	50	.72	.52
881-1XXX	CKR05BX393K	1466	1506	1546	39000	50	.74	.53
881-1XXX	CKR05BX473K	1467	1507	1547	47000	50	.74	.53
881-1XXX	CKR05BX473M	1468	1508	1548	47000	50	.72	.52
881-1XXX	CKR05BX563K	1469	1509	1549	56000	50	.76	.54
881-1XXX	CKR05BX683K	1470	1510	1550	68000	50	.76	.54
881-1XXX	CKR05BX583M	1471	1511	1551	68000	50	.74	.53
881-1XXX	CKR05BX823K	1472	1512	1552	82000	50	.76	.54
881-1XXX	CKR05BX104K	1473	1513	1553	100000	50	.76	.54
881-1XXX	CKR05BX104M	1474	1514	1554	100000	50	.74	.53

CKR06 (BX)

Stock No.	Mfr.'s Type*	Failure Rate Level (%/1000 Hrs.) 1.0 (M)	0.1 (P)	0.01 (R)	Capacitance (pF)	WVDC	EACH 1-24	25-99
881-8XXX	CKR06BX122K	1201	1241	1281	1200	200	.71	.51
881-8XXX	CKR06BX152K	1202	1242	1282	1500	200	.71	.51
881-8XXX	CKR06BX152M	1203	1243	1283	1500	200	.69	.49
881-8XXX	CKR06BX182K	1204	1244	1284	1800	200	.71	.51
881-8XXX	CKR06BX222K	1206	1246	1286	2200	200	.71	.51
881-8XXX	CKR06BX222M	1207	1247	1287	2200	200	.69	.49
881-8XXX	CKR06BX272K	1208	1248	1288	2700	200	.71	.51
881-8XXX	CKR06BX332K	1209	1249	1289	3300	200	.71	.51
881-8XXX	CKR06BX332M	1210	1250	1290	3300	200	.69	.49
881-8XXX	CKR06BX392K	1211	1251	1291	3900	200	.71	.51
881-8XXX	CKR06BX472K	1212	1252	1292	4700	200	.71	.51
881-8XXX	CKR06BX472M	1213	1253	1293	4700	200	.69	.49
881-8XXX	CKR06BX562K	1214	1254	1294	5600	200	.71	.51
881-8XXX	CKR06BX682K	1215	1255	1295	6800	200	.71	.51
881-8XXX	CKR06BX682M	1216	1256	1296	6800	200	.69	.49
881-8XXX	CKR06BX822K	1217	1257	1297	8200	200	.71	.51
881-8XXX	CKR06BX103K	1218	1258	1298	10000	200	.71	.51
881-8XXX	CKR06BX103M	1219	1259	1299	10000	200	.69	.49
881-8XXX	CKR06BX123K	1231	1271	1311	12000	100	.75	.54
881-8XXX	CKR06BX153K	1220	1260	1300	15000	100	.75	.54
881-8XXX	CKR06BX183K	1221	1261	1301	18000	100	.75	.54
881-8XXX	CKR06BX223K	1222	1262	1302	22000	100	.75	.54
881-8XXX	CKR06BX273K	1232	1272	1312	27000	100	.75	.54
881-8XXX	CKR06BX333K	1223	1263	1303	33000	100	.77	.55
881-8XXX	CKR06BX393K	1224	1264	1304	39000	100	.77	.55
881-8XXX	CKR06BX473K	1225	1265	1305	47000	100	.77	.55
881-8XXX	CKR06BX563K	1226	1266	1306	56000	100	.79	.56
881-8XXX	CKR06BX683K	1227	1267	1307	68000	100	.79	.56
881-8XXX	CKR06BX823K	1229	1269	1309	82000	100	.79	.56
881-8XXX	CKR06BX104K	1230	1270	1310	100000	100	.79	.56
881-8XXX	CKR06BX124K	1233	1273	1313	120000	50	1.07	.77
881-8XXX	CKR06BX154K	1234	1274	1314	150000	50	1.07	.77
881-8XXX	CKR06BX184K	1235	1275	1315	180000	50	1.27	.91
881-8XXX	CKR06BX224K	1236	1276	1316	220000	50	1.27	.91
881-8XXX	CKR06BX274K	1237	1277	1317	270000	50	1.74	1.24
881-8XXX	CKR06BX334K	1238	1278	1318	330000	50	1.74	1.24
881-8XXX	CKR06BX394K	1239	1279	1319	390000	50	1.84	1.32
881-8XXX	CKR06BX474K	1240	1280	1320	470000	50	1.84	1.32
881-8XXX	CKR06BX564K	1404	1408	1412	560000	50	2.38	1.70
881-8XXX	CKR06BX684K	1405	1409	1413	680000	50	2.38	1.70
881-8XXX	CKR06BX824K	1406	1410	1414	820000	50	2.38	1.70
881-8XXX	CKR06BX105K	1407	1411	1415	1000000	50	2.38	1.70

*K = ± 10%; M = ± 20%. **NOTE:** Use last three digits in failure rate column as last three digits to complete stock number. Example: for CKR04BX100KR, Stock Number will be 881-0201.

Radial Leads/SkyCap

General Information
AVX SR Series
- ► Conformally Coated Radial Leaded MLC
- ► Temperature Coefficients: NPO, X7R, Z5U
- ► 50, 100 volts (200 V available on request)
- ► Case Material: Epoxy (Flame retardant to UL Bulletin 492, Par. 280)
- ► Lead Material: Solderable
- ► NOTE: Other tolerances available. Call for price and delivery.

4

NPO Characteristic

SR15—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3500	SR151A100KAA	10	.19	.13	.11
881-3501	SR151A120KAA	12	.19	.13	.11
881-3502	SR151A150KAA	15	.19	.13	.11
881-3503	SR151A180KAA	18	.19	.13	.11
881-3504	SR151A220KAA	22	.19	.13	.11
881-3505	SR151A270KAA	27	.19	.13	.11
881-3506	SR151A330KAA	33	.19	.13	.11
881-3507	SR151A390KAA	39	.19	.13	.11
881-3508	SR151A470KAA	47	.19	.13	.11
881-3509	SR151A560KAA	56	.19	.13	.11
881-3510	SR151A680KAA	68	.19	.13	.11
881-3511	SR151A820KAA	82	.19	.13	.11
881-3512	SR151A101KAA	100	.20	.15	.12
881-3513	SR151A121KAA	120	.20	.15	.12
881-3514	SR151A151KAA	150	.20	.15	.12
881-3515	SR151A181KAA	180	.20	.15	.12
881-3516	SR151A221KAA	220	.22	.16	.13
881-3517	SR151A271KAA	270	.22	.16	.13
881-3518	SR151A331KAA	330	.22	.16	.13
881-3519	SR151A391KAA	390	.24	.17	.14
881-3520	SR151A471KAA	470	.26	.19	.15
881-3521	SR151A561KAA	560	.26	.19	.15
881-3522	SR151A681KAA	680	.26	.19	.15

SR20—100 VDC

881-3524	SR201A821KAA	820	.26	.19	.15
881-3525	SR201A102KAA	1000	.26	.19	.15
881-3526	SR201A122KAA	1200	.33	.24	.19
881-3527	SR201A152KAA	1500	.33	.24	.19
881-3528	SR201A182KAA	1800	.39	.28	.22
881-3529	SR201A222KAA	2200	.44	.32	.25
881-3530	SR201A272KAA	2700	.52	.37	.30
881-3531	SR201A332KAA	3300	.52	.37	.30
881-3532	SR201A392KAA	3900	.59	.42	.34
881-3533	SR201A472KAA	4700	.59	.42	.34
881-3534	SR201A562KAA	5600	.67	.48	.38

SR20—50 VDC

881-3535	SR205A682KAA	6800	.67	.48	.38

SR21—100 VDC

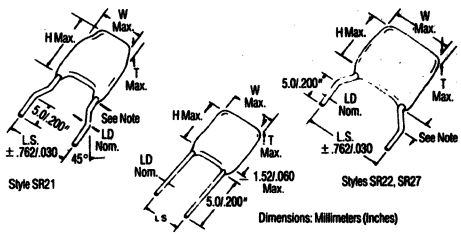
881-3536	SR211A100KAA	10	.19	.13	.11
881-3537	SR211A120KAA	12	.19	.13	.11
881-3538	SR211A150KAA	15	.19	.13	.11
881-3539	SR211A180KAA	18	.19	.13	.11
881-3540	SR211A220KAA	22	.19	.13	.11
881-3541	SR211A270KAA	27	.19	.13	.11
881-3542	SR211A330KAA	33	.19	.13	.11
881-3543	SR211A390KAA	39	.19	.13	.11
881-3544	SR211A470KAA	47	.19	.13	.11
881-3545	SR211A560KAA	56	.19	.13	.11
881-3546	SR211A680KAA	68	.19	.13	.11
881-3547	SR211A820KAA	82	.19	.13	.11
881-3548	SR211A101KAA	100	.19	.13	.11
881-3549	SR211A121KAA	120	.19	.13	.11
881-3550	SR211A151KAA	150	.19	.13	.11
881-3551	SR211A181KAA	180	.20	.15	.12
881-3552	SR211A221KAA	220	.20	.15	.12
881-3553	SR211A271KAA	270	.20	.15	.12
881-3554	SR211A331KAA	330	.22	.16	.13
881-3555	SR211A391KAA	390	.22	.16	.13
881-3556	SR211A471KAA	470	.22	.16	.13
881-3557	SR211A561KAA	560	.26	.19	.15
881-3558	SR211A681KAA	680	.26	.19	.15
881-3559	SR211A821KAA	820	.26	.19	.15
881-3560	SR211A102KAA	1000	.26	.19	.15
881-3561	SR211A122KAA	1200	.33	.24	.19
881-3562	SR211A152KAA	1500	.33	.24	.19
881-3563	SR211A182KAA	1800	.39	.28	.22
881-3564	SR211A222KAA	2200	.44	.32	.25
881-3565	SR211A272KAA	2700	.52	.37	.30
881-3566	SR211A332KAA	3300	.52	.37	.30
881-3567	SR211A392KAA	3900	.59	.42	.34
881-3568	SR211A472KAA	4700	.59	.42	.34
881-3569	SR211A562KAA	5600	.67	.48	.38

SR21—50 VDC

881-3570	SR211A682KAA	6800	.67	.48	.38

Radials

Type	Size (In.) T	W	H	LS
SR15	.100	.150	.150	.100
SR20	.125	.200	.200	.100
SR21	.125	.200	.300	.200
SR26	.150	.260	.250	.250
SR27	.150	.260	.250	.300
SR30	.150	.300	.300	.200
SR40	.150	.400	.400	.200
SR50	.200	.500	.500	.400



Note: Coating clean .784/.031 min. above seating plane.

*Lead length tolerance = + 1.5 mm (.060") – 0. Also available with lead length of 31.75 mm (1.25") minimum.

SR30—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3571	SR301A682KAA	6800	.70	.50	.40
881-3572	SR301A822KAA	8200	.70	.50	.40
881-3573	SR301A103KAA	10000	.81	.58	.46
881-3574	SR301A123KAA	12000	1.29	.92	.74
881-3575	SR301A153KAA	15000	1.29	.92	.74
881-3576	SR301A183KAA	18000	1.29	.92	.74
881-3577	SR301A223KAA	22000	1.48	1.06	.84

SR30—50 VDC

881-3578	SR305A273KAA	27000	1.74	1.24	.99

SR40—100 VDC

881-3579	SR401A273KAA	27000	3.33	2.38	1.90
881-3580	SR401A333KAA	33000	3.33	2.38	1.90
881-3581	SR401A393KAA	39000	3.50	2.50	2.00

SR40—50 VDC

881-3582	SR405A473KAA	47000	2.94	2.10	1.68
881-3583	SR405A563KAA	56000	3.33	2.38	1.90
881-3584	SR405A683KAA	68000	3.33	2.38	1.90

SR50—50 VDC

881-3585	SR505A223KAA	22000	2.77	1.98	1.58
881-3586	SR505A273KAA	27000	2.77	1.98	1.58
881-3587	SR505A333KAA	33000	2.77	1.98	1.58
881-3588	SR505A393KAA	39000	2.77	1.98	1.58
881-3589	SR505A473KAA	47000	2.77	1.98	1.58
881-3590	SR505A563KAA	56000	3.33	2.38	1.90
881-3591	SR505A683KAA	68000	3.33	2.38	1.90
881-3592	SR505A823KAA	82000	3.33	2.38	1.90
881-3593	SR505A104KAA	100000	5.18	3.70	2.96

X7R Characteristic

SR15—100 VDC

881-3300	SR151C151KAA	150	.19	.13	.11
881-3301	SR151C181KAA	180	.19	.13	.11
881-3302	SR151C221KAA	220	.19	.13	.11
881-3303	SR151C271KAA	270	.19	.13	.11
881-3304	SR151C331KAA	330	.19	.13	.11
881-3305	SR151C391KAA	390	.19	.13	.11
881-3306	SR151C471KAA	470	.19	.13	.11
881-3307	SR151C561KAA	560	.19	.13	.11
881-3308	SR151C681KAA	680	.19	.13	.11
881-3309	SR151C821KAA	820	.19	.13	.11
881-3310	SR151C102KAA	1000	.19	.13	.11
881-3311	SR151C122KAA	1200	.19	.13	.11
881-3312	SR151C152KAA	1500	.19	.13	.11
881-3313	SR151C182KAA	1800	.19	.13	.11
881-3314	SR151C222KAA	2200	.19	.13	.11
881-3315	SR151C272KAA	2700	.19	.13	.11
881-3316	SR151C332KAA	3300	.19	.13	.11
881-3317	SR151C392KAA	3900	.19	.13	.11
881-3318	SR151C472KAA	4700	.20	.15	.12

SR15—50 VDC

881-3319	SR155C562KAA	5600	.19	.13	.11
881-3320	SR155C682KAA	6800	.19	.13	.11
881-3321	SR155C822KAA	8200	.19	.13	.11
881-3322	SR155C103KAA	10000	.19	.13	.11
881-3323	SR155C123KAA	12000	.19	.13	.11
881-3324	SR155C153KAA	15000	.19	.13	.11

SR20—100 VDC

881-3325	SR201C562KAA	5600	.22	.16	.13
881-3326	SR201C682KAA	6800	.22	.16	.13
881-3327	SR201C822KAA	8200	.22	.16	.13
881-3328	SR201C103KAA	10000	.22	.16	.13
881-3329	SR201C123KAA	12000	.26	.19	.15
881-3330	SR201C153KAA	15000	.26	.19	.15
881-3331	SR201C183KAA	18000	.26	.19	.15
881-3332	SR201C223KAA	22000	.26	.19	.15
881-3333	SR201C273KAA	27000	.26	.19	.15
881-3334	SR201C333KAA	33000	.26	.19	.15
881-3335	SR201C393KAA	39000	.26	.19	.15
881-3336	SR201C473KAA	47000	.28	.20	.16
881-3337	SR201C563KAA	56000	.29	.21	.17
881-3338	SR201C683KAA	68000	.29	.21	.17

SR20—50 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3339	SR205C823KAA	82000	.28	.20	.16
881-3340	SR205C104KAA	100000	.28	.20	.16

SR21—100 VDC

881-3341	SR211C102KAA	1000	.22	.16	.13
881-3342	SR211C122KAA	1200	.22	.16	.13
881-3343	SR211C152KAA	1500	.22	.16	.13
881-3344	SR211C182KAA	1800	.22	.16	.13
881-3345	SR211C222KAA	2200	.22	.16	.13
881-3346	SR211C272KAA	2700	.22	.16	.13
881-3347	SR211C332KAA	3300	.22	.16	.13
881-3348	SR211C392KAA	3900	.22	.16	.13
881-3349	SR211C472KAA	4700	.22	.16	.13
881-3350	SR211C562KAA	5600	.22	.16	.13
881-3351	SR211C682KAA	6800	.22	.16	.13
881-3352	SR211C822KAA	8200	.22	.16	.13
881-3353	SR211C103KAA	10000	.22	.16	.13
881-3354	SR211C123KAA	12000	.26	.19	.15
881-3355	SR211C153KAA	15000	.26	.19	.15
881-3356	SR211C183KAA	18000	.26	.19	.15
881-3357	SR211C223KAA	22000	.26	.19	.15
881-3358	SR211C273KAA	27000	.26	.19	.15
881-3359	SR211C333KAA	33000	.26	.19	.15
881-3360	SR211C393KAA	39000	.26	.19	.15
881-3361	SR211C473KAA	47000	.28	.20	.16
881-3362	SR211C563KAA	56000	.29	.21	.17
881-3363	SR211C683KAA	68000	.29	.21	.17

SR21—50 VDC

881-3364	SR215C823KAA	82000	.28	.20	.16
881-3365	SR215C104KAA	100000	.28	.20	.16
881-3366	SR215C124KAA	120000	.29	.21	.17
881-3367	SR215C154KAA	150000	.29	.21	.17

SR26—100 VDC

881-3368	SR261C103KAA	10000	.22	.16	.13

SR26—50 VDC

881-3369	SR265C473KAA	47000	.24	.17	.14
881-3370	SR265C104KAA	100000	.28	.20	.16

SR27—100 VDC

881-3371	SR271C103KAA	10000	.22	.16	.13

SR27—50 VDC

881-3372	SR275C473KAA	47000	.24	.17	.14
881-3373	SR275C104KAA	100000	.28	.20	.16

SR30—100 VDC

881-3374	SR301C823KAA	82000	.29	.21	.17
881-3375	SR301C104KAA	100000	.29	.21	.17
881-3376	SR301C154KAA	150000	.74	.53	.42
881-3377	SR301C184KAA	180000	.74	.53	.42
881-3378	SR301C224KAA	220000	.83	.59	.47
881-3379	SR301C274KAA	270000	1.11	.79	.63
881-3380	SR301C334KAA	330000	1.29	.92	.74

SR30—50 VDC

881-3381	SR305C394KAA	390000	1.22	.87	.70
881-3382	SR305C474KAA	470000	1.37	.98	.78
881-3383	SR305C564KAA	560000	1.77	1.27	1.01
881-3384	SR305C684KAA	680000	1.77	1.27	1.01
881-3385	SR305C824KAA	820000	2.03	1.45	1.16
881-3386	SR305C105KAA	1000000	2.03	1.45	1.16

SR40—100 VDC

881-3387	SR401C394KAA	390000	3.40	2.43	1.94
881-3388	SR401C474KAA	470000	3.64	2.60	2.08

SR40—50 VDC

881-3389	SR405C225KAA	2200000	7.00	5.00	4.00

NOTE: Series continues on next page.

Radial Leads/SkyCap

NOTE: See prior page for illustrations.

X7R Characteristic

SR50—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3390	SR501C334KAA	330000	7.39	5.28	4.22
881-3391	SR501C394KAA	390000	7.39	5.28	4.22
881-3392	SR501C474KAA	470000	7.39	5.28	4.22
881-3393	SR501C564KAA	560000	7.39	5.28	4.22
881-3394	SR501C684KAA	680000	7.39	5.28	4.22
881-3395	SR501C105KAA	1000000	8.30	5.93	4.74

SR50—50 VDC

881-3396	SR505C125KAA	1200000	7.39	5.28	4.22
881-3397	SR505C155KAA	1500000	7.39	5.28	4.22
881-3398	SR505C185KAA	1800000	7.39	5.28	4.22
881-3399	SR505C225KAA	2200000	6.72	4.80	3.84
881-3400	SR505C275KAA	2700000	8.75	6.25	5.00

Z5U Characteristic

SR15—100 VDC

881-3100	SR151E102MAA	1000	.17	.12	.10
881-3101	SR151E122MAA	1200	.17	.12	.10
881-3102	SR151E152MAA	1500	.17	.12	.10
881-3103	SR151E182MAA	1800	.17	.12	.10
881-3104	SR151E222MAA	2200	.17	.12	.10
881-3105	SR151E272MAA	2700	.17	.12	.10
881-3106	SR151E332MAA	3300	.17	.12	.10
881-3107	SR151E392MAA	3900	.17	.12	.10
881-3108	SR151E472MAA	4700	.17	.12	.10
881-3109	SR151E562MAA	5600	.17	.12	.10
881-3110	SR151E682MAA	6800	.17	.12	.10
881-3111	SR151E822MAA	8200	.17	.12	.10
881-3112	SR151E103MAA	10000	.18	.13	.10
881-3113	SR151E123MAA	12000	.18	.13	.10

SR15—50 VDC

881-3114	SR155E103MAA	10000	.17	.12	.10
881-3115	SR155E123MAA	12000	.17	.12	.10
881-3116	SR155E153MAA	15000	.17	.12	.10
881-3117	SR155E183MAA	18000	.17	.12	.10
881-3118	SR155E223MAA	22000	.17	.12	.10
881-3119	SR155E473MAA	47000	.19	.13	.11
881-3120	SR155E563MAA	56000	.19	.13	.11
881-3121	SR155E683MAA	68000	.19	.13	.11
881-3122	SR155E823MAA	82000	.19	.13	.11

SR20—100 VDC

881-3123	SR201E153MAA	15000	.19	.13	.11
881-3124	SR201E183MAA	18000	.19	.13	.11
881-3125	SR201E223MAA	22000	.19	.13	.11
881-3126	SR201E273MAA	27000	.19	.13	.11
881-3127	SR201E333MAA	33000	.19	.13	.11
881-3128	SR201E393MAA	39000	.19	.13	.11
881-3129	SR201E473MAA	47000	.19	.13	.11
881-3130	SR201E563MAA	56000	.20	.15	.12
881-3131	SR201E683MAA	68000	.20	.15	.12
881-3132	SR201E823MAA	82000	.20	.15	.12
881-3133	SR201E104MAA	100000	.24	.17	.14
881-3134	SR201E124MAA	120000	.28	.20	.16
881-3135	SR201E154MAA	150000	.29	.21	.17

SR20—50 VDC

881-3136	SR205E104MAA	100000	.15	.11	.09
881-3137	SR205E124MAA	120000	.19	.13	.11
881-3138	SR205E154MAA	150000	.20	.15	.12
881-3139	SR205E184MAA	180000	.22	.16	.13
881-3140	SR205E224MAA	220000	.24	.17	.14
881-3141	SR205E274MAA	270000	.28	.20	.16
881-3142	SR205E334MAA	330000	.29	.21	.17

SR21—100 VDC

881-3143	SR211E103MAA	10000	.19	.13	.11
881-3144	SR211E123MAA	12000	.19	.13	.11
881-3145	SR211E153MAA	15000	.19	.13	.11
881-3146	SR211E183MAA	18000	.19	.13	.11
881-3147	SR211E223MAA	22000	.19	.13	.11
881-3148	SR211E273MAA	27000	.19	.13	.11
881-3149	SR211E333MAA	33000	.19	.13	.11
881-3150	SR211E393MAA	39000	.19	.13	.11
881-3151	SR211E473MAA	47000	.19	.13	.11
881-3152	SR211E563MAA	56000	.20	.15	.12
881-3153	SR211E683MAA	68000	.20	.15	.12
881-3154	SR211E823MAA	82000	.20	.15	.12
881-3155	SR211E104MAA	100000	.24	.17	.14
881-3156	SR211E124MAA	120000	.28	.20	.16
881-3157	SR211E154MAA	150000	.29	.21	.17

SR21—50 VDC

881-3158	SR215E473MAA	47000	.15	.11	.08
881-3159	SR215E563MAA	56000	.15	.11	.08
881-3160	SR215E683MAA	68000	.15	.11	.08
881-3161	SR215E823MAA	82000	.15	.11	.08
881-3162	SR215E104MAA	100000	.15	.11	.09
881-3163	SR215E124MAA	120000	.19	.13	.11
881-3164	SR215E154MAA	150000	.20	.15	.12
881-3165	SR215E184MAA	180000	.22	.16	.13
881-3166	SR215E224MAA	220000	.24	.17	.14
881-3167	SR215E274MAA	270000	.28	.20	.16
881-3168	SR215E334MAA	330000	.29	.21	.17

SR26—100 VDC

881-3169	SR261E103MAA	10000	.19	.13	.11
881-3170	SR261E153MAA	15000	.19	.13	.11
881-3171	SR261E223MAA	22000	.19	.13	.11
881-3172	SR261E333MAA	33000	.19	.13	.11
881-3173	SR261E473MAA	47000	.19	.13	.11
881-3174	SR261E683MAA	68000	.20	.15	.12
881-3175	SR261E104MAA	100000	.24	.17	.14

SR26—50 VDC

881-3176	SR265E473MAA	47000	.15	.11	.08
881-3177	SR265E683MAA	68000	.15	.11	.08
881-3178	SR265E104MAA	100000	.15	.11	.09
881-3179	SR265E154MAA	150000	.20	.15	.12
881-3180	SR265E224MAA	220000	.24	.17	.14
881-3181	SR265E334MAA	330000	.29	.21	.17

SR27—100 VDC

881-3182	SR271E103MAA	10000	.19	.13	.11

SR27—100 VDC

881-3183	SR271E153MAA	15000	.19	.13	.11
881-3184	SR271E223MAA	22000	.19	.13	.11
881-3185	SR271E333MAA	33000	.19	.13	.11
881-3186	SR271E473MAA	47000	.19	.13	.11
881-3187	SR271E683MAA	68000	.20	.15	.12
881-3188	SR271E104MAA	100000	.24	.17	.14

SR27—50 VDC

881-3189	SR275E473MAA	47000	.15	.11	.08
881-3190	SR275E683MAA	68000	.15	.11	.08
881-3191	SR275E104MAA	100000	.15	.11	.09
881-3192	SR275E154MAA	150000	.20	.15	.12
881-3193	SR275E224MAA	220000	.24	.17	.14
881-3194	SR275E334MAA	330000	.29	.21	.17

SR30—100 VDC

881-3195	SR301E184MAA	180000	.35	.25	.20
881-3196	SR301E224MAA	220000	.37	.27	.21
881-3197	SR301E274MAA	270000	.41	.29	.23
881-3198	SR301E334MAA	330000	.44	.32	.25
881-3199	SR301E394MAA	390000	.52	.37	.30
881-3200	SR301E474MAA	470000	.59	.42	.34

SR30—50 VDC

881-3201	SR305E394MAA	390000	.33	.24	.19
881-3202	SR305E474MAA	470000	.35	.25	.20
881-3203	SR305E564MAA	560000	.52	.37	.30
881-3204	SR305E684MAA	680000	.52	.37	.30
881-3205	SR305E824MAA	820000	.59	.42	.34
881-3206	SR305E105MAA	1000000	.55	.40	.32
881-3207	SR305E125MAA	1200000	.72	.52	.41
881-3208	SR305E155MAA	1500000	.72	.52	.41

SR40—100 VDC

881-3209	SR401E564MAA	560000	1.72	1.23	.98
881-3210	SR401E684MAA	680000	1.72	1.23	.98
881-3211	SR401E824MAA	820000	1.72	1.23	.98
881-3212	SR401E105MAA	1000000	1.79	1.28	1.02

SR40—50 VDC

881-3213	SR405E185MAA	1800000	1.79	1.28	1.02
881-3214	SR405E225MAA	2200000	1.86	1.33	1.06
881-3215	SR405E335MAA	3300000	1.93	1.38	1.10

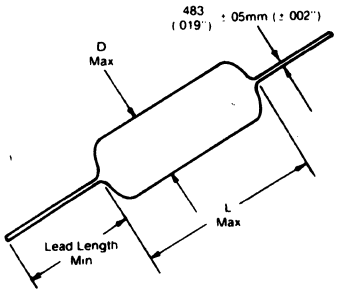
SR50—100 VDC

881-3216	SR501E105MAA	1000000	5.78	4.13	3.30
881-3217	SR501E125MAA	1200000	7.14	5.10	4.08
881-3218	SR501E155MAA	1500000	7.14	5.10	4.08
881-3219	SR501E185MAA	1800000	7.39	5.28	4.22
881-3220	SR501E225MAA	2200000	7.39	5.28	4.22

SR50—50 VDC

881-3221	SR505E225MAA	2200000	5.39	3.85	3.08
881-3222	SR505E275MAA	2700000	6.48	4.63	3.70
881-3223	SR505E335MAA	3300000	6.48	4.63	3.70
881-3224	SR505E395MAA	3900000	5.78	4.13	3.30
881-3225	SR505E475MAA	4700000	5.78	4.13	3.30

Axial Leads/SpinGuard



► NOTE: Other tolerances available. Call for price and delivery.

Axials

SpinGuard Conformal	D×L
SA10	.100 × .170
SA11	.120 × .170
SA20	.100 × .260
SA30	.150 × .290
SA40	.150 × .400

NPO Characteristic

SA10—50 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-4000	SA105A102JAA	1000	.22	.16	.13

SA20—100 VDC

881-4001	SA201A102JAA	1000	.28	.20	.16
881-4002	SA201A122JAA	1200	.29	.21	.17
881-4003	SA201A152JAA	1500	.30	.22	.17

SA20—50 VDC

881-4004	SA205A182JAA	1800	.31	.22	.18

SA30—100 VDC

881-4005	SA301A182JAA	1800	.46	.33	.26
881-4006	SA301A222JAA	2200	.46	.33	.26
881-4007	SA301A272JAA	2700	.48	.34	.27
881-4008	SA301A332JAA	3300	.48	.34	.27
881-4009	SA301A392JAA	3900	.48	.34	.27

SA30—50 VDC

881-4010	SA305A472JAA	4700	.50	.36	.28

SA10—200 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-4011	SA102A100JAA	10	.19	.14	.11
881-4012	SA102A120JAA	12	.19	.14	.11
881-4013	SA102A150JAA	15	.19	.14	.11
881-4014	SA102A180JAA	18	.19	.14	.11
881-4015	SA102A220JAA	22	.19	.14	.11
881-4016	SA102A270JAA	27	.19	.14	.11
881-4017	SA102A330JAA	33	.19	.14	.11
881-4018	SA102A390JAA	39	.19	.14	.11
881-4019	SA102A470JAA	47	.19	.14	.11
881-4020	SA102A560JAA	56	.19	.14	.11
881-4021	SA102A680JAA	68	.19	.14	.11
881-4022	SA102A820JAA	82	.19	.14	.11
881-4023	SA102A101JAA	100	.19	.14	.11
881-4024	SA102A121JAA	120	.19	.14	.11

SA10—100 VDC

881-4025	SA101A151JAA	150	.20	.14	.11
881-4026	SA101A181JAA	180	.20	.14	.11
881-4027	SA101A221JAA	220	.20	.14	.11
881-4028	SA101A271JAA	270	.20	.14	.11
881-4029	SA101A331JAA	330	.20	.14	.11
881-4030	SA101A391JAA	390	.20	.14	.11
881-4031	SA101A471JAA	470	.20	.14	.11
881-4032	SA101A561JAA	560	.20	.14	.11
881-4033	SA101A681JAA	680	.20	.14	.11
881-4034	SA101A821JAA	820	.20	.14	.11

NOTE: See next page for balance of series listing.

Axial Leads/SpinGuard

NPO Characteristic

SA40—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-4035	SA401A472JAA	4700	.74	.53	.42
881-4036	SA401A562JAA	5600	.74	.53	.42
881-4037	SA401A682JAA	6800	.74	.53	.42

SA40—50 VDC

881-4038	SA405A822JAA	8200	.85	.61	.49
881-4039	SA405A103JAA	10000	.85	.61	.49

X7R Characteristic

SA10—200 VDC

881-4040	SA102C221KAA	220	.18	.13	.10
881-4041	SA102C271KAA	270	.18	.13	.10
881-4042	SA102C331KAA	330	.18	.13	.10
881-4043	SA102C391KAA	390	.18	.13	.10
881-4044	SA102C471KAA	470	.18	.13	.10

SA10—100 VDC

881-4045	SA101C561KAA	560	.18	.13	.10
881-4046	SA101C681KAA	680	.18	.13	.10
881-4047	SA101C821KAA	820	.18	.13	.10
881-4048	SA101C102KAA	1000	.18	.13	.10
881-4049	SA101C122KAA	1200	.18	.13	.10
881-4050	SA101C182KAA	1800	.18	.13	.10
881-4051	SA101C222KAA	2200	.18	.13	.10
881-4052	SA101C272KAA	2700	.18	.13	.10
881-4053	SA101C332KAA	3300	.18	.13	.10
881-4054	SA101C392KAA	3900	.18	.13	.10
881-4055	SA101C472KAA	4700	.18	.13	.10
881-4056	SA101C562KAA	5600	.18	.13	.10
881-4057	SA101C682KAA	6800	.18	.13	.10

SA10—50 VDC

881-4058	SA105C822KAA	8200	.18	.13	.10
881-4059	SA105C103KAA	10000	.18	.13	.10
881-4060	SA105C123KAA	12000	.19	.13	.11
881-4061	SA105C153KAA	15000	.19	.13	.11
881-4062	SA105C183KAA	18000	.20	.14	.11
881-4063	SA105C223KAA	22000	.20	.14	.11

SA11—50 VDC

881-4064	SA115C104KAA	100000	.35	.25	.20

SA20—100 VDC

881-4065	SA201C822KAA	8200	.22	.16	.13
881-4066	SA201C103KAA	10000	.22	.16	.13
881-4067	SA201C123KAA	12000	.22	.16	.13
881-4068	SA201C153KAA	15000	.22	.16	.13
881-4069	SA201C183KAA	18000	.23	.16	.13

SA20—50 VDC

881-4070	SA205C273KAA	27000	.24	.17	.14
881-4071	SA205C333KAA	33000	.24	.17	.14
881-4072	SA205C393KAA	39000	.24	.17	.14
881-4073	SA205C473KAA	47000	2.45	1.75	1.40

SA30—100 VDC

881-4074	SA301C223KAA	22000	.41	.29	.23
881-4075	SA301C273KAA	27000	.41	.29	.23
881-4076	SA301C333KAA	33000	.41	.29	.23
881-4077	SA301C393KAA	39000	.42	.30	.24
881-4078	SA301C473KAA	47000	.42	.30	.24

SA30—50 VDC

881-4079	SA305C563KAA	56000	.44	.32	.25
881-4080	SA305C683KAA	68000	.44	.32	.25
881-4081	SA305C823KAA	82000	.52	.37	.30
881-4082	SA305C104KAA	100000	.52	.37	.30

SA40—100 VDC

881-4083	SA401C563KAA	56000	.55	.40	.32
881-4084	SA401C683KAA	68000	.55	.40	.32
881-4085	SA401C823KAA	82000	.59	.42	.34
881-4086	SA401C104KAA	100000	.59	.42	.34

SA40—50 VDC

881-4087	SA405C154KAA	150000	.63	.45	.36
881-4088	SA305C184KAA	180000	.63	.45	.36
881-4089	SA305C224KAA	220000	.70	.50	.40
881-4090	SA305C274KAA	270000	.78	.56	.44

Z5U Characteristic

SA10—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-4091	SA101E103MAA	10000	.14	.10	.08
881-4092	SA101E153MAA	15000	.15	.11	.08
881-4093	SA101E223MAA	22000	.15	.11	.08

SA10—50 VDC

881-4094	SA105E103MAA	10000	.13	.10	.08
881-4095	SA105E153MAA	15000	.14	.10	.08
881-4096	SA105E223MAA	22000	.14	.10	.08
881-4097	SA105E333MAA	33000	.14	.10	.08
881-4098	SA105E473MAA	47000	.14	.10	.08
881-4099	SA105E683MAA	68000	.15	.11	.08
881-4100	SA105E104MAA	100000	.15	.11	.08

SA11—50 VDC

881-4101	SA115E224MAA	220000	.28	.20	.16
881-4102	SA115E334MAA	330000	.32	.23	.18

SA20—100 VDC

881-4103	SA201E333MAA	33000	.23	.16	.13
881-4104	SA201E473MAA	47000	.23	.16	.13

SA20—50 VDC

881-4105	SA205E104MAA	100000	.15	.11	.09

SA30—100 VDC

881-4106	SA301E683MAA	68000	.39	.28	.22
881-4107	SA301E104MAA	100000	.39	.28	.22

SA30—50 VDC

881-4108	SA305E154MAA	150000	.42	.30	.24
881-4109	SA305E224MAA	220000	.42	.30	.24
881-4110	SA305E334MAA	330000	.46	.33	.26
881-4111	SA305E105MAA	1000000	.72	.52	.41

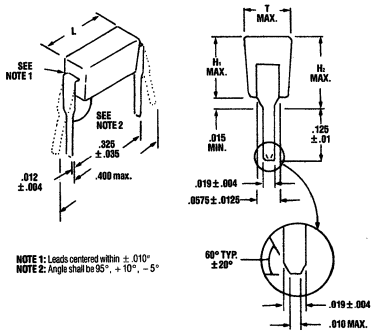
SA40—100 VDC

881-4112	SA401E104MAA	100000	.68	.49	.39

SA40—50 VDC

881-4113	SA405E474MAA	470000	.55	.40	.32

Two Pin DIP/DIPGuard



NOTE 1: Leads centered within ±.010".
NOTE 2: Angle shall be 95°, +10°, -5°

Dual-In-Line

DIPGuard	T	Size	L.S.
MD01	.098	.260 x .135	.300
MD02	.098	.260 x .165	.300
MD03	.098	.260 x .290	.300

NPO Characteristic

MD01—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3700	MD011A100JAA	10	.55	.40	.32
881-3701	MD011A120JAA	12	.55	.40	.32
881-3702	MD011A150JAA	15	.55	.40	.32
881-3703	MD011A180JAA	18	.55	.40	.32
881-3704	MD011A220JAA	22	.55	.40	.32
881-3705	MD011A270JAA	27	.55	.40	.32
881-3706	MD011A330JAA	33	.55	.40	.32
881-3707	MD011A390JAA	39	.55	.40	.32
881-3708	MD011A470JAA	47	.55	.40	.32
881-3709	MD011A560JAA	56	.55	.40	.32

MD01—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3710	MD011A680JAA	68	.55	.40	.32
881-3711	MD011A820JAA	82	.55	.40	.32
881-3712	MD011A101JAA	100	.55	.40	.32
881-3713	MD011A121JAA	120	.55	.40	.32
881-3714	MD011A151JAA	150	.55	.40	.32
881-3715	MD011A181JAA	180	.55	.40	.32
881-3716	MD011A221JAA	220	.55	.40	.32
881-3717	MD011A271JAA	270	.55	.40	.32
881-3718	MD011A331JAA	330	.55	.40	.32
881-3719	MD011A391JAA	390	.59	.42	.34
881-3720	MD011A471JAA	470	.59	.42	.34
881-3721	MD011A561JAA	560	.59	.42	.34
881-3722	MD011A681JAA	680	.59	.42	.34
881-3723	MD011A821JAA	820	.59	.42	.34
881-3724	MD011A102JAA	1000	.59	.42	.34
881-3725	MD011A122JAA	1200	.59	.42	.34
881-3726	MD011A152JAA	1500	.67	.48	.38
881-3727	MD011A182JAA	1800	.67	.48	.38
881-3728	MD011A222JAA	2200	.67	.48	.38

MD01—50 VDC

881-3729	MD015A820JAA	82	.55	.40	.32
881-3730	MD015A101JAA	100	.55	.40	.32
881-3731	MD015A121JAA	120	.55	.40	.32
881-3732	MD015A151JAA	150	.55	.40	.32
881-3733	MD015A181JAA	180	.55	.40	.32
881-3734	MD015A221JAA	220	.55	.40	.32
881-3735	MD015A271JAA	270	.55	.40	.32
881-3736	MD015A331JAA	330	.55	.40	.32
881-3737	MD015A391JAA	390	.55	.40	.32
881-3738	MD015A471JAA	470	.59	.42	.34
881-3739	MD015A561JAA	560	.59	.42	.34
881-3740	MD015A681JAA	680	.59	.42	.34
881-3741	MD015A821JAA	820	.59	.42	.34
881-3742	MD015A102JAA	1000	.59	.42	.34
881-3743	MD015A122JAA	1200	.59	.42	.34
881-3744	MD015A152JAA	1500	.67	.48	.38
881-3745	MD015A182JAA	1800	.67	.48	.38
881-3746	MD015A222JAA	2200	.67	.48	.38
881-3747	MD015A272JAA	2700	.67	.48	.38
881-3748	MD015A332JAA	3300	.92	.66	.53
881-3749	MD015A392JAA	3900	.92	.66	.53
881-3750	MD015A472JAA	4700	.92	.66	.53

MD02—100 VDC

Stock No.	Mfr.'s Type	pF	EACH 1-24	25-99	100-499
881-3751	MD021A272JAA	2700	1.03	.74	.59
881-3752	MD021A332JAA	3300	1.26	.90	.72

MD02—50 VDC

881-3753	MD025A472JAA	4700	1.29	.92	.74
881-3754	MD025A562JAA	5600	1.29	.92	.74
881-3755	MD025A682JAA	6800	1.66	1.19	.95
881-3756	MD025A103JAA	10000	1.85	1.32	1.06

X7R Characteristic

MD01—100 VDC

881-3757	MD011C151JAA	150	.61	.44	.35
881-3758	MD011C221JAA	220	.61	.44	.35
881-3759	MD011C331JAA	330	.61	.44	.35
881-3760	MD011C471JAA	470	.61	.44	.35
881-3761	MD011C681JAA	680	.61	.44	.35
881-3762	MD011C102JAA	1000	.61	.44	.35
881-3763	MD011C152JAA	1500	.61	.44	.35
881-3764	MD011C222JAA	2200	.61	.44	.35
881-3765	MD011C332JAA	3300	.61	.44	.35
881-3766	MD011C472JAA	4700	.61	.44	.35
881-3767	MD011C682JAA	6800	.61	.44	.35
881-3768	MD011C103JAA	10000	.50	.36	.29
881-3769	MD011C153JAA	15000	.72	.52	.41
881-3770	MD011C223JAA	22000	.72	.52	.41
881-3771	MD011C333JAA	33000	.72	.52	.41

MD01—50 VDC

881-3772	MD015C151JAA	150	.61	.44	.35
881-3773	MD015C221JAA	220	.61	.44	.35
881-3774	MD015C331JAA	330	.61	.44	.35
881-3775	MD015C471JAA	470	.61	.44	.35
881-3776	MD015C681JAA	680	.61	.44	.35
881-3777	MD015C102JAA	1000	.61	.44	.35
881-3778	MD015C152JAA	1500	.61	.44	.35
881-3779	MD015C222JAA	2200	.61	.44	.35
881-3780	MD015C332JAA	3300	.61	.44	.35
881-3781	MD015C472JAA	4700	.61	.44	.35
881-3782	MD015C682JAA	6800	.61	.44	.36

NOTE: Series continued on next page.

Two Pin DIP/DIPGuard

X7R Characteristic

MD01—50 VDC

Stock No.	Mfr.'s Type	pF	EACH		
			1-24	25-99	100-499
881-3783	MD015C103JAA	10000	.44	.32	.25
881-3784	MD015C153JAA	15000	.72	.52	.41
881-3785	MD015C223JAA	22000	.72	.52	.41
881-3786	MD015C333JAA	33000	.72	.52	.41
881-3787	MD015C473JAA	47000	.72	.52	.41
881-3788	MD015C683JAA	68000	.72	.52	.41
881-3789	MD015C104JAA	100000	.61	.44	.35

MD02—100 VDC

881-3790	MD021C473JAA	47000	1.33	.95	.76
881-3791	MD021C104JAA	100000	1.40	1.00	.80

MD02—50 VDC

881-3792	MD025C154JAA	150000	1.00	.71	.57
881-3793	MD025C224JAA	220000	1.00	.71	.57

MD03—50 VDC

Stock No.	Mfr.'s Type	pF	EACH		
			1-24	25-99	100-499
881-3794	MD035C334JAA	330000	4.15	2.96	2.37
881-3795	MD035C474JAA	470000	5.25	3.75	3.00
881-3796	MD035C684JAA	680000	6.93	4.95	3.96
881-3797	MD035C105JAA	1000000	8.30	5.93	4.74

Z5U Characteristic

MD01—100 VDC

881-3798	MD011E103MAA	10000	.37	.27	.21
881-3799	MD011E153MAA	15000	.44	.32	.25
881-3800	MD011E223MAA	22000	.44	.32	.25
881-3801	MD011E333MAA	33000	.44	.32	.25
881-3802	MD011E473MAA	47000	.44	.32	.25

MD01—50 VDC

881-3803	MD015E103MAA	10000	.21	.15	.12
881-3804	MD011E153MAA	15000	.33	.24	.19
881-3805	MD011E223MAA	22000	.33	.24	.19

MD01—50 VDC

Stock No.	Mfr.'s Type	pF	EACH		
			1-24	25-99	100-499
881-3806	MD011E333MAA	33000	.33	.24	.19
881-3807	MD011E473MAA	47000	.28	.20	.16
881-3808	MD011E683MAA	68000	.33	.24	.19
881-3809	MD011E104MAA	100000	.24	.17	.14
881-3810	MD011E154MAA	150000	.41	.29	.23
881-3811	MD011E224MAA	220000	.35	.25	.20
881-3812	MD011E334MAA	330000	.51	.37	.29

MD02—100 VDC

881-3813	MD021E104MAA	100000	.59	.42	.34

MD02—50 VDC

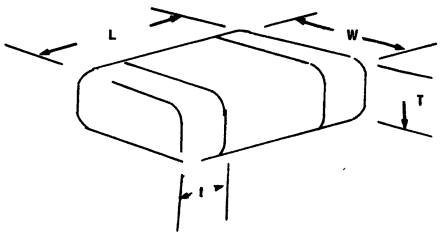
881-3814	MD025E474MAA	470000	.67	.48	.38

MD03—50 VDC

881-3815	MD035E105MAA	1000000	1.40	1.00	.80

4

Chips/Maxi Chip



Maxi Chip	Fig.	Length (L) MM (In.)	Width (W) MM (In.)	Thickness (T) MM (In.)	Terminal (t) MM (In.)
0805		2.0 ± 0.2 (.079 ± .008)	1.2 ± 0.2 (.047 ± .008)	1.3 (.051)	0.7 MAX (.028 MAX)
1206		3.2 ± 0.2 (.126 ± .008)	1.6 ± 0.2 (.063 ± .008)	1.50 (.060)	0.7 MAX (.028 MAX)
1210		3.2 ± 0.2 (.126 ± .008)	2.5 ± 0.2 (.098 ± .008)	1.70 (.067)	0.7 MAX (.028 MAX)
1812		4.5 ± 0.3 (.177 ± .012)	3.2 ± 0.2 (.126 ± .008)	1.70 (.067)	0.75 MAX (.030 MAX)
1825		4.5 ± 0.3 (.177 ± .012)	6.4 ± 0.4 (.252 ± .016)	1.70 (.067)	0.75 MAX (.030 MAX)

NPO Characteristic

0805—100 VDC

Stock No.	Mfr.'s Type	pF	EACH		
			1-24	25-99	100-499
881-5000	08051A100JAT050	10	.19	.14	.11
881-5001	08051A100KAT050	10	.16	.12	.09
881-5002	08051A120JAT050	12	.19	.14	.11
881-5003	08051A120KAT050	12	.16	.12	.09
881-5004	08051A180JAT050	18	.19	.14	.11
881-5005	08051A180KAT050	18	.16	.12	.09
881-5006	08051A220JAT050	22	.19	.14	.11
881-5007	08051A220KAT050	22	.16	.12	.09
881-5008	08051A330JAT050	33	.19	.14	.11
881-5009	08051A330KAT050	33	.16	.12	.09
881-5010	08051A470JAT050	47	.19	.14	.11
881-5011	08051A470KAT050	47	.16	.12	.09
881-5012	08051A680JAT050	68	.19	.14	.11
881-5013	08051A680KAT050	68	.16	.12	.09
881-5014	08051A101JAT050	100	.19	.14	.11
881-5015	08051A101KAT050	100	.16	.12	.09
881-5016	08051A121JAT050	120	.21	.15	.12
881-5017	08051A121KAT050	120	.18	.13	.10
881-5018	08051A151JAT050	150	.21	.15	.12
881-5019	08051A151KAT050	150	.18	.13	.10
881-5020	08051A221JAT050	220	.21	.15	.12
881-5021	08051A221KAT050	220	.18	.13	.10

0805—50 VDC

881-5022	08055A471JAT050	470	.26	.19	.15
881-5023	08055A471KAT050	470	.20	.14	.11

1206—100 VDC

881-5024	12061A100JAT060	10	.21	.15	.12
881-5025	12061A100KAT060	10	.18	.13	.10
881-5026	12061A180JAT060	18	.21	.15	.12
881-5027	12061A180KAT060	18	.18	.13	.10
881-5028	12061A220JAT060	22	.21	.15	.12
881-5029	12061A220KAT060	22	.18	.13	.10
881-5030	12061A470JAT060	47	.21	.15	.12
881-5031	12061A470KAT060	47	.18	.13	.10
881-5032	12061A101JAT060	100	.21	.15	.12
881-5033	12061A101KAT060	100	.18	.13	.10
881-5034	12061A121JAT060	120	.23	.16	.13
881-5035	12061A121KAT060	120	.19	.13	.11
881-5036	12061A221JAT060	220	.23	.16	.13
881-5037	12061A221KAT060	220	.19	.13	.11
881-5038	12061A271JAT060	270	.23	.16	.13
881-5039	12061A271KAT060	270	.19	.13	.11
881-5040	12061A471JAT060	470	.23	.17	.13
881-5041	12061A471KAT060	470	.19	.14	.11
881-5042	12061A561JAT060	560	.23	.17	.13
881-5043	12061A561KAT060	560	.19	.14	.11
881-5044	12061A681JAT060	680	.27	.19	.15
881-5045	12061A681KAT060	680	.23	.16	.13

1206—50 VDC

Stock No.	Mfr.'s Type	pF	EACH		
			1-24	25-99	100-499
881-5046	12065A102JAT060	1000	.27	.19	.15
881-5047	12065A102KAT060	1000	.23	.16	.13

1210—50 VDC

881-5048	12105A222JAT067	2200	.50	.36	.28
881-5049	12105A222KAT067	2200	.42	.30	.24

1812—50 VDC

881-5050	18125A103JAT067	10000	1.02	.73	.58
881-5051	18125A103KAT067	10000	.91	.65	.52

X7R Characteristic

0805—50 VDC

881-5052	08055C102JAT050	1000	.18	.13	.10
881-5053	08055C102KAT050	1000	.15	.11	.09
881-5054	08055C102MAT050	1000	.14	.10	.08
881-5055	08055C472JAT050	4700	.18	.13	.10
881-5056	08055C472KAT050	4700	.15	.11	.09
881-5057	08055C472MAT050	4700	.14	.10	.08
881-5058	08055C103JAT050	10000	.19	.13	.11
881-5059	08055C103KAT050	10000	.16	.12	.09
881-5060	08055C103MAT050	10000	.14	.10	.08

1206—50 VDC

881-5061	12065C102JAT060	1000	.20	.15	.12
881-5062	12065C102KAT060	1000	.18	.13	.10
881-5063	12065C102MAT060	1000	.15	.11	.09
881-5064	12065C103JAT060	10000	.20	.15	.12
881-5065	12065C103KAT060	10000	.18	.13	.10
881-5066	12065C103MAT060	10000	.15	.11	.09
881-5067	12065C223JAT060	22000	.21	.15	.12
881-5068	12065C223KAT060	22000	.19	.13	.11
881-5069	12065C223MAT060	22000	.17	.12	.10
881-5070	12065C473JAT060	47000	.26	.19	.15
881-5071	12065C473KAT060	47000	.23	.16	.13
881-5072	12065C473MAT060	47000	.21	.15	.12
881-5073	12065C104JAT060	100000	.38	.27	.22
881-5074	12065C104KAT060	100000	.33	.24	.19
881-5075	12065C104MAT060	100000	.30	.22	.17

1210—50 VDC

Stock No.	Mfr.'s Type	pF	EACH		
			1-24	25-99	100-499
881-5076	12105C224JAT067	220000	.42	.30	.24
881-5077	12105C224KAT067	220000	.37	.26	.21
881-5078	12105C224MAT067	220000	.33	.24	.19

1812—50 VDC

881-5079	18125C224JAT067	220000	.93	.66	.53
881-5080	18125C224KAT067	220000	.81	.58	.46
881-5081	18125C224MAT067	220000	.72	.52	.41

1825—50 VDC

881-5082	18255C474JAT067	470000	1.93	1.38	1.10
881-5083	18255C474KAT067	470000	1.68	1.20	.96
881-5084	18255C474MAT067	470000	1.51	1.08	.86

Z5U Characteristic

0805—50 VDC

881-5085	08055E103MAT050	10000	.16	.11	.09
881-5086	08055E103ZAT050	10000	.14	.10	.08

1206—50 VDC

881-5087	12065E103MAT060	10000	.16	.11	.09
881-5088	12065E103ZAT060	10000	.14	.10	.08
881-5089	12065E473MAT060	47000	.18	.13	.10
881-5090	12065E473ZAT060	47000	.16	.11	.09
881-5091	12065E104MAT060	100000	.19	.13	.11
881-5092	12065E104ZAT060	100000	.17	.12	.10

1210—50 VDC

881-5093	12105E224MAT067	220000	.46	.33	.26
881-5094	12105E224ZAT067	220000	.41	.29	.23
881-5095	12105E334MAT067	330000	.49	.35	.28
881-5096	12105E334ZAT067	330000	.44	.32	.25

1812—50 VDC

881-5097	18125E474MAT067	470000	.51	.36	.29
881-5098	18125E474ZAT067	470000	.46	.33	.26

1825—50 VDC

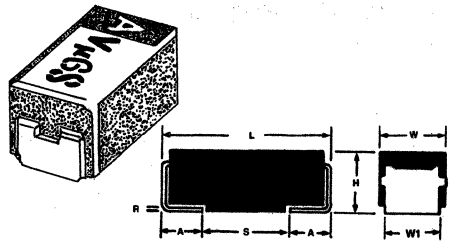
881-5099	18255E105MAT067	1000000	1.48	1.06	.85
881-5100	18255E105ZAT067	1000000	1.34	.96	.76

Tantalum Surface Mount Capacitors

Standard EIA Surface Mount Technology Solid Tantalum Chip Capacitors

The four case sizes of the TAJ conform to the sizes most required by the major OEMs throughout Europe and America. These sizes conform to the Electronics Industry Associations of U.S. and Japan recommended standards for Tantalum Chip Capacitors. These sizes are now accepted as standard by nearly all major manufacturers worldwide.

Code	L ± 0.008 (0.2)	W + 0.008 (0.2) − 0.004 (0.1)	H + 0.008 (0.2) − 0.004 (0.1)	W_1 ± 0.004 (0.1)	A + 0.012 (0.3) − 0.008 (0.2)	S Min.
A	0.126 (3.2)	0.063 (1.6)	0.063 (1.6)	0.047 (1.2)	0.031 (0.8)	0.043 (1.1)
B	0.138 (3.5)	0.110 (2.8)	0.075 (1.9)	0.087 (2.2)	0.031 (0.8)	0.055 (1.4)
C	0.236 (6.0)	0.126 (3.2)	0.102 (2.6)	0.087 (2.2)	0.051 (1.3)	0.114 (2.9)
D	0.287 (7.3)	0.169 (4.3)	0.114 (2.9)	0.094 (2.4)	0.051 (1.3)	0.173 (4.4)



W_1 dimension applies to the termination width for A dimensional area only. Stand-off (R) is 0.004 ± 0.004 (0.1 ± 0.1).

4 Volt at 85°C (2.5 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X00	TAJA335*004	A	3.30	.49	.35	.28
881-6X01	TAJB106*004	B	10.00	.58	.41	.33
881-6X02	TAJC226*004	C	22.00	1.00	.71	.57
881-6X03	TAJC336*004	C	33.00	1.00	.71	.57
881-6X04	TAJD476*004	D	47.00	1.24	.89	.71
881-6X05	TAJD686*004	D	68.00	1.24	.89	.71
881-6X06	TAJD107*004	D	100.00	1.24	.89	.71

6.3 Volt at 85°C (4 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X07	TAJA225*006	A	2.20	.49	.35	.28
881-6X08	TAJB685*006	B	6.80	.58	.41	.33
881-6X09	TAJC156*006	C	15.00	1.00	.71	.57
881-6X10	TAJC226*006	C	22.00	1.00	.71	.57
881-6X11	TAJD226*006	D	22.00	1.24	.89	.71
881-6X12	TAJD476*006	D	47.00	1.24	.89	.71
881-6X13	TAJD686*006	D	68.00	1.24	.89	.71
881-6X14	TAJD107*006	D	100.00	1.24	.89	.71

10 Volt at 85°C (6.3 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X15	TAJA155*010	A	1.50	.49	.35	.28
881-6X16	TAJB475*010	B	4.70	.58	.41	.33
881-6X17	TAJC106*010	C	10.00	1.00	.71	.57
881-6X18	TAJC156*010	C	15.00	1.00	.71	.57
881-6X19	TAJD156*010	D	15.00	1.24	.89	.71
881-6X20	TAJD336*010	D	33.00	1.24	.89	.71
881-6X21	TAJD476*010	D	47.00	1.24	.89	.71

16 Volt at 85°C (10 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X22	TAJA105*016	A	1.00	.49	.35	.28
881-6X23	TAJB225*016	B	2.20	.58	.41	.33
881-6X24	TAJB335*016	B	3.30	.58	.41	.33
881-6X25	TAJC475*016	C	4.70	1.00	.71	.57
881-6X26	TAJC685*016	C	6.80	1.00	.71	.57
881-6X27	TAJC106*016	C	10.00	1.00	.71	.57
881-6X28	TAJD106*016	D	10.00	1.24	.89	.71
881-6X29	TAJD226*016	D	22.00	1.24	.89	.71
881-6X30	TAJD336*016	D	33.00	1.24	.89	.71

20 Volt at 85°C (13 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X31	TAJA684*020	A	0.68	.49	.35	.28
881-6X32	TAJB225*020	B	2.20	.58	.41	.33
881-6X33	TAJC475*020	C	4.70	1.00	.71	.57
881-6X34	TAJC685*020	C	6.80	1.00	.71	.57
881-6X35	TAJD685*020	D	6.80	1.24	.89	.71
881-6X36	TAJD156*020	D	15.00	1.24	.89	.71
881-6X37	TAJD226*020	D	22.00	1.24	.89	.71

25 Volt at 85°C (16 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X38	TAJA474*025	A	0.47	.49	.35	.28
881-6X39	TAJB155*025	B	1.50	.58	.41	.33
881-6X40	TAJC335*025	C	3.30	.58	.41	.33
881-6X41	TAJC475*025	C	4.70	.58	.41	.33
881-6X42	TAJD475*025	D	4.70	1.00	.71	.57
881-6X43	TAJD685*025	D	6.80	1.00	.71	.57
881-6X44	TAJD106*025	D	10.00	1.00	.71	.57
881-6X45	TAJD156*025	D	15.00	1.24	.89	.71

35 Volt at 85°C (23 Volt at 125°C)

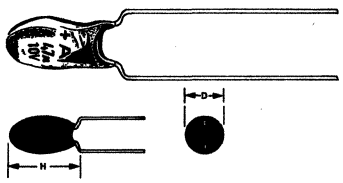
Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X46	TAJA104*035	A	0.10	.49	.35	.28
881-6X47	TAJA154*035	A	0.15	.49	.35	.28
881-6X48	TAJA224*035	A	0.22	.49	.35	.28
881-6X49	TAJA334*035	A	0.33	.49	.35	.28
881-6X50	TAJB474*035	B	0.47	.58	.41	.33
881-6X51	TAJB684*035	B	0.68	.58	.41	.33
881-6X52	TAJB105*035	B	1.00	.58	.41	.33
881-6X53	TAJC155*035	C	1.50	1.00	.71	.57
881-6X54	TAJC225*035	C	2.20	1.00	.71	.57
881-6X55	TAJC335*035	C	3.30	1.00	.71	.57
881-6X56	TAJD335*035	D	3.30	1.12	.80	.64
881-6X57	TAJD475*035	D	4.70	1.19	.85	.68
881-6X58	TAJD685*035	D	6.80	1.26	.90	.72
881-6X59	TAJD106*035	D	10.00	1.33	.95	.76

50 Volt at 85°C (33 Volt at 125°C)

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-6X60	TAJA104*050	A	0.10	.58	.41	.33
881-6X61	TAJB154*050	B	0.15	.70	.50	.40
881-6X62	TAJB224*050	B	0.22	.70	.50	.40
881-6X63	TAJB334*050	B	0.33	.70	.50	.40
881-6X64	TAJB474*050	C	0.47	1.12	.80	.64
881-6X65	TAJC684*050	C	0.68	1.12	.80	.64
881-6X66	TAJC105*050	C	1.00	1.12	.80	.64
881-6X67	TAJD155*050	D	1.50	1.38	.99	.79
881-6X68	TAJD225*050	D	2.20	1.38	.99	.79
881-6X69	TAJD335*050	D	3.30	1.38	.99	.79
881-6X70	TAJD475*050	D	4.70	1.38	.99	.79

NOTE: Replace * in Mfr.'s Type with "K" or "M". Replace "X" in Stock No. with 1 for K (± 10%) or 2 for M (± 20%).

Resin Dipped Radial Capacitors



TAP Series Solid Tantalum Resin Dipped Capacitors

TAP is a professional device manufactured with a flame retardant coating and featuring ultra low leakage current and impedance, very small physical sizes and exceptional temperature stability. It is designed and conditioned to operate to +85°C without derating and is available loose or taped and reeled for auto insertion. The 15 case sizes with wide capacitance and working voltage ranges means the TAP can accommodate almost any requirement.

Case Dimensions—Inches (mm)

Case	H	D	Case	H	D	Case	H	D
A	0.33 (8.5)	0.18 (4.5))	F	0.45 (11.5)	0.24 (6.0)	L	0.55 (14.0)	0.35 (9.0)
B	0.35 (9.0)	0.18 (4.5)	G	0.45 (11.5)	0.26 (6.5)	M	0.57 (14.5)	0.35 (9.0)
C	0.39 (10.0)	0.20 (5.0)	H	0.47 (12.0)	0.28 (7.0)	N	0.63 (16.0)	0.35 (9.0)
D	0.41 (10.5)	0.20 (5.0)	J	0.51 (13.0)	0.31 (8.0)	P	0.67 (17.0)	0.39 (10.0)
E	0.41 (10.5)	0.22 (5.5)	K	0.55 (14.0)	0.33 (8.5)	R	0.73 (18.5)	0.39 (10.0)

6.3 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X00	TAP335*006	A	3.30	.29	.21	.17
881-7X01	TAP475*006	A	4.70	.29	.21	.17
881-7X02	TAP685*006	A	6.80	.36	.26	.21
881-7X03	TAP106*006	B	10.00	.44	.32	.25
881-7X04	TAP156*006	C	15.00	.48	.34	.27
881-7X05	TAP226*006	D	22.00	.55	.40	.32
881-7X06	TAP336*006	E	33.00	.59	.42	.34
881-7X07	TAP476*006	F	47.00	.67	.48	.38
881-7X08	TAP686*006	G	68.00	.74	.53	.42
881-7X09	TAP107*006	H	100.00	1.75	1.25	1.00
881-7X10	TAP157*006	K	150.00	2.07	1.48	1.18
881-7X11	TAP227*006	M	220.00	4.11	2.94	2.35
881-7X12	TAP337*006	P	330.00	4.81	3.43	2.75

10 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X13	TAP225*010	A	2.20	.29	.21	.17
881-7X14	TAP335*010	A	3.30	.29	.21	.17
881-7X15	TAP475*010	A	4.70	.36	.26	.21
881-7X16	TAP685*010	B	6.80	.48	.34	.27
881-7X17	TAP106*010	C	10.00	.48	.34	.27
881-7X18	TAP156*010	D	15.00	.55	.40	.32
881-7X19	TAP226*010	E	22.00	.63	.45	.36
881-7X20	TAP336*010	F	33.00	.74	.53	.42
881-7X21	TAP476*010	G	47.00	1.24	.89	.71
881-7X22	TAP686*010	H	68.00	1.75	1.25	1.00
881-7X23	TAP107*010	K	100.00	2.07	1.48	1.18
881-7X24	TAP157*010	N	150.00	4.22	3.01	2.41
881-7X25	TAP227*010	P	220.00	4.81	3.43	2.75
881-7X26	TAP337*010	R	330.00	5.58	3.99	3.19

16 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X27	TAP155*016	A	1.50	.28	.20	.16
881-7X28	TAP225*016	A	2.20	.28	.20	.16
881-7X29	TAP335*016	A	3.30	.33	.24	.19
881-7X30	TAP475*016	B	4.70	.44	.32	.25
881-7X31	TAP685*016	C	6.80	.50	.36	.28
881-7X32	TAP106*016	D	10.00	.50	.36	.28

16 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X33	TAP156*016	E	15.00	.67	.48	.38
881-7X34	TAP226*016	F	22.00	.67	.48	.38
881-7X35	TAP336*016	F	33.00	1.21	.86	.69
881-7X36	TAP476*016	J	47.00	1.75	1.25	1.00
881-7X37	TAP686*016	L	68.00	2.07	1.48	1.18
881-7X38	TAP107*016	N	100.00	4.20	3.00	2.40
881-7X39	TAP157*016	N	150.00	4.81	3.43	2.75
881-7X40	TAP227*016	R	220.00	5.97	4.26	3.41

20 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X41	TAP105*020	A	1.00	.29	.21	.17
881-7X42	TAP155*020	A	1.50	.29	.21	.17
881-7X43	TAP225*020	A	2.20	.33	.24	.19
881-7X44	TAP335*020	B	3.30	.41	.29	.23
881-7X45	TAP475*020	C	4.70	.48	.34	.27
881-7X46	TAP685*020	D	6.80	.55	.40	.32
881-7X47	TAP106*020	E	10.00	.63	.45	.36
881-7X48	TAP156*020	F	15.00	.68	.49	.39
881-7X49	TAP226*020	H	22.00	1.18	.85	.68
881-7X50	TAP336*020	J	33.00	1.58	1.13	.90
881-7X51	TAP476*020	K	47.00	2.00	1.43	1.14
881-7X52	TAP686*020	N	68.00	4.11	2.94	2.35
881-7X53	TAP107*020	N	100.00	4.81	3.43	2.75

25 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X54	TAP105*025	A	1.00	.29	.21	.17
881-7X55	TAP155*025	A	1.50	.29	.21	.17
881-7X56	TAP225*025	A	2.20	.37	.27	.21
881-7X57	TAP335*025	B	3.30	.44	.32	.25
881-7X58	TAP475*025	C	4.70	.51	.37	.29
881-7X59	TAP685*025	D	6.80	.59	.42	.34
881-7X60	TAP106*025	E	10.00	.67	.48	.38
881-7X61	TAP156*025	F	15.00	1.35	.97	.77
881-7X62	TAP226*025	H	22.00	1.73	1.24	.99
881-7X63	TAP336*025	J	33.00	2.07	1.48	1.18
881-7X64	TAP476*025	M	47.00	4.11	2.94	2.35
881-7X65	TAP686*025	N	68.00	4.81	3.43	2.75

35 Volt at 85°C

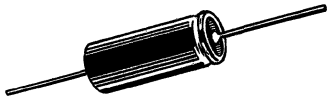
Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X66	TAP104*035	A	0.10	.29	.21	.17
881-7X67	TAP154*035	A	0.15	.29	.21	.17
881-7X68	TAP224*035	A	0.22	.29	.21	.17
881-7X69	TAP334*035	A	0.33	.29	.21	.17
881-7X70	TAP474*035	A	0.47	.29	.21	.17
881-7X71	TAP684*035	A	0.68	.29	.21	.17
881-7X72	TAP105*035	A	1.00	.29	.21	.17
881-7X73	TAP155*035	A	1.50	.41	.29	.23
881-7X74	TAP225*035	B	2.20	.44	.32	.25
881-7X75	TAP335*035	C	3.30	.51	.37	.29
881-7X76	TAP475*035	E	4.70	.55	.40	.32
881-7X77	TAP685*035	F	6.80	.63	.45	.36
881-7X78	TAP106*035	F	10.00	1.00	.71	.57
881-7X79	TAP156*035	H	15.00	1.93	1.38	1.10
881-7X80	TAP226*035	K	22.00	1.93	1.38	1.10
881-7X81	TAP336*035	M	33.00	4.11	2.94	2.35
881-7X82	TAP476*035	N	47.00	4.81	3.43	2.75

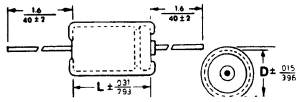
50 Volt at 85°C

Stock No.	Mfr.'s Type	Case Size	Cap. µF	EACH 1-24	25-99	100-499
881-7X83	TAP104*050	A	0.10	.29	.21	.17
881-7X84	TAP154*050	A	0.15	.29	.21	.17
881-7X85	TAP224*050	A	0.22	.29	.21	.17
881-7X86	TAP334*050	A	0.33	.29	.21	.17
881-7X87	TAP474*050	A	0.47	.37	.27	.21
881-7X88	TAP684*050	B	0.68	.37	.27	.21
881-7X89	TAP105*050	C	1.00	.37	.27	.21
881-7X90	TAP155*050	D	1.50	.63	.45	.36
881-7X91	TAP225*050	E	2.20	.67	.48	.38
881-7X92	TAP335*050	F	3.30	.74	.53	.42
881-7X93	TAP475*050	G	4.70	.86	.61	.49
881-7X94	TAP685*050	H	6.80	1.86	1.33	1.06
881-7X95	TAP106*050	J	10.00	2.45	1.75	1.40
881-7X96	TAP156*050	K	15.00	2.83	2.02	1.62
881-7X97	TAP226*050	L	22.00	5.57	3.98	3.18

NOTE: Replace * in Mfr.'s Type with "K" or "M". Replace "X" in Stock No. with 1 for K (± 10%) or 2 for M (± 20%).

Tiny Tubular Aluminum Electrolytics



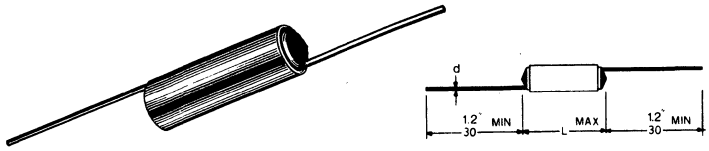


Quality capacitors made from very high purity aluminum foil, deep-etched to provide maximum capacity per unit of volume. Etched cathode construction; exhibits exceptionally low DCL and ESR. Supplied in aluminum case with insulating sleeve; wire leads 2" lg. (±1/4"). **Temperature Range:** −40°C to +85°C. **Tolerance:** −10%, +75%, 1-100 WVDC; −10%, +50%, 100 WVDC and up.

Stock No.	Mfr.'s Type	Cap. µF	WV DC	Size In. Dia. × Lgth.	EACH 1-99	100-999	1000-9999	10,000-24,000
286-1010*	SH-1010	100	10	1/4 × 3/20	.12	.10	.09	.085
286-4547	SH-4547	100	10	5/16 × 5/8	.15	.13	.11	.079
286-4580	SH-4580	50	15	1/4 × 5/8	.12	.10	.08	.072
286-4582	SH-4582	100	15	5/16 × 5/8	.15	.11	.09	.085
286-4589	SH-4589	500	15	3/8 × 13/16	.23	.18	.17	.151
286-4594	SH-4594	1	25	3/16 × 1/2	.14	.11	.08	.072
286-4596	SH-4596	5	25	3/16 × 1/2	.14	.11	.08	.072
286-4598	SH-4598	15	25	1/4 × 1/2	.16	.13	.08	.073
286-4613	SH-4613	500	25	3/8 × 15/16	.36	.30	.25	.220
286-4616	SH-4616	50	25	1/4 × 5/8	.13	.11	.09	.085
286-4618	SH-4618	100	25	5/16 × 5/8	.15	.13	.11	.098
286-4622	SH-4622	8	50	1/4 × 1/2	.16	.14	.12	.078
286-4627	SH-4627	35	50	5/16 × 5/8	.15	.13	.11	.096
286-4630	SH-4630	100	50	3/8 × 13/16	.26	.22	.18	.158
286-4631	SH-4631	150	50	3/8 × 13/16	.32	.27	.23	.195
286-4632	SH-4632	200	50	3/8 × 1 1/16	.40	.32	.26	.240
286-4633	SH-4633	250	50	1/2 × 1 1/16	.40	.32	.26	.240
286-4636	SH-4636	1	50	3/16 × 1/2	.14	.11	.08	.072
286-4637	SH-4637	450	50	1/2 × 1 1/4	.62	.57	.42	.366
286-4655	SH-4655	20	150	3/8 × 13/16	.40	.32	.29	.244
286-4660	SH-4660	5	50	1/4 × 1/2	.16	.13	.08	.075
286-4663	SH-4663	10	50	1/4 × 1/2	.15	.13	.11	.078
286-4664	SH-4664	25	25	1/4 × 1/2	.16	.13	.08	.073
286-4665	SH-4665	20	50	5/16 × 1/2	.17	.14	.10	.086
286-4666	SH-4666	25	50	5/16 × 5/8	.17	.14	.10	.086
286-4667	SH-4667	2	50	1/4 × 1/2	.14	.11	.10	.072
286-4668	SH-4668	50	50	5/16 × 11/16	.24	.19	.10	.116

*Radial Lead Capacitor.

Axial-Lead 630 VDC Polystyrene Capacitors

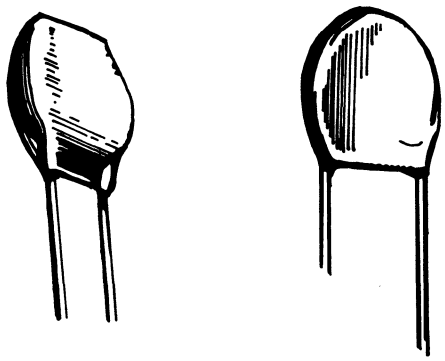


Capacitors are stretched polystyrene dielectric fused to high-purity aluminum or tin foil—produces excellent humidity barrier. Excellent where utmost capacitance stability versus temperature and time are required, due to high insulation resistance and power factor of less than .05%. Capacitance change from −10°C to +70°C is less than 13% total and is negative. **Temperature coefficient:** −150 ppm/°C. **Tolerance:** ±5%. **Temperature range:** −40°C to +85°C. **Cleaning solvents:** alcohol is best, freon will discolor only. **Warning:** chlorinated solvents will attach polystrene.

Stock No.	Mfr.'s Type	Cap. pF	Dimensions Depth In.	Depth (mm)	Length In.	Length (mm)	EACH 1-99	100-999	1000-9999	10,000-24,999
233-0561	FC-P56T	56	.188	4.76	.375	9.53	.12	.10	.09	.073
233-0101	FC-P10HT	100	.188	4.76	.375	9.53	.12	.10	.09	.073
233-0151	FC-P15HT	150	.188	4.76	.375	9.53	.12	.10	.09	.073
233-0201	FC-P20HT	200	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0221	FC-P22HT	220	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0271	FC-P27HT	270	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0301	FC-P30HT	300	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0391	FC-P39HT	390	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0471	FC-P47HT	470	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0511	FC-P51HT	510	.188	4.76	.375	9.53	.09	.07	.07	.055
233-0560	FC-P56HT	560	.188	4.76	.563	14.29	.12	.10	.09	.073
233-0681	FC-P68HT	680	.188	4.76	.563	14.29	.09	.08	.07	.055
233-0821	FC-P82HT	820	.188	4.76	.625	15.88	.09	.08	.07	.055
233-0102	FC-P10MT	1000	.188	4.76	.625	15.88	.09	.08	.07	.060
233-0152	FC-P15MT	1500	.219	5.56	.750	19.05	.10	.08	.07	.079
233-0202	FC-P20MT	2000	.188	4.76	.750	19.05	.13	.11	.09	.079
233-0222	FC-P22MT	2200	.250	6.35	.750	19.05	.13	.11	.09	.079
233-0332	FC-P33MT	3300	.250	6.35	.875	22.23	.13	.11	.09	.079
233-0392	FC-P39MT	3900	.250	6.35	.875	22.23	.13	.11	.09	.079
233-0472	FC-P47MT	4700	.250	6.35	.875	22.23	.13	.11	.09	.079
233-0502	FC-P50MT	5000	.250	6.35	.875	22.23	.13	.11	.09	.079
233-1002	FC-P100MT	10K	.375	9.53	.875	22.23	.21	.17	.16	.134

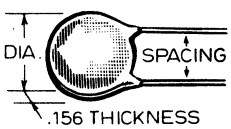
Low-Voltage Ceramic Disc Capacitors

Working voltage is 50 VDC to 150 VDC. Tolerance of type SE-0753 is −30% to +80%. Tolerance of type SE-0430 is ±20%. Tolerance of SE-0760 is −40% to +60%. Tolerance of all others is −20% to +80%. Dielectric strength is 250% of rated marking voltage. **Operating Temperature Range:** −55°C to +85°C. All have Z5 V characteristic +22% to −82% max. capacitance change from +25°C reading over temperature range of +10°C to +85°C. **Weight:** 2 ounces.



Stock No.	Mfr.'s Type	µF	WV DC	Dimensions Max. Dia. × Max. Thick	EACH 1-99	100-999	1000-9999	10,000-24,999
285-0385	SE-0385	.005	50	.250 × .250	.05	.04	.03	.025
285-0365	SE-0365	.010	50	.250 × .312	.05	.04	.03	.025
285-0373	SE-0373	.020	50	.310 × .250	.06	.05	.04	.030
285-0389	SE-0389	.050	50	.440 × .375	.11	.09	.08	.061
285-0369	SE-0369	.100	50	.630 × .375	.32	.24	.17	.140
285-0753	SE-0753	.100	75	.630 × .375	.30	.20	.15	.116
285-0430	SE-0430	.010	100	.250 × .250	.05	.04	.03	.025
285-0760	SE-0760	.010	150	.310 × .250	.06	.05	.04	.030

Type SE Miniature Disc Capacitors



Dissipation factor at 1 kHz, 3-10%. **Tolerance:** 10 and 20 WVDC, −20% to +80%. 12, 16, 25 and 50 WVDC tolerance is ±20%. Tinned wire leads #22 AWG.

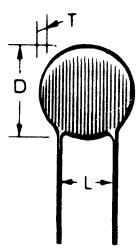
Stock No.	Mfr.'s Type	µF	WV DC	Dimensions Max. Dia. × Max. Thick	EACH 1-99	100-999	1000-9999	10,000-24,999
285-6035	SE-6035	.100	10	.310 × .250	.08	.07	.060	.050
285-6055	SE-6055	.100	12	.310 × .250	.08	.07	.060	.050
285-6060	SE-6060	.010	16	.190 × .250	.08	.07	.060	.050
285-6061	SE-6061	.100	16	.310 × .375	.10	.08	.070	.061
285-6080	SE-6080	.100	20	.310 × .375	.10	.08	.070	.061
285-6110	SE-6110	.010	25	.190 × .250	.10	.08	.070	.055
285-6113	SE-6113	.022	25	.250 × .313	.10	.08	.070	.061
285-6122	SE-6122	.050	25	.310 × .250	.10	.08	.070	.061
285-6111	SE-6111	.100	25	.310 × .375	.12	.10	.090	.080
285-9104*	SE-9104	.100	25	.425 × .375	.18	.15	.130	.120
285-6165	SE-6165	.010	50	.250 × .250	.04	.03	.025	.021

* −20% to +80% Tolerance.

Miniature Disc Ceramic Capacitors

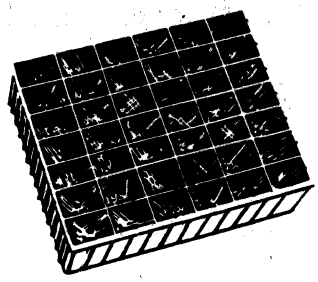
Type SE-1490 Series. Miniature discs are ideally suited for all applications where size is a factor such as transistorized radios and industrial applications having critical space requirements and 100 WVDC design.

100 Volt +80 −20% Tolerance—Z5 V Characteristic



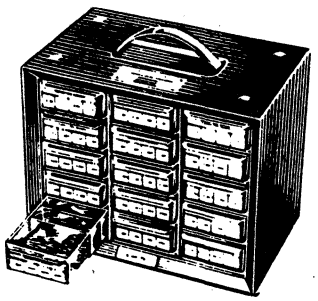
Stock No.	Mfr.'s Type	µF	Dimensions (Dia. × Thk. × Lead Spacing) Inches	EACH 1-99	100-999	1000-9999	10,000-24,999
285-1491	SE-1491	.01	.250 × .063 × .250	.05	.04	.03	.024
285-1495	SE-1495	.05	.440 × .063 × .375	.10	.08	.07	.061
285-1499	SE-1499	.10	.630 × .063 × .375	.20	.16	.15	.130

Capacitor Kits



A) Low Voltage Ceramic Disc Capacitor Kit
A popular assortment of 20 pieces each of 18 different values and/or tolerances (from .1 mf @ 12V to .01 mf @ 150V; ± 20%, – 20% to + 80%; all are Z5V). Packaged in individual compartments in an easily accessible storage container.
285-9099. LVCK-099 ..... **EACH 39.95**

B) High Voltage Ceramic Disc Capacitor Kit
Perfect for RF and many other prototyping applications. A complete range of 18 different values from 15 pf to 3900 pf. All are 1000V. Tolerance is ± 10% (* = ± 20%). 25 pieces of each value! Capacitors are housed in a durable polystyrene container.
285-9098. HVCK-098 ..... **EACH 29.95**

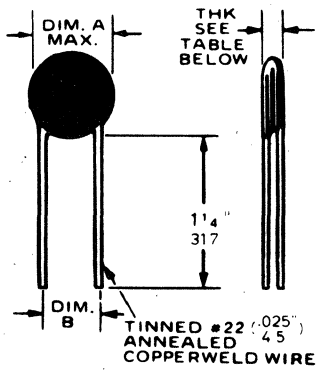


C) Aluminum Electrolytic Capacitor Kit
Contains a broad range of 10 each of 18 values from 100 mf @ 10V to 450 mf @ 50V. Tolerance is – 10% to + 75%. All are axal leads (except where indicated by *, radial) Housed in a handy 18 drawer cabinet.
286-9099. (AECK-099) ..... **EACH 52.95**

D) Polystyrene Capacitor Kit
10 pieces each of 18 different values of the most popular polystrene capacitors. Capacitance ranges from 150 pf to 10,000 pf. All are 630V, tolerance is ± 5%. Conveniently housed in an 18 drawer cabinet.
233-9099. (PSCK-099) ..... **EACH 49.95**

E) Master Capacitor Kit
A total of 635 pieces, 50 different values. 12 Aluminum Electrolytic, 13 Low Voltage Ceramics, 13 High Voltage Ceramics, and 12 Polystyrene. Great for prototyping and MRO purposes. Housed in a handy 50 drawer cabinet.
299-0001. (MCK-001) ..... **EACH 79.95**

High-Voltage Ceramic Disc Capacitors



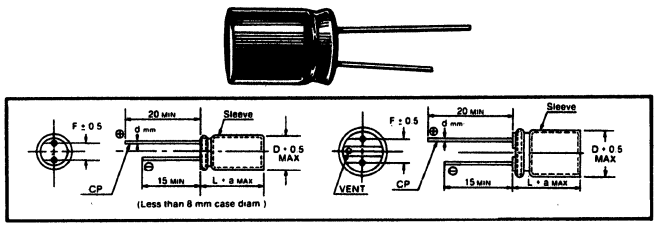
Specifications

Operating Temperature Range: – 55°C to + 85°C. **Dissipation Factor:** 2% maximum at 1 kHz. **Flash Test Voltage:** 1800 VDC for 1000 WVDC units. **Working Voltage:** 1000 WVDC. **Tolerance: ± 10% except as indicated by * ± 20%. G in Type Number — Guaranteed Minimum Value.**

Code	Dimension A	Dimension B	Thickness
A	.219" (5.56 mm)	.250" (6.35 mm)	.063" (1.59 mm)
B	.250" (6.35 mm)	.250" (6.35 mm)	.063" (1.59 mm)
C	.313" (7.94 mm)	.250" (6.35 mm)	.063" (1.59 mm)
D	.375" (9.52 mm)	.375" (9.52 mm)	.063" (1.59 mm)

Stock No	Mfr.'s Type	Capacitance pF	Size Code	EACH			
				1-99	100-999	1000-9999	10,000-24,999
285-1000	SE-1000	5	A	.05	.04	.03	.024
285-1001	SE-1001	10	B	.05	.04	.03	.024
285-1006	SE-1006	15	B	.05	.04	.03	.024
285-1008	SE-1008	18	B	.05	.04	.03	.024
285-1010	SE-1010	20	B	.07	.06	.05	.046
285-1012	SE-1012	22	B	.05	.04	.03	.024
285-1014	SE-1014	25	B	.05	.04	.03	.024
285-1016	SE-1016	27	B	.05	.04	.03	.024
285-1017	SE-1017	30	A	.05	.04	.03	.024
285-1018	SE-1018	33	A	.05	.04	.03	.024
285-1019	SE-1019	39	A	.05	.04	.03	.024
285-1020	SE-1020	47	A	.11	.10	.09	.080
285-1021	SE-1021	50	A	.06	.05	.04	.023
285-1022	SE-1022	56	A	.06	.05	.04	.023
285-1024	SE-1024	68	A	.05	.04	.03	.024
285-1026	SE-1026	82	A	.05	.04	.03	.024
285-1035	SE-1035	100	A	.05	.04	.03	.024
285-1036	SE-1036	120	A	.05	.04	.03	.024
285-1037	SE-1037	150	A	.07	.06	.05	.046
285-1038	SE-1038	180	A	.05	.04	.03	.024
285-1039	SE-1039	200	A	.05	.04	.03	.024
285-1040	SE-1040	220	A	.05	.04	.03	.024
285-1042	SE-1042	270	A	.05	.04	.03	.024
285-1043	SE-1043	300	A	.05	.04	.03	.024
285-1044	SE-1044	330	A	.05	.04	.03	.024
285-1045	SE-1045	390	A	.05	.04	.03	.024
285-1056	SE-1056	470	A	.05	.04	.03	.024
285-1066	SE-1066	500	A	.10	.08	.07	.057
285-1068	SE-1068	680	A	.05	.04	.03	.024
285-1069	SE-1069	750	A	.05	.04	.03	.024
285-1080	SE-1080	820*	B	.05	.04	.03	.024
285-1090	SE-1090	1000	B	.11	.10	.09	.080
285-1092	SE-1092	1500*	C	.06	.05	.04	.030
285-1097	SE-1097G	3000	C	.06	.05	.04	.032
285-1099	SE-1099G	3900	D	.06	.05	.04	.032

Radial Lead Electrolytic Capacitors



Compact, electrolytic capacitors for original equipment or replacement use in all kinds of communications equipment. **Operating Temperature:** −40° to +85°C. **Capacitance Tolerance:** ±20%. **Life:** 2000 hours at +85°C. **Rated Working Voltage Range:** 10 VDC to 50 VDC. **Capacitance Range:** 0.1 mfd to 15,000 mfd. Straight leads. Solvent proof units available. Call for pricing and availability.

4

Lead Spacing and Lead Diameter For MA and SAE Types

Body Dia.	D (mm)	5	6.3	8	10	12.5	16	18
Lead Dia.	d	0.5	0.6	0.6	0.6	0.6	0.8	0.8
Lead Spacing	F	2.0	2.5	3.5	5.0	5.0	7.5	7.5

Tan δ Dissipation Factor (at 120 Hz)

WVDC	Tanδ	Diss. Factor
10	0.20	20%
16	0.16	16%
25	0.14	14%
35	0.12	12%
50	0.10	10%

Stock No.	Mfr.'s Type	Cap μF	WV DC	Dim. D	Dim. L	EACH 1-99	100-499	500-999	1000-9999*
998-1327	MA1A101MB	100	10	5.0	11.0	.07	.06	.06	.049
998-1345	MA1A221MB	220	10	6.3	11.0	.10	.09	.08	.071
998-1354	MA1A331MB	330	10	8.0	11.5	.13	.12	.11	.096
998-1378	MA1A471MB	470	10	8.0	12.5	.14	.13	.12	.100
998-1382	MA1A102MB	1000	10	10.0	16.0	.23	.21	.19	.167
998-1385	MA1A222MB	2200	10	12.5	20.0	.38	.35	.32	.275
998-1388	MA1A332MB	3300	10	12.5	25.0	.47	.43	.39	.338
998-1391	MA1A472MB	4700	10	16.0	25.0	.63	.58	.53	.452
998-1393	MA1A682MB	6800	10	16.0	31.5	.91	.83	.76	.651
998-1332	MA1C221MB	220	16	8.0	11.5	.13	.12	.11	.096
998-1356	MA1C331MB	330	16	8.0	12.5	.14	.13	.12	.102
998-1339	MA1C471MB	470	16	10.0	12.5	.18	.16	.15	.125
998-1341	MA1C102MB	1000	16	10.0	20.0	.27	.25	.23	.196
998-1310	MA1C222MB	2200	16	12.5	25.0	.48	.44	.40	.344
998-1389	MA1C332MB	3300	16	16.0	25.0	.67	.61	.56	.481
998-1312	MA1C472MB	4700	16	16.0	31.5	.92	.84	.77	.657
998-1324	MA1E470MB	47	25	5.0	11.0	.08	.07	.06	.054
998-1358	MA1E101MB	100	25	6.3	11.0	.10	.09	.09	.074
998-1334	MA1E221MB	220	25	8.0	12.5	.14	.13	.12	.102
998-1357	MA1E331MB	330	25	10.0	12.5	.18	.16	.15	.127
998-1359	MA1E471MB	470	25	10.0	16.0	.25	.22	.21	.176
998-1383	MA1E102MB	1000	25	12.5	20.0	.41	.37	.34	.290
998-1386	MA1E222MB	2200	25	16.0	31.5	.68	.62	.57	.489
998-1390	MA1E332MB	3300	25	16.0	31.5	.97	.88	.81	.691
998-1392	MA1E472MB	4700	25	18.0	35.5	1.45	1.31	1.20	1.032

Stock No.	Mfr.'s Type	Cap μF	WV DC	Dim. D	Dim. L	EACH 1-99	100-499	500-999	1000-9999*
998-1362	MA1V330MB	33	35	5.0	11.0	.08	.07	.06	.054
998-1374	MA1V101MB	100	35	8.0	11.5	.14	.12	.11	.097
998-1335	MA1V221MB	220	35	10.0	12.5	.19	.17	.16	.136
998-1375	MA1V331MB	330	35	10.0	16.0	.27	.25	.23	.196
998-1380	MA1V471MB	470	35	10.0	20.0	.29	.27	.24	.210
998-1360	MA1V102MB	1000	35	12.5	25.0	.51	.46	.42	.363
998-1387	MA1V222MB	2200	35	18.0	35.5	1.00	.91	.83	.714
998-1301	MA1H0R1MB	.1	50	5.0	11.0	.06	.06	.05	.046
998-1302	MA1HR22MB	.22	50	5.0	11.0	.06	.06	.05	.046
998-1303	MA1HR33MB	.33	50	5.0	11.0	.06	.06	.05	.046
998-1304	MA1HR47MB	.47	50	5.0	11.0	.06	.06	.05	.046
998-1305	MA1H010MB	1	50	5.0	11.0	.06	.06	.05	.046
998-1316	MA1H2R2MB	2.2	50	5.0	11.0	.06	.06	.05	.046
998-1318	MA1H3R3MB	3.3	50	5.0	11.0	.06	.06	.05	.046
998-1313	MA1H4R7MB	4.7	50	5.0	11.0	.07	.06	.06	.049
998-1350	MA1H100MB	10	50	5.0	11.0	.07	.06	.06	.051
998-1307	MA1H220MB	22	50	5.0	11.0	.08	.07	.06	.054
998-1322	MA1H330MB	33	50	6.3	11.0	.10	.09	.09	.073
998-1325	MA1H470MB	47	50	6.3	11.0	.11	.10	.09	.076
998-1352	MA1H101MB	100	50	8.0	12.5	.14	.13	.12	.013
998-1347	MA1H221MB	220	50	10.0	16.0	.25	.23	.21	.179
998-1376	MA1H331MB	330	50	10.0	20.0	.31	.28	.26	.222
998-1321	MA1H471MB	470	50	12.5	20.0	.43	.39	.36	.306
998-1384	MA1H102MB	1000	50	16.0	25.0	.79	.71	.66	.562
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Formerly SAL Type. *Call for quote above 10,000 pieces

SAE Series Radial Lead Electrolytic Capacitors

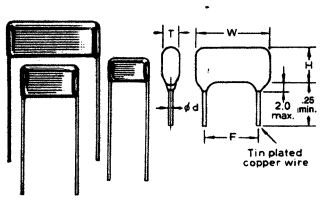
- ► High Temperature/Long Life
- ► Radial Lead Electrolytic Capacitors
- ► Same Lead Spacing and Lead Diameter as MA Types
- ► Temperature Range: −40°C to +105°C
- ► Life: 1000 Hours at 105°C; 4000 Hours at 85°C
- ► Capacitance Tolerance: ±20%

Stock No.	Mfr.'s Type	Cap μF	WV DC	Dim. D	Dim. L	EACH 1-99	100-499	500-999	1000-4999
998-7000	SAE1A470MB	47	10	5	11.0	.08	.07	.07	.059
998-7001	SAE1A101MB	100	10	6	11.0	.11	.10	.09	.077
998-7002	SAE1A221MB	220	10	8	11.5	.16	.15	.14	.116
998-7003	SAE1A331MB	330	10	10	12.0	.20	.18	.16	.140
998-7004	SAE1A471MB	470	10	10	16.0	.22	.20	.18	.156
998-7005	SAE1A102MB	1000	10	13	20.0	.21	.19	.18	.152
998-7007	SAE1A332MB	3300	10	16	30.0	.76	.69	.63	.542
998-7010	SAE1C330MB	33	16	5	11.0	.08	.08	.07	.060
998-7013	SAE1C221MB	220	16	10	12.0	.20	.18	.17	.145
998-7014	SAE1C331MB	330	16	10	16.0	.24	.22	.20	.171
998-7015	SAE1C471MB	470	16	10	20.0	.27	.24	.22	.191
998-7016	SAE1C102MB	1000	16	13	25.0	.25	.23	.21	.180
998-7017	SAE1C222MB	2200	16	16	25.0	.67	.61	.56	.480
998-7018	SAE1C332MB	3300	16	16	35.0	.96	.88	.80	.688
998-7021	SAE1E220MB	22	25	5	11.0	.08	.08	.07	.060
998-7023	SAE1E470MB	47	25	6	11.0	.11	.10	.10	.082
998-7024	SAE1E101MB	100	25	8	11.5	.17	.16	.14	.122
998-7025	SAE1E221MB	220	25	10	16.0	.22	.20	.18	.157
998-7026	SAE1E331MB	330	25	10	20.0	.26	.24	.22	.185
998-7027	SAE1E471MB	470	25	13	20.0	.39	.36	.33	.281
998-7029	SAE1E222MB	2200	25	16	35.0	.99	.90	.82	.705

Stock No.	Mfr.'s Type	Cap μF	WV DC	Dim. D	Dim. L	EACH 1-99	100-499	500-999	1000-4999
998-7030	SAE1E332MB	3300	25	18	40.0	1.41	1.28	1.18	1.008
998-7034	SAE1V330MB	33	35	6	11.0	.11	.10	.10	.082
998-7036	SAE1V101MB	100	35	10	12.0	.22	.20	.19	.160
998-7037	SAE1V221MB	220	35	10	20.0	.27	.25	.23	.196
998-7039	SAE1V471MB	470	35	13	25.0	.43	.39	.36	.307
998-7040	SAE1V102MB	1000	35	16	25.0	.73	.67	.61	.525
998-7041	SAE1V222MB	2200	35	18	40.0	1.43	1.30	1.20	1.024
998-7042	SAE1HR47MB	.47	50	5	11.0	.08	.07	.07	.059
998-7043	SAE1H010MB	1	50	5	11.0	.08	.07	.07	.059
998-7044	SAE1H2R2MB	2.2	50	5	11.0	.08	.07	.07	.059
998-7045	SAE1H3R3MB	3.3	50	5	11.0	.08	.07	.07	.059
998-7046	SAE1H4R7MB	4.7	50	5	11.0	.08	.07	.07	.059
998-7047	SAE1H100MB	10	50	5	11.0	.09	.08	.07	.062
998-7048	SAE1H220MB	22	50	6	11.0	.11	.10	.10	.082
998-7049	SAE1H330MB	33	50	8	11.5	.17	.16	.14	.122
998-7050	SAE1H470MB	47	50	8	11.5	.17	.16	.14	.123
998-7051	SAE1H101MB	100	50	10	16.0	.24	.22	.20	.171
998-7052	SAE1H221MB	220	50	13	20.0	.44	.40	.37	.316
998-7053	SAE1H331MB	330	50	13	20.0	.47	.43	.39	.335
998-7054	SAE1H471MB	470	50	16	25.0	.63	.58	.53	.452
998-7055	SAE1H102MB	1000	50	16	30.0	1.01	.92	.84	.724

Type MDD Capacitors

- Non-Inductive Construction
- Non-Combustible, Epoxy Coated
- Capacitance Tolerance ±10%
- 250 VDC Rated (150 VAC), 400 VDC (200 VAC), and 630 VDC (250 VAC)



These resin coated metalized polyester film capacitors are rated 250 VDC and 150 VAC at 60 Hz. Capacitance tolerance is ±10%. **Operating Temperature:** −40°C to +85°C. Non-inductive construction. Non-combustible and epoxy coated. **Insulation Resistance:** less than 0.33 μF ≥ 10,000 MΩ × μF. **Dissipation Factor:** ≤1% at 1 kHz. **Stress Voltage Test:** rated voltage × 1.5 for one minute.

250 VDC/150 VAC

Stock No.	Mfr.'s Type	Mfd.	Dimensions: mm					EACH			
			W max.	T max.	H max.	d max.	F max.	1-99	100-499	500-999	1000-4999
998-2101	MDD-22E103KB	0.010	12.5	5.0	9.0	0.6	10.0	.12	.11	.10	.09
998-1000	MDD-22E123KB	0.012	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-2102	MDD-22E153KB	0.015	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-1002	MDD-22E183KB	0.018	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-2103	MDD-22E223KB	0.022	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-1003	MDD-22E273KB	0.027	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-2104	MDD-22E333KB	0.033	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-1004	MDD-22E393KB	0.039	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-2105	MDD-22E473KB	0.047	12.5	5.0	9.5	0.6	10.0	.12	.11	.10	.09
998-1005	MDD-22E563KB	0.056	12.5	5.5	9.5	0.6	10.0	.12	.11	.10	.09
998-1006	MDD-22E683KB	0.068	12.5	5.5	9.5	0.6	10.0	.12	.11	.10	.09
998-1007	MDD-22E823KB	0.082	12.5	5.5	10.5	0.6	10.0	.12	.11	.10	.09
998-2106	MDD-22E104KB	0.100	12.5	5.5	11.0	0.6	10.0	.13	.12	.11	.09
998-1008	MDD-22E124KB	0.120	17.5	5.5	10.0	0.6	15.0	.15	.13	.12	.10
998-1009	MDD-22E154KB	0.150	17.5	6.0	10.5	0.6	15.0	.16	.15	.13	.12
998-1010	MDD-22E184KB	0.180	17.5	6.0	11.0	0.6	15.0	.17	.16	.14	.12
998-2107	MDD-22E224KB	0.220	17.5	6.5	12.5	0.6	15.0	.18	.16	.15	.13
998-1011	MDD-22E274KB	0.270	23.0	6.0	11.5	0.8	20.0	.20	.18	.17	.14
998-2108	MDD-22E334KB	0.330	23.0	6.0	12.0	0.8	20.0	.22	.20	.19	.16
998-1012	MDD-22E394KB	0.390	23.0	6.5	12.5	0.8	20.0	.24	.22	.20	.17
998-2109	MDD-22E474KB	0.470	23.0	7.0	13.0	0.8	20.0	.26	.23	.22	.18
998-1013	MDD-22E564KB	0.560	23.0	7.5	13.5	0.8	20.0	.29	.26	.24	.21
998-2110	MDD-22E684KB	0.680	23.0	8.5	14.0	0.8	20.0	.32	.29	.27	.23
998-1014	MDD-22E824KB	0.820	31.0	7.5	13.5	0.8	27.5	.35	.32	.29	.25
998-2111	MDD-22E105KB	1.000	31.0	8.5	14.0	0.8	27.5	.37	.34	.31	.27
998-1015	MDD-22E125KB	1.200	31.0	8.5	16.5	0.8	27.5	.43	.39	.36	.31
998-2112	MDD-22E155KB	1.500	31.0	9.5	17.0	0.8	27.5	.49	.45	.41	.35
998-1016	MDD-22E185KB	1.800	31.0	9.5	19.5	0.8	27.5	.57	.52	.47	.41
998-2113	MDD-22E225KB	2.200	31.0	10.5	20.5	0.8	27.5	.65	.59	.54	.46

400 VDC/200 VAC

Stock No.	Mfr.'s Type	Mfd.	Dimensions: mm					EACH			
			W max.	T max.	H max.	d max.	F max.	1-99	100-499	500-999	1000-4999
998-0401	MDD-22G103KB	0.010	14.0	5.0	9.0	0.6	10.5	.12	.11	.10	.09
998-0402	MDD-22G123KB	0.012	14.0	5.5	9.0	0.6	10.5	.14	.12	.11	.10
998-0403	MDD-22G153KB	0.015	14.0	5.0	9.5	0.6	10.5	.12	.11	.10	.09
998-0404	MDD-22G183KB	0.018	14.0	5.5	9.0	0.6	10.5	.13	.11	.10	.09
998-0405	MDD-22G223KB	0.022	14.0	5.5	10.0	0.6	10.5	.13	.12	.11	.09
998-0406	MDD-22G273KB	0.027	14.0	5.5	10.5	0.6	10.5	.14	.12	.11	.10
998-0407	MDD-22G333KB	0.033	14.0	6.0	11.0	0.6	10.5	.14	.13	.12	.10
998-0408	MDD-22G393KB	0.039	14.0	6.5	11.5	0.6	10.5	.15	.14	.13	.11
998-0409	MDD-22G473KB	0.047	14.0	7.0	12.0	0.6	10.5	.16	.14	.13	.11
998-0410	MDD-22G563KB	0.056	17.0	6.5	11.0	0.6	13.5	.17	.15	.14	.12
998-0411	MDD-22G683KB	0.068	17.0	7.0	12.0	0.6	13.5	.18	.17	.15	.13
998-0412	MDD-22G823KB	0.082	17.0	7.5	12.5	0.6	13.5	.19	.18	.16	.14
998-0413	MDD-22G104KB	0.100	17.0	7.5	14.5	0.6	13.5	.21	.19	.17	.15
998-0414	MDD-22G124KB	0.120	17.0	8.5	15.5	0.6	13.5	.22	.02	.18	.16
998-0415	MDD-22G154KB	0.150	17.0	9.0	16.5	0.6	13.5	.23	.21	.20	.17
998-0416	MDD-22G184KB	0.180	17.0	10.0	17.0	0.6	13.5	.26	.24	.22	.19
998-0417	MDD-22G224KB	0.220	24.5	8.5	15.5	0.8	20.5	.29	.26	.24	.21
998-0418	MDD-22G274KB	0.270	24.5	9.0	16.5	0.8	20.5	.33	.30	.27	.23
998-0419	MDD-22G334KB	0.330	24.5	10.0	17.0	0.8	20.5	.36	.33	.30	.26
998-0420	MDD-22G394KB	0.390	29.5	9.5	16.5	0.8	25.5	.41	.37	.34	.29
998-0421	MDD-22G474KB	0.470	29.5	10.0	17.5	0.8	25.5	.46	.42	.38	.33
998-0422	MDD-22G564KB	0.560	29.5	11.0	18.0	0.8	25.5	.51	.46	.42	.36
998-0423	MDD-22G684KB	0.680	29.5	12.0	19.0	0.8	25.5	.55	.50	.46	.40
998-0424	MDD-22G824KB	0.820	29.5	13.0	21.0	0.8	25.5	.66	.60	.55	.47
998-0425	MDD-22G105KB	1.000	29.5	15.0	22.0	0.8	25.5	.76	.69	.63	.54

630 VDC/250 VAC

Stock No.	Mfr.'s Type	Mfd.	Dimensions: mm					EACH			
			W max.	T max.	H max.	d max.	F max.	1-99	100-499	500-999	1000-4999
998-0601	MDD-22J103KB	0.010	14.0	5.5	9.0	0.6	10.5	.12	.11	.10	.09
998-0602	MDD-22J123KB	0.012	14.0	5.5	10.0	0.6	10.5	.14	.12	.11	.10
998-0603	MDD-22J153KB	0.015	14.0	6.0	10.5	0.6	10.5	.12	.11	.10	.09
998-0604	MDD-22J183KB	0.018	14.0	6.0	11.0	0.6	10.5	.13	.12	.11	.09
998-0605	MDD-22J223KB	0.022	14.0	6.5	12.0	0.6	10.5	.14	.12	.11	.10
998-0606	MDD-22J273KB	0.027	17.0	5.5	12.5	0.6	13.5	.15	.13	.12	.11
998-0607	MDD-22J333KB	0.033	17.0	6.0	12.0	0.6	13.5	.16	.14	.13	.11
998-0608	MDD-22J393KB	0.039	17.0	6.5	12.0	0.6	13.5	.17	.15	.14	.12
998-0609	MDD-22J473KB	0.047	17.0	7.0	13.5	0.6	13.5	.18	.16	.15	.13
998-0610	MDD-22J563KB	0.056	17.0	7.5	14.0	0.6	13.5	.19	.17	.16	.14
998-0611	MDD-22J683KB	0.068	17.0	8.5	15.0	0.6	13.5	.20	.18	.17	.15
998-0612	MDD-22J823KB	0.082	17.0	9.0	16.0	0.6	13.5	.23	.21	.19	.16
998-0613	MDD-22J104KB	0.100	24.5	7.0	14.0	0.8	20.5	.25	.23	.21	.18
998-0614	MDD-22J124KB	0.120	24.5	8.5	15.5	0.8	20.5	.29	.26	.24	.21
998-0615	MDD-22J154KB	0.150	24.5	9.0	16.5	0.8	20.5	.32	.29	.27	.23
998-0616	MDD-22J184KB	0.180	24.5	10.0	17.0	0.8	20.5	.36	.33	.30	.26
998-0617	MDD-22J224KB	0.220	29.5	9.5	17.0	0.8	25.5	.40	.37	.34	.29

Epoxy Coated Polyester Film Capacitors

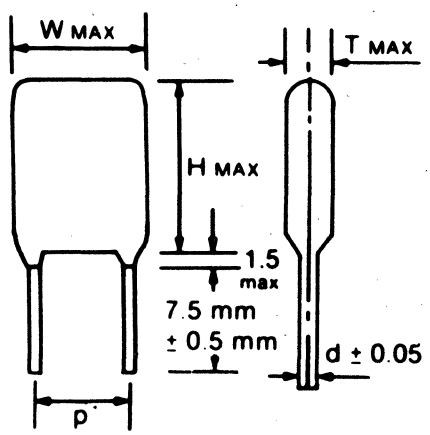
Design and Construction

- Dielectric: Polyester Film (Polyethylene Terepthalate Film)
- Electrode: Aluminum Foil — Inductive Wind — Welded Tabs
- Winding: Fully Automatic
- Terminals: Copper plated steel wire with solder coat (straight leads)
- Coverage: Coated with Epoxy Resin (dipping method)

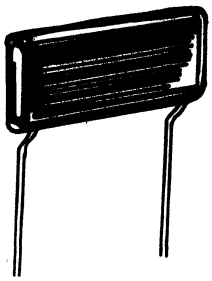
Rated Values and Characteristics

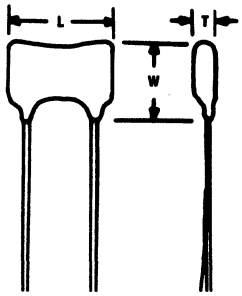
- Nominal Capacitance: 0.001 mfd. to 0.47 mfd.
- Capacitance Tolerance: ±10%
- Rated DC Voltage: 100 V
- Temperature Range: −40°C to +85°C
- Test Voltage: 200% of rated DC Voltage for 60 sec.
- Insulation Resistance: More than 9,000 ohms, Avg. 100,000 M ohms at 20°C
- Dissipation Factor (tan theta): Below 0.8%, Avg. 0.4% at 1,000 Hz, 20°C

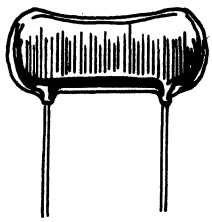
Stock No.	Mfr.'s Type	Capacitance Mfd.	100 VDC						EACH			
			W max.	H max.	Tmax.	P	F±0.8	d	1-99	100-499	500-999	1000-4999
998-0044	DEP100V102KB	0.0010	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.03	.03
998-0045	DEP100V122KB	0.0012	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.03	.03
998-0046	DEP100V152KB	0.0015	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.03	.03
998-0047	DEP100V182KB	0.0018	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.03	.03
998-0048	DEP100V222KB	0.0022	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.03	.03
998-0049	DEP100V272KB	0.0027	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.04	.03
998-0050	DEP100V332KB	0.0033	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.04	.03
998-0051	DEP100V392KB	0.0039	5.5	11.5	3.0	3.0±1.0	5.0	0.5	.04	.04	.04	.03
998-0052	DEP100V472KB	0.0047	6.0	11.5	3.0	3.5±1.0	5.0	0.5	.04	.04	.04	.03
998-0053	DEP100V562KB	0.0056	6.0	11.5	3.0	3.5±1.0	5.0	0.5	.04	.04	.04	.03
998-0054	DEP100V682KB	0.0068	6.0	11.5	3.0	8.5±1.0	5.0	0.5	.04	.04	.04	.03
998-0055	DEP100V822KB	0.0082	6.5	12.0	3.5	3.5±1.0	5.0	0.5	.04	.04	.04	.03
998-0056	DEP100V103KB	0.0100	6.5	12.0	3.5	4.0±1.0	5.0	0.5	.05	.04	.04	.03
998-0057	DEP100V123KB	0.0120	6.5	12.0	3.5	4.0±1.0	5.0	0.5	.05	.04	.04	.03
998-0058	DEP100V153KB	0.0150	7.0	12.0	3.5	4.0±1.0	5.0	0.5	.05	.05	.04	.04
998-0059	DEP100V183KB	0.0180	7.0	12.0	4.0	4.0±1.0	5.0	0.5	.05	.05	.05	.04
998-0060	DEP100V223KB	0.0220	8.0	12.0	4.0	4.0±1.0	5.0	0.5	.05	.05	.05	.04
998-0061	DEP100V273KB	0.0270	8.0	12.0	4.0	4.0±1.0	5.0	0.5	.06	.06	.05	.04
998-0062	DEP100V333KB	0.0330	9.0	12.5	4.5	6.0±1.0	5.0	0.5	.06	.06	.05	.05
998-0063	DEP100V393KB	0.0390	9.0	12.5	4.5	6.0±1.0	5.0	0.5	.07	.06	.06	.05
998-0064	DEP100V473KB	0.0470	9.0	12.5	5.0	6.0±1.0	5.0	0.5	.07	.06	.06	.05
998-0065	DEP100V563KB	0.0560	9.5	12.5	5.0	6.0±1.0	5.0	0.5	.08	.07	.06	.06
998-0066	DEP100V683KB	0.0680	10.0	12.5	5.5	7.0±1.0	5.0	0.5	.08	.08	.07	.06
998-0067	DEP100V823KB	0.0820	10.5	12.5	6.0	7.0±1.0	5.0	0.5	.08	.08	.07	.06
998-0068	DEP100V104KB	0.1000	11.0	12.5	6.5	7.0±1.0	5.0	0.5	.09	.08	.08	.07
998-0069	DEP100V124KB	0.1200	11.0	13.0	7.0	7.0±1.0	5.0	0.5	.10	.09	.08	.07
998-0070	DEP100V154KB	0.1500	12.5	13.5	7.5	7.0±1.0	5.0	0.6	.11	.10	.09	.08
998-0071	DEP100V184KB	0.1800	13.5	15.5	7.5	8.5±1.0	7.5	0.6	.13	.12	.11	.09
998-0072	DEP100V224KB	0.2200	14.0	16.0	7.5	8.5±1.0	7.5	0.6	.16	.14	.13	.11
998-0073	DEP100V274KB	0.2700	14.5	20.0	7.5	8.5±1.0	7.5	0.6	.17	.15	.14	.12
998-0074	DEP100V334KB	0.3300	15.0	20.0	8.0	9.5±1.0	10.0	0.6	.18	.17	.15	.13
998-0075	DEP100V394KB	0.3900	15.5	20.0	8.5	9.5±1.0	10.0	0.6	.20	.18	.17	.15
998-0076	DEP100V474KB	0.4700	16.5	21.0	9.5	10.0±1.0	10.0	0.6	.21	.19	.17	.15

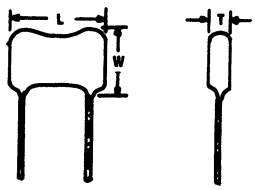


Dipped Mica Dielectric Capacitors









Small size, highly resistant to moisture, all leads are copper-weld for improved solderability. The miniature sizes are ideal for use in delay lines and IF transformers.

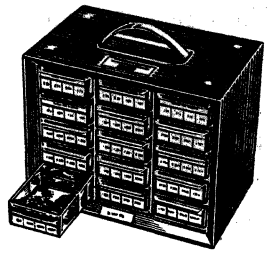
Note: 1% and 2% tolerances available as special order items with 100 PC mult. 100 pF-Up (50-100 pF 2% only).

Stock No.	Mfr.'s Type	Cap µF	VDC	Dim.—Inches L	W	T	EACH 1-99	100-499
862-3001	CD5CC020C03	2	300	0.270	0.250	0.190	0.42	0.30
862-3002	CD5CC030C03	3	300	0.270	0.250	0.190	0.42	0.30
862-3003	CD5CC040C03	4	300	0.270	0.250	0.190	0.42	0.30
862-3005	CD5CC050C03	5	300	0.270	0.250	0.190	0.42	0.30
862-3006	CD5CC070C03	7	300	0.270	0.250	0.190	0.42	0.30
862-3007	CD5CC080C03	8	300	0.270	0.250	0.190	0.42	0.30
862-3008	CD5CC090C03	9	300	0.270	0.250	0.190	0.42	0.30
862-3011	CD5CC100J03	10	300	0.270	0.250	0.190	0.38	0.27
855-0515	DM05CC150J	15	300	0.248	0.169	0.098	0.45	0.32
855-0520	DM05CC200J	20	300	0.248	0.169	0.098	0.46	0.33
862-3016	CD5EC240J03	24	300	0.270	0.250	0.190	0.40	0.29
862-3017	CD5EC270J03	27	300	0.270	0.250	0.190	0.43	0.31
855-0530	DM05EC300J	30	300	0.248	0.169	0.106	0.51	0.37
862-3019	CD5EC330J03	33	300	0.270	0.250	0.190	0.46	0.33
862-3020	CD5EC360J03	36	300	0.270	0.250	0.190	0.46	0.33
862-3025	CD5EC560J03	56	300	0.270	0.250	0.190	0.55	0.40
862-3026	CD5EC620J03	62	300	0.270	0.250	0.190	0.58	0.42
862-3028	CD5EC750J03	75	300	0.270	0.250	0.190	1.03	0.74
862-3029	CD5EC820J03	82	300	0.270	0.250	0.190	0.70	0.50
862-3030	CD5FC910J03	91	300	0.270	0.250	0.190	0.75	0.54
862-3031	CD5FC100J03	100	300	0.270	0.250	0.190	0.77	0.55
862-3032	CD5FC111J03	110	100	0.270	0.250	0.190	0.83	0.59
855-0513	DM05EA131J	130	100	0.248	0.189	0.138	0.89	0.63
855-0516	DM05FA161J	160	100	0.248	0.197	0.150	1.03	0.74
862-3037	CD5FA181J03	180	100	0.270	0.250	0.190	0.96	0.69
862-3038	CD5FA201J03	200	100	0.270	0.250	0.190	1.07	0.77
855-0526	DM05FY221J	220	50	0.248	0.189	0.130	1.30	0.93
855-0528	DM05FY241J	240	50	0.248	0.189	0.138	1.36	0.97
862-3043	CD5FY301J03	300	50	0.270	0.250	0.190	1.40	1.00
855-0531	DM05EY331J	330	50	0.248	0.197	0.157	1.72	1.23
855-0537	DM05FY361J	360	50	0.248	0.197	0.157	1.93	1.38
855-0538	DM05FY391J	390	50	0.248	0.209	0.169	2.22	1.59
862-3100	CD6CD010C03	1	500	0.265	0.135	0.095	0.67	0.48
862-3101	CD6CD020C03	2	500	0.265	0.135	0.095	0.67	0.48
862-3102	CD6CD030C03	3	500	0.265	0.135	0.095	0.67	0.48
862-3103	CD6CD040C03	4	500	0.265	0.135	0.095	0.67	0.48
862-3105	CD6CD060C03	6	500	0.265	0.135	0.095	0.67	0.48
862-3106	CD6CD070C03	7	500	0.265	0.135	0.095	0.67	0.48
862-3107	CD6CD080C03	8	500	0.265	0.135	0.095	0.67	0.48
862-3108	CD6CD090C03	9	500	0.265	0.135	0.095	0.67	0.48
862-3109	CD6CD100C03	10	500	0.265	0.135	0.095	0.72	0.52
862-3112	CD6CD180J03	18	500	0.265	0.135	0.095	1.10	0.76
862-3114	CD6CD220J03	22	500	0.265	0.135	0.095	0.76	0.54
862-3118	CD6ED330J03	33	500	0.265	0.135	0.095	0.83	0.59
862-3119	CD6ED360J03	36	500	0.265	0.135	0.095	0.83	0.59
862-3122	CD6ED470J03	47	500	0.265	0.135	0.095	0.83	0.59
862-3124	CD6ED560J03	56	500	0.265	0.135	0.095	0.89	0.64
862-3126	CD6ED680J03	68	500	0.265	0.135	0.095	0.96	0.69
862-3127	CD6ED750J03	75	500	0.265	0.135	0.095	0.96	0.69
862-3129	CD6EC910J03	91	300	0.265	0.135	0.095	1.10	0.79
862-3132	CD6FC121J03	120	300	0.265	0.135	0.095	0.93	0.67
862-3153	CD7FD181J03	180	500	0.330	0.310	0.175	1.20	0.86
862-3155	CD7FD221J03	220	300	0.330	0.310	0.175	1.34	0.96
862-3158	CD7FC301J03	300	300	0.330	0.310	0.175	1.51	1.08
862-3164	CD7FA511J03	510	100	0.330	0.310	0.175	3.30	2.36
862-3169	CD7FA821J03	820	100	0.330	0.310	0.175	3.48	2.49
862-3170	CD7FA911J03	910	100	0.330	0.310	0.175	4.59	3.28
855-1001	DM10CD010D	1	500	0.358	0.327	0.189	0.47	0.34
855-1002	DM10CD020D	2	500	0.358	0.327	0.189	0.40	0.28
855-1004	DM10CD050D	5	500	0.358	0.327	0.189	0.47	0.34
862-3207	CD10CD100J03	10	500	0.390	0.380	0.220	0.39	0.28
855-1006	DM10CD120J	12	500	0.358	0.327	0.189	0.47	0.34
862-3211	CD10ED200J03	20	500	0.390	0.380	0.220	0.32	0.23
855-1011	DM10ED240J	24	500	0.358	0.327	0.189	0.37	0.27
855-1012	DM10ED270J	27	500	0.366	0.327	0.189	0.37	0.27
855-1013	DM10ED300J	30	500	0.366	0.339	0.189	0.37	0.27
855-1014	DM10ED330J	33	500	0.366	0.339	0.189	0.37	0.27
855-1016	DM10ED390J	39	500	0.366	0.339	0.189	0.42	0.30
862-3221	CD10ED510J03	51	500	0.390	0.380	0.220	0.35	0.25
855-1020	DM10ED560J	56	500	0.366	0.339	0.189	0.42	0.30
855-1023	DM10ED680J	68	500	0.366	0.339	0.189	0.43	0.31
855-1024	DM10ED750J	75	500	0.366	0.346	0.197	0.43	0.31
855-1026	DM10FD910J	91	500	0.366	0.346	0.197	0.45	0.32

Stock No.	Mfr.'s Type	Cap µF	VDC	Dim.—Inches L	W	T	EACH 1-99	100-499
855-1028	DM10FD111J	110	500	0.378	0.346	0.197	0.45	0.32
855-1030	DM10FD131J	130	500	0.378	0.346	0.197	0.45	0.32
862-3227	CD10FD151J03	150	500	0.390	0.380	0.220	0.41	0.30
855-1032	DM10FD161J	160	500	0.378	0.358	0.209	0.49	0.35
855-1033	DM10FD181J	180	500	0.390	0.366	0.209	0.54	0.38
855-1036	DM10FD241J	240	500	0.390	0.366	0.217	0.66	0.47
855-1037	DM10FC271J	270	300	0.390	0.378	0.217	0.64	0.46
855-1038	DM10FC301J	300	300	0.390	0.378	0.217	0.76	0.54
855-1040	DM10FA361J	360	100	0.390	0.378	0.217	0.71	0.51
855-1501	DM15CD010D	1	500	0.449	0.358	0.169	0.35	0.25
855-1502	DM15CD020D	2	500	0.449	0.358	0.169	0.35	0.25
855-1503	DM15CD030D	3	500	0.449	0.358	0.169	0.35	0.25
855-1504	DM15CD040D	4	500	0.449	0.358	0.169	0.35	0.25
855-1505	DM15CD050D	5	500	0.449	0.358	0.169	0.35	0.25
855-1506	DM15CD060D	6	500	0.449	0.358	0.169	0.35	0.25
855-1507	DM15CD070D	7	500	0.449	0.358	0.169	0.35	0.25
855-1508	DM15CD080D	8	500	0.449	0.358	0.169	0.35	0.25
862-4000	CD15CD100J03	10	500	0.500	0.430	0.250	0.29	0.21
855-1510	DM15CD120J	12	500	0.449	0.358	0.169	0.33	0.23
862-4002	CD15CD150J03	15	500	0.500	0.430	0.250	0.29	0.21
855-1512	DM15CD180J	18	500	0.449	0.358	0.169	0.33	0.23
862-4004	CD15ED200J03	20	500	0.500	0.430	0.250	0.29	0.21
862-4005	CD15ED220J03	22	500	0.500	0.430	0.250	0.27	0.20
855-1515	DM15ED240J	24	500	0.449	0.358	0.169	0.33	0.24
862-4006	CD15ED270J03	27	500	0.500	0.430	0.250	0.27	0.20
862-4008	CD15ED330J03	33	500	0.500	0.430	0.250	0.27	0.20
855-1519	DM15ED360J	36	500	0.449	0.358	0.169	0.33	0.24
862-4009	CD15ED390J03	39	500	0.500	0.430	0.250	0.27	0.20
862-4010	CD15ED430J03	43	500	0.500	0.430	0.250	0.27	0.20
862-4012	CD15ED510J03	51	500	0.500	0.430	0.250	0.27	0.20
862-4013	CD15ED560J03	56	500	0.500	0.430	0.250	0.27	0.20
855-1525	DM15ED620J	62	500	0.449	0.358	0.169	0.34	0.24
855-1527	DM15ED750J	75	500	0.449	0.358	0.177	0.34	0.24
855-1528	DM15ED820J	82	500	0.449	0.358	0.177	0.34	0.24
855-1529	DM15FD910J	91	500	0.457	0.358	0.177	0.34	0.24
855-1531	DM15FD111J	110	500	0.457	0.370	0.177	0.34	0.24
862-4018	CD15FD121J03	120	500	0.500	0.430	0.250	0.28	0.20
855-1533	DM15FD131J	130	500	0.457	0.370	0.177	0.39	0.28
855-1535	DM15FD161J	160	500	0.457	0.370	0.189	0.41	0.29
862-4023	CD15FD201J03	200	500	0.500	0.430	0.250	0.36	0.26
862-4024	CD15ED221J03	220	500	0.500	0.430	0.250	0.37	0.27
855-1539	DM15FD241J	240	500	0.457	0.378	0.197	0.50	0.36
862-4026	CD15FD271J03	270	500	0.500	0.430	0.250	0.41	0.29
862-4027	CD15FD301J03	300	500	0.500	0.430	0.250	0.43	0.31
855-1543	DM15FD361J	360	500	0.469	0.390	0.209	0.67	0.48
855-1549	DM15FD621J	620	300	0.457	0.378	0.197	0.89	0.64
855-1553	DM15FD911J	910	100	0.469	0.398	0.217	1.00	0.72
855-1555	DM15FD112J	1100	100	0.476	0.398	0.228	1.31	0.94
862-4040	CD15FA122J03	1200	100	0.500	0.430	0.250	1.12	0.80
855-1901	DM19FD101J	100	500	0.638	0.500	0.189	0.53	0.38
855-1902	DM19FD151J	150	500	0.638	0.500	0.189	0.53	0.38
855-1903	DM19FD181J	180	500	0.638	0.500	0.189	0.53	0.38
855-1904	DM19FD271J	270	500	0.638	0.500	0.189	0.53	0.38
855-1905	DM19FD391J	390	500	0.638	0.508	0.197	0.53	0.38
855-1906	DM19FD431J	430	500	0.638	0.508	0.197	0.53	0.38
855-1907	DM19FD471J	470	500	0.638	0.508	0.197	0.56	0.40
855-1908	DM19FD511J	510	500	0.638	0.508	0.197	0.56	0.40
855-1909	DM19FD561J	560	500	0.638	0.508	0.197	0.56	0.40
855-1910	DM19FD621J	620	500	0.638	0.508	0.197	0.56	0.40
855-1912	DM19FD751J	750	500	0.638	0.508	0.209	0.69	0.49
855-1913	DM19FD821J	820	500	0.638	0.508	0.209	0.76	0.54
862-4063	CD19FD102J03	1000	500	0.638	0.520	0.217	0.63	0.45
855-1916	DM19FD112J	1100	500	0.638	0.520	0.217	0.86	0.61
855-1917	DM19FD122J	1200	500	0.657	0.520	0.217	0.89	0.63
855-1918	DM19FD132J	1300	500	0.657	0.520	0.217	0.95	0.68
855-1921	DM19FD182J	1800	500	0.669	0.528	0.236	1.19	0.85
855-1923	DM19FD222J	2200	500	0.669	0.528	0.248	1.40	1.00
855-1924	DM19FD242J	2400	500	0.669	0.539	0.248	1.48	1.06
855-1926	DM19FD302J	3000	500	0.677	0.547	0.280	1.61	1.15
855-1927	DM19FD332J	3300	500	0.677	0.547	0.287	1.74	1.25
855-1928	DM19FD362J	3600	500	0.677	0.559	0.299	1.86	1.33
855-1929	DM19FD392J	3900	500	0.689	0.559	0.299	2.00	1.43
855-1930	DM19FD432J	4300	500	0.689	0.567	0.327	2.22	1.59

Allied Capacitor Kits

Call Allied For Replacement Parts



TSD-150, TSD-300 Tantalum Capacitor Kits. Both kits contain high quality Hitachi resin dipped tantalum capacitors. TSD-150 has 5 pieces each of 30 values — total 150 pieces. TSD-300 has 10 pieces each of 30 values — total 300 pieces. All in 15 quick select drawers. Kit Dimensions: 10 × 8 × 6-1/2". Kit includes: 10 V, 16 V, 20 V and 35 V in .1 MFD thru 47 MFD capacitance ranges.
777-0150. TSD-150 ..... **EACH 192.95**
777-0300. TSD-300 ..... **EACH 259.94**

CEC-410 Low Leakage and Sub-Miniature Capacitor Kit. Features include: 10 pieces per type. High quality Nichicon product. Tantalum like performance levels. The 10 × 8 × 6-1/2". Kit includes: 10 V, 16 V, 25 V, 35 V, and 50 V Super miniature lytics. 35 V and 50 V Super miniature low leakage lytics.
777-0410. CEC-410 ..... **EACH 145.95**

CC-540-12 Multi-Layered Ceramic Chip Capacitor Kit. 10 pieces each — 54 values. Ultra-miniature size, light in weight and thin body thickness. Highly reliable performance. 9 × 7.5 × 1.6" styrene case with chip types clearly marked. Includes: EIA 1206 case sizes, NPO, X7R and Z5U types, 5 pF — .1 MFD capacitance ranges at 50 volts.
777-5412. CC-540-12 ..... **EACH 174.95**

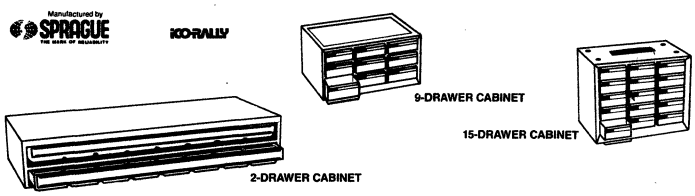
NAC-400 Capacitor Kit. Includes: Miniature aluminum electrolytic, ceramic disc and film capacitors in 15 clearly labeled drawers. 120 × 8 × 8 × 6-1/2" kit holds Aluminum Electrolytics Axial 17 values, 16, 25, 35, 50 VDC. Radial 16 values. Ceramic Disks 11 values .001 pF — .1 MFD 12 V, 50 VDC, Polyester Film 9 values 100 VDC. Metalized Film 9 values 250, 400, 630 V. 400 pieces.
777-0400. ..... **EACH 169.95**

TC-150 Tantalum Chip Organizer Kit. 9 × 7.5 × 1.6" styrene case with 150 pieces. Kit Features include: Highest quality tantalum chip capacitors in Ultra small case sizes. High soldering heat resistance: 30 Values of tantalum chips. x8/x16 magnifying glass and specially designed Chip tweezers.
777-1500. ..... **EACH 189.95**

CC-540-08 Multi-Layered Ceramic Chip Capacitor Kit. 10 pieces each — 54 values Ultra-miniature size. Thin body thickness, light in weight with highly reliable performance 9 × 7.5 × 1.6" styrene case with see thru locking lid, and clearly marked chip types.
777-5408. ..... **EACH 174.95**

CEC-360 Surface Mount Kit. One of a kind organizer kit containing 360 pieces of surface mount electrolytic capacitors. 4 - 50 VDC; 0.1 - 220 MFD. Packed in compartments in clear plastic polystyrene case.
777-0360. CEC-360 ..... **EACH 182.95**

CEC-112 Surface Mount Wound Chip Inductor Kit. Surface mount inductor chips designed for hybrid circuits, high-density circuits and microelectronic devices. Kit offers 7 pieces each of 16 popular values. Kit includes x8/x16 magnifier and special tweezers. All supplied in molded styrene case.
777-0112. CEC-112 ..... **EACH 108.95**



Sprague/ICO-Rally Kits

ICO-Rally and Sprague put convenience at your fingertips. These electrolytic capacitor kits are cased in handy 2, 9 or 15 drawer cabinets, all neatly labeled and filled with a variety of the most popular, frequently-used ratings capacitors. Buying in assortment packs also provides substantial savings as compared to buying individual components. **CABINET SPECIFICATIONS. 2-Drawer Cabinet:** Heavy-gauge steel, blue baked-enamel finish. Blue shatterproof plastic drawers. Pre-printed divider index cards. Measures 30-3/4"W × 5-1/2"H × 13"D. **9-Drawer Cabinet:** Stackable sturdy blue plastic. Clear plastic drawers with adjustable dividers. Pre-labeled index drawer fronts. Measures 9-1/8"W × 4-3/8"H × 6-1/2"D. **15-Drawer Cabinet:** Durable blue metal. Clear plastic drawers with adjustable dividers. Pre-labeled index drawer fronts. Retractable handle for carrying. Measures 10"W × 8"H × 6-1/4"D.

Kits

J-157

Type GA, HK, TS and HY ceramic capacitors. 705 capacitors in 64 ratings in a 2-drawer cabinet. Contains the following: **GENERAL APPLICATION TYPES — 20 5GASS10** (.01μF, 500 WVDC), **10 5GASS20** (.02μF, 500 WVDC), 15 **5GAP10** (.1μF, 500 WVDC), 10 **5GAQ10** (10pF μF, 1000 WVDC), 5 **5GAQ20** (20pF μF, 1000 WVDC), 10 **5GAQ33** (33pF μF, 1000 WVDC), 5 **5GAQ47 (47pF μF 1000 WVDC), 20 5GAT10** (100pF μF, 1000 WVDC), 15 **GAT15** (150pF μF, 1000 WVDC), 5 **5GAT20** (200pF μF, 1000 WVDC), 15 **5GAT22** (220pF μF, 1000 WVDC), 10 **5GAT33** (330pF μF, 1000 WVDC), 15 **5GAT47** (470pF μF, 1000 WVDC), 5 **5GAT50** (500pF μF, 1000 WVDC), 20 **5GAD10** (.001μF, 1000 WVDC), 5 **5GAD15** (.0015μF, 1000 WVDC), 15 **5GAD20** (.002μF, 1000 WVDC), 10 **5GAD22** (.0022μF, 1000 WVDC), 5 **5GAD30** (.0030μF, 1000 WVDC), 5 **5GAD33** (.0033μF, 1000 WVDC), 10 **5GAD47** (.0047μF, 1000 WVDC), 15 **5GAD50** (.005μF, 1000 WVDC), 20 **5GAS10** (.01μF, 1000 WVDC), 20 **5GAS20** (.02μF, 1000 WVDC), 5 **5GAS50** (.05μF, 500 WVDC); **HIGH K TYPES — 10 5HKD10** (.001μF, 1000 WVDC), 10 5HKP10 (.1μF, 500 WVDC), 10 **5HKS10** (.01μF, 1000 WVDC), 10 **5HKS50** (.05μF, 500 WVDC), 15 **5HKSS10** (.01μF, 500 WVDC); **TEMPERATURE STABLE TYPES — 15 10TSD10** (.001μF, 1000 WVDC), 5 **10TSD22** (.0022μF, 1000 WVDC), 5 **10TSQ10** (10pF μF, 1000 WVDC), 5 **10TSQ33** (33pF μF, 1000 WVDC), 5 **10TSQ47** (47pF μF, 1000 WVDC), 5 **10TSQ50** (50pF μF, 1000 WVDC), 10 **10TST10** (100pF μF, 1000 WVDC), 5 **10TST15** (150pF μF, 1000 WVDC), 5 **10TST22** (220pF μF, 1000 WVDC), 5 **10TST27** (270pF μF, 1000 WVDC), 5 **10TST33** (330pF μF, 1000 WVDC), 10 **10TST47** (470pF μF, 1000 WVDC), 5 **10TST50** (500pF μF, 1000 WVDC), 10 **10TST56** (560pF μF, 1000 WVDC), 5 **10TST68** (680pF μF, 1000 WVDC); **MINIATURE GENERAL APPLICATION TYPES** — 25 **TGD50** (.005μF, 100 WVDC), 25 **TGS10** (.01μF, 100 WVDC), 25 **TGS20** (.02μF, 100 WVDC), 25 **TGS50** (.05μF, 100 WVDC), 25 **TGP10** (.1μF, 100 WVDC); **ULTRA MINIATURE TYPES** — 15 **HY520** (.01μF, 25 WVDC), 5 **HY525** (.022μF, 25 WVDC), 5 **HY530** (.033μF, 25 WVDC), 10 **HY534** (.047μF, 25 WVDC), 15 **HY550** (.1μF, 25 WVDC), 5 **HY570** (.20μF, 25 WVDC), 20 **HY735** (.047μF, 25 WVDC), 5 **HY740** (.068μF, 25 WVDC), 15 **HY750** (.1μF, 25 WVDC), 10 **HY820** (.01μF, 25 WVDC), 5 **HY825** (.022μF, 25 WVDC), 5 **HY835** (.047μF, 25 WVDC), 5 **HY838** (.05μF, 25 WVDC), 15 **HY850** (.1μF, 25 WVDC).
926-9157. Kit J-157. ..... **EACH 275.00**

KF-32

Type PS Orange Drop tubulars. 139 capacitors in 33 ratings in a 15-drawer cabinet. Contains the following: 8 **6PS-D10** (.001μF, 600 WVDC), 2 **6PS-D22** (.0022μF, 600 WVDC), 3 **6PS-D33** (.0033μF, 600 WVDC), 3 **6PS-D39** (.0039μF, 600 WVDC), 5 **6PS-D47** (.0047μF, 600 WVDC), 8 **6PS-D50** (.005μF, 600 WVDC), 2 **6PS-S10** (.01μF, 600 WVDC), 3 **6PS-S15 (.015μF, 600 WVDC), 8 6PS-S20** (.02μF, 600 WVDC), 3 **6PS-S22** (.022μF, 600 WVDC), 2 **6PS-S30** (.03μF, 600 WVDC), 3 **6PS-S33** (.033μF, 600 WVDC), 2 **6PS-S39** (.039μF, 600 WVDC), 8 **6PS-S47** (.047μF, 600 WVDC), 8 **6PS-S50** (.05μF, 600 WVDC), 3 **6PS-S68** (.068μF, 600 WVDC), 10 **6PS-P10** (.1μF, 600 WVDC), 3 **6PS-P22** (.22μF, 600 WVDC), 3 **6PS-P25** (.25μF, 600 WVDC), 5 **6PS-P47** (.47μF, 600 WVDC), 3 **16PS-D10** (.001μF, 1600 WVDC), 3 **16PS-D22** (.0022μF, 1600 WVDC), 3 **16PS-D33** (.0033μF, 1600 WVDC), 3 **16PS-D40** (.004μF, 1600 WVDC), 3 **16PS-D47** (.0047μF, 1600 WVDC), 3 **16PS-D60 (.006μF, 1600 WVDC), 3 16PS-D68** (.0068μF, 1600 WVDC), 3 **16PS-D80** (.008μF, 1600 WVDC), 3 **16PS-S10** (.01μF, 1600 WVDC), 3 **16PS-S15** (.015μF, 1600 WVDC), 3 **16PS-S33** (.033μF, 1600 WVDC), 3 **16PS-S50** (.05μF, 1600 WVDC).
926-9032. Kit KF-32. ..... **EACH 177.35**

J-141

Type TE LITTL-LYTIC® electrolytic. 200 capacitors in 40 ratings in a 2-drawer cabinet. Contains the following: 5 each of **TE-1059.5** (100μF, 3 WVDC), **TE-1064** (200μF, 3 WVDC), **TE-1068** (500μF, 3 WVDC), **TE-1104** (200μF, 6 WVDC), **TE-1106** (300μF, 6 WVDC), **TE-1129** (15μF, 12 WVDC), **TE-1133.5** (60μF, 12 WVDC), **TE-1135** (100μF, 12 WVDC), **TE-1139** (290μF, 12 WVDC), **TE-1155** (10μF, 16 WVDC), **TE-1157** (20μF, 16 WVDC), **TE-1162** (100μF, 16 WVDC), **TE-1163** (150μF, 16 WVDC), **TE-1164** (200μF, 16 WVDC), **TE-1164.5** (250μF, 16 WVDC), **TE-1202** (5μF, 25 WVDC), **TE-1203** (6μF, 25 WVDC), **TE-1204** (10μF, 25 WVDC), **TE-1205** (15μF, 25 WVDC), **TE-1207** (25μF, 25 WVDC), **TE-1208** (35μF, 25 WVDC), **TE-1209** (50μF, 25 WVDC), **TE-1210** (75μF, 25 WVDC), **TE-1211** (100μF, 25 WVDC), **TE-1300** (1μF, 50 WVDC), **TE-1301** (2μF, 50 WVDC), **TE-1302** (3μF, 50 WVDC), **TE-1302.1** (4μF, 50 WVDC), **TE-1303** (5μF, 50 WVDC), **TE-1303.1** (6μF, 50 WVDC), **TE-1303.3** (8μF, 50 WVDC), **TE-1304** (10μF, 50 WVDC), **TE-1304.2** (12μF, 50 WVDC), **TE-1305** (20μF, 50 WVDC), **TE-1306** (35μF, 50 WVDC), **TE-1307** (50μF, 50 WVDC), **TE-1407** (10μF, 100 WVDC), **TE-1409** (20μF, 100 WVDC), **TE-1504** (5μF, 150 WVDC), and **TE-1507** (10μF, 150 WVDC).
926-9141. Kit J-141. ..... **EACH 278.45**

KF-35

Type 192P Pacer® Filmite "E" capacitors. 72 capacitors in 27 ratings in a 9-drawer cabinet. Contains the following: 3 **192P2229R8** (.0022μF, 80 WVDC), 2 **192P3329R8** (.0033μF, 80 WVDC), 2 **192P3929R8** (.0039μF, 80 WVDC), 3 **192P4729R8** (.0047μF, 80 WVDC), 2 **192P6829R8** (.0068μF, 80 WVDC), 5 **192P1039R8** (.01μF, 80 WVDC), 2 **192P1539R8** (.015μF, 80 WVDC), 3 **192P2239R8** (.022μF, 80 WVDC), 2 **192P3339R8** (.033μF, 80 WVDC), 2 **192P4739R8** (.047μF, 80 WVDC), 2 **192P6839R8** (.068μF, 80 WVDC), 5 **192P1049R8** (.1μF, 80 WVDC), 2 **192P1549R8** (.15μF, 80 WVDC), 2 **192P2249R8** (.22μF, 80 WVDC), 2 **192P82192** (.00082μF, 200 WVDC), 5 **192P10292** (.001μF, 200 WVDC), 2 **192P15292** (.0015μF, 200 WVDC), 3 **192P22292** (.0022μF, 200 WVDC), 2 **192P33292** (.0033μF, 200 WVDC), 2 **192P47292** (.0047μF, 200 WVDC), 2 **192P68292** (.0068μF, 200 WVDC), 3 **192P10392** (.01μF, 200 WVDC), 2 **192P15392** (.015μF, 200 WVDC), 2 **192P22392** (.023μF, 200 WVDC), 2 **192P33392** (.033μF, 200 WVDC), 3 **192P47392** (.047μF, 200 WVDC), 5 **192P10492** (.1μF, 200 WVDC).
926-9035. Kit KF-35. ..... **EACH 45.05**

KE-11

Type TE LITTL-LYTIC® electrolytics. 61 capacitors in 27 ratings in a 9-drawer cabinet. Contains the following: 1 **TE-1102.5** (140μF, 6 WVDC), 2 **TE-1129** (15μF, 12 WVDC), 2 **TE-1133.5** (60μF, 12 WVDC), 2 **TE-1135** (100μF, 12 WVDC), 5 **TE-1155** (10μF, 16 WVDC), 1 **TE-1157.1** (25μF, 16 WVDC), 2 **TE-1160** (50μF, 16 WVDC), 3 **TE-1162** (100μF, 16 WVDC), 2 **TE-1164** (200μF, 16 WVDC), 2 **TE-1202** (5μF, 25 WVDC), 1 **TE-1203** (6μF, 25 WVDC), 5 **TE-1204** (10μF, 25 WVDC), 1 **TE-1205** (15μF, 25 WVDC), 3 **TE-1207** (25μF, 25 WVDC), 3 **TE-1209** (50μF, 25 WVDC), 5 **TE-1211** (100μF, 25 WVDC), 1 **TE-1213** (200μF, 25 WVDC), 2 **TE-1300** (1μF, 50 WVDC), 2 **TE-1301** (2μF, 50 WVDC), 2 **TE-1302** (3μF, 50 WVDC), 2 **TE-1302-1** (4μF, 50 WVDC), 2 **TE-1303** (5μF, 50 WVDC), 2 **TE-1304** (10μF, 50 WVDC), 2 **TE-1305** (20μF, 50 WVDC), 1 **TE-1305.5** (25μF, 50 WVDC), 3 **TE-1307** (50μF, 50 WVDC), 2 **TE-1309** (100μF, 50 WVDC).
926-9011. Kit KE-11. ..... **EACH 74.90**

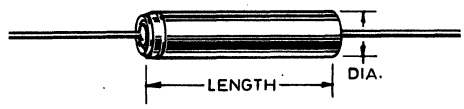
KE-23

Type TVA Atom® electrolytics. 31 capacitors in 30 ratings in a 15-drawer cabinet. Contains the following: 1 each of **TVA-1129.5** (5000μF, 10 WVDC), **TVA-1162** (500μF, 16 WVDC), **TVA-1163** (1000μF, 16 WVDC), **TVA-1204** (10μF, 25 WVDC), **TVA-1205** (25μF, 25 WVDC), **TVA-1206** (50μF, 25 WVDC), **TVA-1207** (100μF, 25 WVDC), **TVA-1208** (250μF, 25 WVDC), **TVA-1209** (500μF, 25 WVDC), **TVA-1211** (1000μF, 25 WVDC), **TVA-1300** (1μF, 50 WVDC), **TVA-1304** (10μF, 50 WVDC), **TVA-1306** (25μF, 50 WVDC), **TVA-1308** (50μF, 50 WVDC), **TVA-1310** (100μF, 50 WVDC), **TVA-1311** (150μF, 50 WVDC), **TVA-1312** (250μF, 50 WVDC), **TVA-1315** (500μF, 50 WVDC), **TVA-1316** (1000μF, 50 WVDC), **TVA-1346** (100μF, 100 WVDC), **TVA-1414** (50μF, 150 WVDC), **TVA-1501** (4μF, 250 WVDC), **TVA-1504** (10μF, 250 WVDC), **TVA-1511** (40μF, 250 WVDC), **TVA-1528.9** (500μF, 250 WVDC), **TVA-1701** (2μF, 450 WVDC), **TVA-1705** (10μF, 450 WVDC), **TVA-1712** (40μF, 450 WVDC), **TVA-1716** (80μF, 450 WVDC), and 2 **TVA-1129.8** (10000μF, 10 WVDC).
926-9023. Kit KE-23. ..... **EACH 64.65**

KF-19

Type 1PB Orange Drop tubulars. 136 capacitors in 18 ratings in a 9-drawer cabinet. Contains the following: 10 **1PB-D10** (.001μF), 5 **1PB-D22** (.0022μF), 2 **1PB-D33** (.0033μF), 10 **1PB-D47** (.0047μF), 10 **1PB-S10** (.01μF), 5 **1PB-S15** (.015μF), 10 **1PB-S22** (.022μF), 10 **1PB-S47** (.047μF), 2 **1PB-S56** (.056μF), 5 **1PB-S68** (.068μF), 15 **1PB-P10** (.1μF), 10 **1PB-P15** (.15μF), 10 **1PB-P22** (.22μF), 5 **1PB-P33** (.33μF), 10 **1PB-P47** (.47μF), 2 **1PB-P68** (.68μF) and 5 **1PB-M10** (1.0μF), **all at 100 WVDC.**
926-9019. Kit KF-19. ..... **EACH 105.20**

Type TT Tubular Electrolytic Capacitors

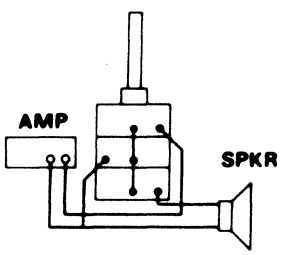


TT capacitors are made from very high purity aluminum foil, deep-etched to provide maximum capacitance per unit of volume. Etched cathode construction assures long hum-free operation. Utilizes all-welded construction; exhibits low DCL and ESR. Supplied in aluminum case with insulating sleeve; wire leads 1.25″ min. **Capacitance Tolerance:** ±20%. **Operating Temperature:** −40°C to +85°C.

Stock No.	Mfr.'s Type	CAP MFD	WV DC	Surge Volt	Case Size D″	Case Size L″	EACH 1-24	EACH 25-99	EACH 100-249	EACH 250-499
852-3595	TT16M2A	2	16	20	.197	.472	1.16	.58	.50	.40
852-3597	TT16M5A	5	16	20	.197	.472	1.06	.53	.45	.37
852-3600	TT16M10A	10	16	20	.197	.472	1.06	.53	.45	.37
852-3605	TT16M20A	20	16	20	.197	.472	1.06	.53	.45	.37
852-3607	TT16M25A	25	16	20	.197	.472	1.16	.58	.50	.40
852-3610	TT16M50A	50	16	20	.236	.472	1.07	.53	.46	.37
852-3615	TT16M100A	100	16	20	.236	.630	1.09	.55	.47	.38
852-3620	TT16M150A	150	16	20	.315	.630	1.09	.55	.47	.38
852-3625	TT16M200A	200	16	20	.315	.630	1.12	.56	.48	.39
852-3630	TT16M260A	260	16	20	.315	.630	1.30	.65	.56	.45
852-3635	TT16M350A	350	16	20	.315	.787	1.12	.56	.48	.39
852-3640	TT16M500A	500	16	20	.394	.827	1.32	.66	.57	.46
852-3645	TT16M600A	600	16	20	.394	.945	1.43	.72	.61	.50
852-3650	TT16M1000A	1000	16	20	.394	1.181	1.48	.74	.63	.52
852-3655	TT16M1500A	1500	16	20	.512	1.260	1.68	.84	.72	.59
852-4594	TT25M1A	1	25	35	.197	.472	1.06	.53	.46	.37
852-4595	TT25M2A	2	25	35	.197	.472	1.06	.53	.46	.37
852-4596	TT25M5A	5	25	35	.197	.472	1.06	.53	.46	.37
852-4597	TT25M10A	10	25	35	.197	.472	1.06	.53	.46	.37
852-4598	TT25M15A	15	25	35	.197	.472	1.06	.53	.46	.37
852-4599	TT25M20A	20	25	35	.236	.472	1.06	.53	.46	.37
852-4664	TT25M25A	25	25	35	.236	.472	1.06	.53	.46	.37
852-4659	TT25M35A	35	35	25	.236	.630	1.12	.56	.48	.39
852-4616	TT25M50A	50	35	25	.236	.630	1.09	.55	.47	.38
852-4607	TT25M75A	75	25	35	.236	.630	1.30	.65	.57	.45
854-4618	TT25M100A	100	25	35	.315	.630	1.12	.56	.48	.39
852-4610	TT2M200A	200	25	35	.315	.787	1.30	.65	.57	.45
852-4611	TT25M300A	300	25	35	.394	.827	1.32	.66	.56	.46
852-4613	TT25M500A	500	25	35	.394	.945	1.48	.74	.63	.52
852-4615	TT25M800A	800	25	35	.512	.945	1.68	.84	.72	.58
852-4636	TT50M1A	1	50	65	.197	.472	1.06	.53	.46	.37

Stock No.	Mfr.'s Type	CAP MFD	WV DC	Surge Volt	Case Size D″	Case Size L″	EACH 1-24	EACH 25-99	EACH 100-249	EACH 250-499
852-4667	TT50M2A	2	50	65	.197	.472	1.16	.58	.50	.40
852-4619	TT50M4A	4	50	65	.197	.472	1.06	.53	.46	.37
852-4663	TT50M10A	10	50	65	.236	.472	1.06	.53	.46	.37
852-4662	TT50M15A	15	50	65	.236	.630	1.17	.58	.50	.41
852-4665	TT50M20A	20	50	65	.236	.630	1.07	.54	.46	.37
852-4666	TT50M25A	25	50	65	.236	.630	1.07	.54	.46	.37
852-4627	TT50M35A	35	50	65	.315	.630	1.11	.55	.47	.38
852-4668	TT50M50A	50	50	65	.315	.630	1.12	.56	.48	.39
852-4669	TT50M75A	75	50	65	.315	.787	1.30	.65	.56	.45
852-4630	TT50M100A	100	50	65	.315	.787	1.30	.65	.56	.45
852-4631	TT50M150A	150	50	65	.394	.945	1.32	.66	.56	.46
852-4632	TT50M200A	200	50	65	.394	.945	1.43	.72	.61	.50
852-4633	TT50M250A	250	50	65	.394	.945	1.48	.74	.63	.52
852-4634	TT50M300A	300	50	65	.394	1.181	1.71	.86	.73	.60
852-4635	TT50M350A	350	50	65	.394	1.181	1.84	.92	.78	.64
852-4638	TT50M400A	400	50	65	.512	.945	1.84	.92	.78	.64
852-4637	TT50M450A	450	50	65	.512	.945	1.68	.84	.72	.58
852-4641	TT100M10A	10	100	120	.315	.630	1.09	.55	.47	.38
852-4643	TT100M20A	20	100	120	.315	.787	1.32	.66	.56	.46
852-4646	TT100M50A	50	100	120	.394	.827	1.43	.72	.61	.50
852-4649	TT150M1A	1	150	175	.236	.551	1.06	.53	.46	.37
852-4651	TT150M5A	5	150	175	.315	.787	1.12	.56	.48	.39
852-4653	TT150M10A	10	150	175	.315	.787	1.30	.65	.56	.45
852-4655	TT150M20A	20	150	175	.394	.945	1.32	.66	.56	.46
852-4658	TT150M25A	25	150	175	.394	.945	1.55	.78	.66	.54
852-4661	TT200M1A	1	200	250	.236	.630	1.23	.61	.52	.42
852-4670	TT200M2A	2	200	250	.315	.630	1.34	.67	.57	.46
852-4671	TT250M2A	2	250	300	.315	.630	1.45	.73	.62	.51
852-4672	TT250M4A	4	250	300	.394	.945	1.62	.81	.69	.56
852-4674	TT250M10A	10	250	300	.394	.945	1.92	.96	.82	.67
852-4676	TT250M20A	20	250	300	.512	.945	2.50	1.25	1.11	.87

Wirewound Audio Attenuators



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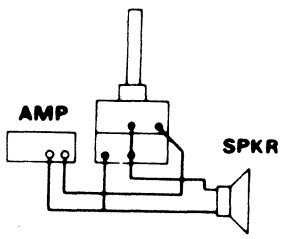

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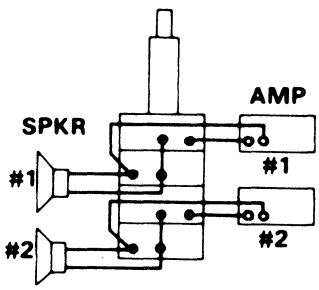

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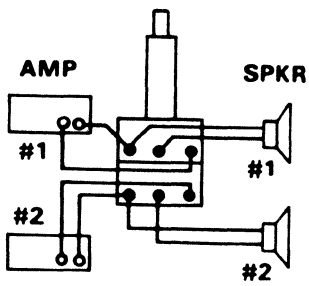


RR50

T Pad

Constant impedance to source and output (amplifier and speaker). With palnut and dial plate. **Bushing:** RT—3/8″-32 × 1″; T—3/8-32″ × 3/8″. **Shaft (D × L FMS):** RT—1/4″ × 1 1/2″, T—1/4″ × 2 3/8″.

10 Watt Audio (3 Watt DC)

Stock No.	Mfr.'s Type	Impedance (Ohms)	EACH 1-49	EACH 50-99
854-5105	RT8	8	34.89	30.24

15 Watt Audio (4 Watt DC)

854-5108	T8	8	44.35	38.44
854-5160	T600	600	43.42	37.63

L Pad

Constant impedance to source (amplifier) when being used in audio circuits where output (speaker) impedance is not critical. With palnut and dial plate. **Bushing:** 3/8″-32 × 3/8″. **Shaft (D × L FMS):** 1/4″ × 2 3/8″.

15 Watt Audio (4 Watt DC)

Stock No.	Mfr.'s Type	Impedance (Ohms)	EACH 1-49	EACH 50-99
854-5205	L4	4	27.15	23.53
854-5209	L8	8	27.15	23.53
854-5215	L15	15	27.15	23.53
854-5250	L50	50	29.28	25.37
854-5260	L600	600	29.28	25.37

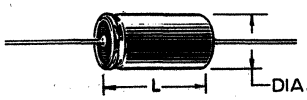
LL Pad

Stereo level control provided by two L pads in tandem. **Bushings:** 3/8″-32″ × 1″. **Shaft:** 1/4″ diameter, 1 1/2″ long. With nuts, washers, and deluxe "Level" dial plate.

15 Watt Audio (4 Watt DC)

Stock No.	Mfr.'s Type	Impedance (Ohms)	EACH 1-49	EACH 50-99
854-5308	LL8	8	50.08	43.40

Stereo Speaker Control
50 Ohm tandem dual, level control for low-priced 4- and 8-ohm stereo speakers. Rated 10 watts, audio. Supplied with nuts, washers, dial plate. **Bushing:** 3/8″-32″ × 1″. **Shaft:** 1/4″ dia. × 1 1/4″ lg.
10 Watt Audio (3 Watt DC)
852-5350. RR50. **1-49** ..... **EACH 20.86**
50-99 ..... **EACH 18.08**



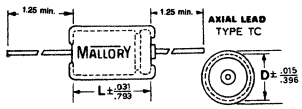
TA Miniature Aluminum Electrolytic Capacitors

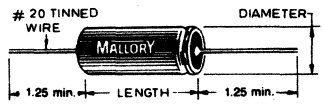
These TA miniature aluminum electrolytic capacitors from Mallory are single section metal tubulars. The TA capacitors are fitted with a rubber anode seal at one end protected by an insulating sleeve. **Specifications. Capacitance Range:** 10 μF to 10,000 μF. **Capacitance Tolerance:** ± 20%. **Operating Temperature:** – 40°C to + 85°C. (Sizes shown are bare; add .02″ to diameter and length for sleeved part).

Stock No.	Mfr.'s Type	Cap. μF	WV DC	Size (Inches) Dia. × Length	EACH 1-24	25-99	100-249
852-9506	TA470M6	470	6.3	.315 × .787	.89	.73	.54
852-9509	TA6800M6	6800	6.3	.630 × 1.575	4.49	3.65	2.70
852-9511	TA68M10	68	10	.236 × .472	.82	.66	.49
852-9512	TA100M10	100	10	.236 × .630	.82	.66	.49
852-9513	TA1000M10	1000	10	.394 × .945	1.36	1.11	.82
852-9515	TA22M16	22	16	.197 × .472	.66	.53	.40
852-9516	TA47M16	47	16	.236 × .472	.79	.64	.47
852-9517	TA100M16	100	16	.236 × .630	.82	.66	.49
852-9518	TA220M16	220	16	.315 × .630	.89	.73	.54
852-9519	TA470M16	470	16	.394 × .827	1.36	1.11	.82
852-9520	TA680M16	680	16	.394 × .945	1.36	1.11	.82
852-9521	TA1000M16	1000	16	.394 × 1.181	2.09	1.70	1.26
852-9522	TA2200M16	2200	16	.512 × 1.260	3.17	2.58	1.91
852-9523	TA4700M16	4700	16	.630 × 1.575	5.60	4.55	3.37
852-9524	TA6800M16	6800	16	.866 × 1.575	6.72	5.46	4.05
852-9525	TA10M25	10	25	.197 × .472	.66	.53	.40
852-9526	TA22M25	22	25	.236 × .472	.79	.64	.47
852-9527	TA47M25	47	25	.236 × .630	.82	.66	.49
852-9529	TA100M25	100	25	.315 × .630	.89	.73	.54
852-9530	TA330M25	330	25	.394 × .827	1.36	1.11	.82
852-9531	TA680M25	680	25	.394 × 1.181	2.09	1.70	1.26
852-9532	TA1000M25	1000	25	.512 × .945	2.49	2.03	1.50
852-9533	TA2200M25	2200	25	.630 × 1.260	4.49	3.65	2.70
852-9534	TA4700M25	4700	25	.709 × 2.087	9.22	7.49	5.55
852-9535	TA4.7M40	4.7	40	.197 × .472	.66	.53	.40
852-9536	TA10M40	10	40	.236 × .472	.79	.64	.47
852-9537	TA22M40	22	40	.236 × .630	.82	.66	.49
852-9538	TA220M40	220	40	.394 × .827	1.36	1.11	.82
852-9539	TA470M40	470	40	.394 × 1.181	2.09	1.70	1.26
852-9540	TA680M40	680	40	.512 × 1.260	2.49	2.03	1.50
852-9541	TA1000M40	1000	40	.512 × 1.417	3.17	2.58	1.91
852-9542	TA2200M40	2200	40	.630 × 1.890	5.60	4.55	3.37
852-9543	TA2.2M63	2.2	63	.197 × .472	.66	.53	.40
852-9544	TA4.7M63	4.7	63	.236 × .472	.79	.64	.47
852-9545	TA10M63	10	63	.236 × .630	.82	.66	.49
852-9546	TA33M63	33	63	.315 × .630	.89	.73	.54
852-9547	TA47M63	47	63	.315 × .630	.89	.73	.54
852-9548	TA68M63	68	63	.394 × .827	.89	.73	.54
852-9549	TA100M63	100	63	.394 × .827	1.36	1.11	.82
852-9550	TA220M63	220	63	.394 × 1.181	2.09	1.70	1.26
852-9551	TA470M63	470	63	.512 × 1.417	3.17	2.58	1.91
852-9552	TA680M63	680	63	.630 × 1.575	5.60	4.55	3.37
852-9553	TA1000M63	1000	63	.630 × 1.890	5.60	4.55	3.37
852-9554	TA2200M63	2200	63	.866 × 2.000	9.22	7.49	5.55
852-9555	TA.10M100	.1	100	.197 × .472	.66	.53	.40
852-9556	TA.22M100	.22	100	.197 × .472	.66	.53	.40
852-9557	TA.33M100	.33	100	.197 × .472	.66	.53	.40
852-9558	TA.47M100	.47	100	.197 × .472	.66	.53	.40
852-9559	TA.68M100	.68	100	.197 × .472	.66	.53	.40
852-9560	TA1M100	1	100	.197 × .472	.66	.53	.40
852-9561	TA2.2M100	2.2	100	.236 × .472	.79	.64	.47
852-9562	TA4.7M100	4.7	100	.236 × .630	.82	.67	.50
852-9563	TA6.8M100	6.8	100	.236 × 630	.82	.67	.50
852-9564	TA10M100	10	100	.315 × .630	.89	.73	.54
852-9565	TA22M100	22	100	.315 × .787	.94	.76	.57
852-9566	TA47M100	47	100	.294 × .827	1.36	1.11	.82
852-9567	TA68M100	68	100	.394 × .945	1.36	1.11	.82
852-9568	TA100M100	100	100	.394 × 1.181	2.09	1.70	1.26
852-9569	TA220M100	220	100	.512 × 1.417	3.17	2.58	1.91
852-9570	TA470M100	470	100	.630 × 1.575	5.60	4.55	3.37
852-9571	TA680M100	680	100	.709 × 1.083	6.72	5.46	4.05
852-9572	TA1000M100	1000	100	.866 × 2.008	9.22	7.49	5.55

TC Aluminum Electrolytic Capacitors

TC capacitors are single section metal tubulars with plastic insulating sleeve. Sizes are for bare unsleeved cans; add .015″ to the diameter and .062″ to the length to allow for plastic sleeve. TC capacitors have etched cathode construction and 1.25″ min. tinned leads. **Specifications. Operating Temperature:** – 20°C to + 85°C. **Tolerance:** – 10% to + 100% up to 350 WVDC, – 10% to + 50% for 450 WVDC.





Stock No.	Mfr.'s Type	Cap. μF	WV DC	Size (Inches) Dia. × Length	EACH 1-24	25-49	50-99
852-9027	TC2515	1500	25	.750 × 2.125	4.13	3.17	2.48
852-9028	TC2520	2000	25	.875 × 1.875	4.89	3.76	2.93
852-9018	TC2550	5000	25	1.000 × 2.625	7.44	5.72	4.47
852-9039	TC50100	1000	50	.875 × 2.625	4.63	3.56	2.78
852-9040	TC50200	2000	50	1.000 × 2.625	7.06	5.43	4.24
852-9042	TC50300	3000	50	1.000 × 3.625	7.44	5.72	4.47
852-9043	TC50500	5000	50	1.000 × 3.625	10.27	7.89	6.16
852-9046	TC75501	500	75	.875 × 2.125	4.38	3.37	2.63
852-9052	TC10101	100	100	.750 × 1.375	3.32	2.55	1.99
852-9055	TC10501	500	100	1.000 × 2.625	5.35	4.11	3.21
852-9066	TC492	80	150	.750 × 1.625	4.16	3.20	2.50
852-9067	TC493	100	150	.750 × 1.625	4.33	3.33	2.60
852-9068	TC495	150	150	.875 × 1.625	4.46	3.43	2.68
852-9069	TC496	200	150	.875 × 2.125	4.67	3.59	2.80
852-9070	TC499	300	150	1.000 × 2.125	5.17	3.98	3.10
852-9071	TC50X	5	250	.500 × 1.125	3.24	2.49	1.94
852-9073	TC52	10	250	.625 × 1.125	3.49	2.68	2.10
852-9076	TC55	20	250	.750 × 1.125	3.87	2.98	2.32
852-9079	TC59	50	250	.750 × 1.625	4.29	3.29	2.57
852-9080	TC1265	100	250	.875 × 2.625	4.84	3.72	2.90
852-9048	TC1267	225	250	1.000 × 3.125	5.97	4.59	3.58
852-9086	TC62	10	350	.625 × 1.375	3.83	2.94	2.30
852-9181	TC68	60	350	.875 × 2.125	4.84	3.72	2.90
852-9186	TC69	100	350	.875 × 2.625	5.38	4.13	3.23
852-9088	TC695	2	450	.625 × 1.125	3.70	2.84	2.22
852-9095	TC697	4	450	.625 × 1.125	3.83	2.94	2.30
852-9097	TC71	8	450	.750 × 1.125	4.05	3.11	2.43
852-9089	TC72	10	450	.875 × 1.375	4.13	3.17	2.48
852-9100	TC74	16	450	.750 × 1.625	4.21	3.23	2.52
852-9101	TC75	20	450	.875 × 1.625	4.33	3.33	2.60
852-9090	TC77	30	450	1.000 × 1.625	4.59	3.52	2.75
852-9103	TC78	40	450	1.000 × 2.125	4.79	3.68	2.88
852-9192	TC79	50	450	1.000 × 2.125	5.00	3.84	3.00
852-9190	TC80	80	450	1.000 × 3.125	5.89	4.52	3.53
852-9191	TC807	100	450	1.000 × 3.125	6.14	4.72	3.69
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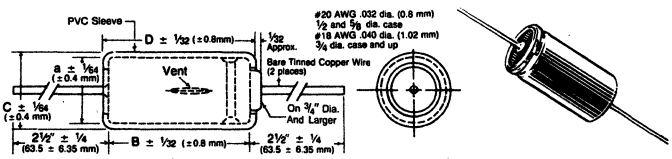
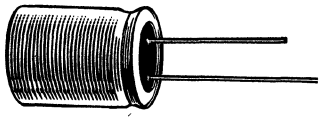
TCG Series



Long Life, Axial Leads. The TCG is a small tubular version of the Mallory Type CG capacitor. The TCG features long life and low ESR and utilizes a PVC insulating sleeve as well as a safety vent on diameters .5 inches and larger. 7th digit of part number indicates tolerance. Lead length is 1.25 inches minimum. **Specifications. Capacitance Range:** 5 to 10,000 μF. **Voltage Range:** 6 to 450 WVDC. **Capacitance Tolerance:** M = ± 20%; T = – 10%, + 50%; U = – 10%, + 75%. **Operating Temperature:** – 40°C to + 85°C.

Stock No.	Mfr.'s Type	Cap. μF	WV DC	Size (Inches) Dia. × Length	EACH 1-24	25-49	50-99
852-1200	TCG102M010D1A	1000	10	.394 × .945	1.36	.74	.67
852-1202	TCG252U010L1C	2500	10	.875 × 1.125	3.85	2.10	1.90
852-1204	TCG502U010N1G	500	10	1.000 × 1.375	4.80	2.63	2.37
852-1206	TCG103U010N2C	10000	10	1.000 × 2.125	7.62	4.17	3.77
852-1208	TCG601M015D1A	600	16	.934 × .945	1.31	.71	.64
852-1210	TCG252U015G2L	2500	16	.625 × 2.625	4.23	2.31	2.09
852-1212	TCG632U015L2L	6300	16	.875 × 2.625	6.85	3.74	3.39
852-1214	TCG103U015N2L	10000	16	1.000 × 2.625	9.56	5.23	4.73
852-1216	TCG231M025B0P	230	25	.315 × .787	1.18	.64	.59
852-1218	TCG502M025D1A	500	25	.394 × .945	1.36	.74	.67
852-1220	TCG102U025N1C	1000	25	1.000 × 1.125	3.85	2.10	1.90
852-1222	TCG222U025J2L	2200	25	.750 × 2.625	4.80	2.63	2.37
852-1224	TCG402U025L3C	4000	25	.875 × 3.125	6.85	3.74	3.39
852-1226	TCG101M050B0P	100	50	.315 × .787	3.11	1.70	1.54
852-1228	TCG501M050E1A	500	50	.512 × .945	4.02	2.20	1.99
852-1230	TCG601U050L1G	600	50	.875 × 1.375	4.23	2.31	2.09
852-1232	TCG122U050L2C	1200	50	.875 × 2.125	5.49	3.00	2.71
852-1234	TCG252U050N2L	2500	50	1.000 × 2.625	8.52	4.66	4.21
852-1236	TCG200T250E2C	20	250	.500 × 2.125	3.03	1.66	1.50
852-1238	TCG500T250L1G	50	250	.875 × 1.375	3.61	1.97	1.79
852-1240	TCG101T250L2C	100	250	.875 × 2.125	4.23	2.31	2.09
852-1242	TCG201T250N2L	200	250	1.000 × 2.625	5.49	3.00	2.71
852-1244	TCG200T350J1C	20	350	.750 × 1.125	3.61	1.97	1.79
852-1246	TCG500T350N1G	50	350	1.000 × 1.375	4.23	2.31	2.09
852-1248	TCG101T350N2C	100	350	1.000 × 2.125	5.49	3.00	2.71
852-1250	TCG181T350N3C	180	350	1.000 × 3.125	8.52	4.66	4.21
852-1252	TCG5R0T450E1L	5	450	.500 × 1.625	6.03	3.30	2.99
852-1254	TCG100T450J1C	10	450	.750 × 1.125	3.61	1.97	1.79
852-1256	TCG200T450N1C	20	450	1.000 × 1.125	3.85	2.10	1.90
852-1258	TCG500T450N2C	50	450	1.000 × 1.625	5.87	3.20	2.90
852-1260	TCG850T450N2L	85	450	1.000 × 2.625	8.52	4.66	4.21

Type VTL Miniature, Single-Ended Electrolytic Capacitors



Miniaturized aluminum electrolytic, single-ended capacitors used a newly developed, high quality aluminum foil. Maximum capacitance in low profile case size. Excellent stability over entire temperature range. – 40°C to + 85°C. **Tolerance:** ± 20%.

Stock No.	Mfr.'s Type	MFD	WV DC	Lead Space	Case Size Dia. × L (In.)	EACH 1-49	EACH 50-99
852-0551	VTL33S6	33	6.3	.079	.197 × .433	.44	.34
852-0540	VTL47S6	47	6.3	.079	.197 × .433	.44	.34
852-0541	VTL100S6	100	6.3	.098	.236 × .433	.50	.39
852-0542	VTL220S6	220	6.3	.138	.315 × .453	.61	.47
852-0543	VTL330S6	330	6.3	.197	.394 × .492	.74	.58
852-0544	VTL470S6	470	6.3	.197	.394 × .492	.75	.58
852-0545	VTL1000S6	1000	6.3	.197	.394 × .630	1.15	.89
852-0546	VTL2200S6	2200	6.3	.197	.512 × .827	1.91	1.49
852-0547	VTL3300S6	3300	6.3	.295	.512 × .827	2.51	1.96
852-0548	VTL4700S6	4700	6.3	.295	.512 × 1.023	3.20	2.49
852-0549	VTL10000S6	10000	6.3	.295	.709 × 1.457	6.16	4.79
852-0550	VTL22S10	22	10	.079	.197 × .433	.44	.34
852-0552	VTL33S10	33	10	.079	.197 × .433	.44	.34
852-0553	VTL47S10	47	10	.079	.197 × .433	.46	.36
852-0554	VTL100S10	100	10	.098	.315 × .433	.50	.39
852-0556	VTL220S10	220	10	.138	.394 × .453	.61	.47
852-0557	VTL330S10	330	10	.197	.394 × .492	.74	.58
852-0558	VTL470S10	470	10	.197	.394 × .630	.89	.69
852-0539	VTL1000S10	1000	10	.197	.394 × .630	1.47	1.14
852-0555	VTL2200S10	2200	10	.197	.512 × .826	2.34	1.82
852-0571	VTL3300S10	3300	10	.295	.630 × 1.220	3.14	2.44
852-0573	VTL4700S10	4700	10	.295	.630 × 1.063	4.07	3.17
852-0561	VTL10S16	10	16	.079	.197 × .433	.44	.34
852-0559	VTL22S16	22	16	.079	.197 × .433	.44	.34
852-0560	VTL33S16	33	16	.079	.197 × .433	.47	.36
852-0581	VTL47S16	47	16	.098	.236 × .433	.51	.40
852-0565	VTL68S16	68	16	.138	.315 × .453	.57	.44
852-0562	VTL100S16	100	16	.138	.315 × .453	.67	.52
852-0564	VTL220S16	220	16	.197	.394 × .492	.91	.71
852-0563	VTL330S16	330	16	.197	.394 × .630	.91	.71
852-0566	VTL470S16	470	16	.197	.394 × .492	1.44	1.12
852-0568	VTL1000S16	1000	16	.197	.394 × .787	1.79	1.39
852-0569	VTL2200S16	2200	16	.295	.512 × 1.024	3.09	2.40
852-0570	VTL3300S16	3300	16	.295	.630 × 1.062	4.37	3.40
852-0567	VTL4700S16	4700	16	.295	.630 × 1.497	5.26	4.09
852-0572	VTL4R7S25	4.7	25	.079	.197 × .433	.44	.34
852-0574	VTL22S25	22	25	.079	.197 × .433	.47	.37
852-0575	VTL47S25	47	25	.098	.236 × .433	.53	.41
852-0576	VTL68S25	68	25	.138	.315 × .453	.74	.58
852-0577	VTL100S25	100	25	.138	.315 × .453	.63	.49
852-0578	VTL220S25	220	25	.197	.394 × .630	.97	.75
852-0579	VTL470S25	470	25	.197	.394 × .630	1.64	1.28
852-0580	VTL1000S25	1000	25	.295	.512 × .827	2.54	1.98
852-0582	VTL4R7S35	4.7	35	.079	.197 × .433	.44	.34
852-0583	VTL10S35	10	35	.079	.197 × .433	.44	.34
852-0584	VTL22S35	22	35	.098	.236 × .433	.50	.39
852-0585	VTL33S35	33	35	.098	.236 × .433	.53	.41
852-0586	VTL47S35	47	35	.098	.315 × .433	.64	.50
852-0587	VTL100S35	100	35	.197	.394 × .492	.79	.61
852-0588	VTL220S35	220	35	.197	.394 × .630	1.19	.92
852-0589	VTL330S35	330	35	.197	.394 × .787	1.76	1.37
852-0590	VTL470S35	470	35	.197	.512 × .827	2.11	1.64
852-0591	VTL1000S35	1000	35	.295	.512 × 1.024	3.00	2.33
852-0595	VTL1S50	1	50	.079	.197 × .433	.44	.34
852-0596	VTL2R2S50	2.2	50	.079	.197 × .433	.44	.34
852-0597	VTL3R3S50	3.3	50	.079	.197 × .433	.44	.34
852-0598	VTL4R7S50	4.7	50	.079	.197 × .433	.46	.36
852-0599	VTL10S50	10	50	.079	.197 × .433	.47	.37
852-0600	VTL33S50	33	50	.138	.315 × .452	.66	.52
852-0601	VTL47S50	47	50	.138	.315 × .452	.67	.52
852-0602	VTL100S50	100	50	.197	.394 × .630	.94	.73
852-0603	VTL220S50	220	50	.197	.394 × 1.024	1.71	1.33
852-0604	VTL330S50	330	50	.197	.512 × .787	2.10	1.63
852-0605	VTL470S50	470	50	.295	.512 × .984	2.66	2.07
852-0606	VTL1000S50	1000	50	.295	.630 × 1.220	4.54	3.53
852-0607	VTL10S63	10	63	.098	.236 × .433	.54	.42
852-0608	VTL47S63	47	63	.197	.394 × .492	.79	.61
852-0609	VTL100S63	100	63	.197	.394 × .630	1.23	.96
852-0610	VTL1S100	1	100	.079	.197 × .433	.51	.40
852-0611	VTL10S100	10	100	.138	.315 × .452	.62	.48
852-0612	VTL100S100	100	100	.197	.512 × .787	2.00	1.56

Type LP Low Profile Snap-In

Aluminum electrolytic capacitors are designed for quick and easy snap-in insertion in PC board power supplies. Designed specifically for switching power supply applications. Can be utilized in other applications requiring high CV. Low ESR. High ripple capability. **Voltage:** 6.3 WVDC through 250 WVDC. **Tolerance:** ± 20%. **Operating Temperature:** – 40°C to + 105°C.

Stock No.	Mfr.'s Type	MFD	WV DC	Case Size Dia. × L (mm)	EACH 1-99	EACH 100-249	EACH 250-Up
852-3000	LP682M6R3A1P3	6800	6.3	22 × 25	3.02	2.04	1.38
852-3001	LP103M6R3C1P3	10000	6.3	25 × 25	3.69	2.50	1.69
852-3002	LP153M6R3A7P3	15000	6.3	22 × 40	3.97	2.69	1.82
852-3003	LP223M6R3C7P3	22000	6.3	25 × 40	5.10	3.46	2.33
852-3004	LP393M6R3E9P3	39000	6.3	30 × 50	7.41	5.02	3.39
852-3005	LP562M010A1P3	5600	10	22 × 25	3.02	2.04	1.38
852-3006	LP822M010C1P3	8200	10	25 × 25	3.30	2.23	1.51
852-3007	LP123M010A5P3	12000	10	22 × 35	3.66	2.48	1.67
852-3008	LP223M010C9P3	22000	10	25 × 50	5.41	3.67	2.48
852-3009	LP333M010E9P3	33000	10	30 × 50	7.41	5.02	3.39
852-3010	LP473M010H9P3	47000	10	35 × 50	8.70	5.90	3.98
852-3011	LP472M016A1P3	4700	16	22 × 25	2.98	2.02	1.37
852-3012	LP822M016A5P3	8200	16	22 × 35	3.52	2.39	1.61
852-3013	LP123M016E3P3	12000	16	30 × 30	4.75	3.22	2.18
852-3014	LP223M016E7P3	22000	16	30 × 40	6.20	4.20	2.84
852-3015	LP333M016H9P3	33000	16	35 × 50	9.57	6.49	4.38
852-3016	LP272M025C1P3	2700	25	25 × 25	3.10	2.10	1.42
852-3017	LP332M025C1P3	3300	25	25 × 25	3.38	2.29	1.55
852-3019	LP103M025C7P3	10000	25	25 × 40	4.82	3.27	2.21
852-3020	LP153M025E7P3	15000	25	30 × 40	6.48	4.39	2.96
852-3021	LP223M025H9P3	22000	25	35 × 50	9.77	6.62	4.47
852-3022	LP182M035A1P3	1800	35	22 × 25	3.07	2.08	1.40
852-3023	LP272M035C1P3	2700	35	25 × 25	3.57	2.42	1.64
852-3024	LP392M035E1P3	3900	35	30 × 25	3.97	2.69	1.82
852-3025	LP562M035E3P3	5600	35	30 × 30	4.51	3.06	2.06
852-3026	LP682M035C7P3	6800	35	25 × 40	4.82	3.27	2.21
852-3027	LP103M035E7P3	10000	35	30 × 40	6.00	4.07	2.75
852-3028	LP153M035H9P3	15000	35	35 × 50	9.80	6.64	4.49
852-3029	LP122M050A1P3	1200	50	22 × 25	2.95	2.00	1.35
852-3030	LP222M050A5P3	2200	50	22 × 35	3.61	2.44	1.65
852-3031	LP332M050C5P3	3300	50	25 × 35	4.51	3.06	2.06
852-3032	LP472M050H3P3	4700	50	35 × 30	6.16	4.18	2.82
852-3033	LP822M050H9P3	8200	50	35 × 50	9.21	6.24	4.22
852-3034	LP821M063A1P3	820	63	22 × 25	3.07	2.08	1.40
852-3035	LP122M063C1P3	1200	63	25 × 25	3.52	2.39	1.61
852-3036	LP182M063A7P3	1800	63	22 × 40	3.97	2.69	1.82
852-3037	LP222M063C7P3	2200	63	25 × 40	4.44	3.01	2.03
852-3038	LP332M063H3P3	3300	63	35 × 30	7.26	4.92	3.32
852-3039	LP472M063E9P3	4700	63	30 × 50	6.90	4.68	3.16
852-3040	LP682M063H9P3	6800	63	35 × 50	9.80	6.64	4.49
852-3042	LP181M200C1P3	180	200	25 × 25	3.66	2.48	1.67
852-3043	LP331M200E3P3	330	200	30 × 30	4.70	3.19	2.15
852-3044	LP471M200E5P3	470	200	30 × 35	6.75	4.58	3.09
852-3045	LP681M200H5P3	680	200	35 × 35	8.39	5.69	3.84
852-3046	LP102M200H9P3	1000	200	35 × 50	11.10	7.52	5.08
852-3047	LP101M250C1P3	100	250	25 × 25	3.66	2.48	1.67
852-3048	LP181M250C3P3	180	250	25 × 30	4.31	2.92	1.97
852-3049	LP271M250E3P3	270	250	30 × 30	5.66	3.83	2.59
852-3050	LP391M250H3P3	390	250	35 × 30	7.77	5.27	3.56
852-3051	LP681M250H9P3	680	250	35 × 50	12.20	8.27	5.58

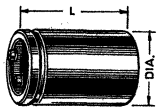
Monolithic Ceramic Capacitors

CK06

CK05

These Molded Case Monolithic Ceramic Capacitors are constructed to MIL-C-11015. Tolerance ± 10%. **Operating Temperature Range:** – 55°C to + 125°C. Capacitors are .09 ± .01" (2.29 ± .25 mm) thick; lead spacing is .2 ± .015" (5.08 ± .38 mm); lead length is 1.25" (31.75 mm) minimum. Made from ferroelectric, barium titanate material.

Stock No.	Mfr.'s Type	Cap. pF	WVDC	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
852-1121	CK05BX100K	10	200	.40	.27	.19	.17
852-1122	CK05BX120K	12	200	.40	.27	.19	.17
852-1123	CK05BX150K	15	200	.40	.27	.19	.17
852-1125	CK05BX220K	22	200	.40	.27	.19	.17
852-1129	CK05BX470K	47	200	.40	.27	.19	.17
852-1133	CK05BX101K	100	200	.40	.27	.19	.17
852-1136	CK05BX181K	180	200	.40	.27	.19	.17
852-1137	CK05BX221K	220	200	.40	.27	.19	.17
852-1138	CK05BX271K	270	200	.40	.27	.19	.17
852-1139	CK05BX331K	330	200	.40	.27	.19	.17
852-1141	CK05BX471K	470	200	.40	.27	.19	.17
852-1142	CK05BX561K	560	200	.40	.27	.19	.17
852-1143	CK05BX681K	680	200	.40	.27	.19	.17
852-1144	CK05BX821K	820	200	.40	.27	.19	.17
852-1145	CK05BX102K	1000	200	.40	.27	.19	.17
852-1147	CK05BX152K	1500	100	.40	.27	.19	.17
852-1149	CK05BX222K	2200	100	.40	.27	.19	.17
852-1150	CK05BX272K	2700	100	.40	.27	.19	.17
852-1151	CK05BX332K	3300	100	.40	.27	.19	.17
852-1153	CK05BX472K	4700	100	.40	.27	.19	.17
852-1155	CK05BX682K	6800	100	.43	.30	.21	.18
852-1156	CK05BX822K	8200	100	.43	.30	.21	.18
852-1157	CK05BX103K	10000	100	.43	.30	.21	.18
852-1161	CK05BX223K	22000	50	.52	.35	.25	.22
852-1163	CK05BX333K	33000	50	.57	.39	.28	.24
852-1165	CK05BX473K	47000	50	.57	.39	.28	.24
852-1170	CK05BX104K	100000	50	.57	.39	.28	.24
852-1194	CK06BX105K	1000000	50	3.85	2.63	1.88	1.63
852-1187	CK06BX333K	33000	100	.60	.41	.29	.25
852-1189	CK06BX473K	47000	100	.60	.41	.29	.25
852-1193	CK06BX104K	100000	100	.60	.41	.29	.25
852-1181	CK06BX822K	8200	200	.49	.34	.24	.21
852-1195	CK06BX103K	10000	200	.49	.34	.24	.21



CGS Computer Grade Capacitors

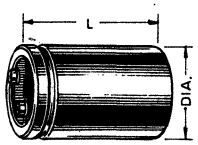
High performance computer grade capacitor. Long life expectancy available in high or low post configurations. **Operating Temperature:** – 40°C to + 85°C. Low ESR high ripple capabilities. **Voltage Range:** 10 WVDC 450 WVDC. **Tolerance:** – 10% + 75% up to 150 WVDC, – 10% + 50%, 200-450 WVDC.

Stock No.	Mfr.'s Type	MFD	WV DC	Case Size (In.) Dia. × L	EACH 1-24	EACH 25-49	EACH 50-99
857-0200	CGS123U010R2C	12000	10	1 3/8 × 2 1/8	5.83	5.34	4.86
857-0202	CGS203U010R2L	20000	10	1 3/8 × 2 5/8	5.89	5.40	4.91
857-0204	CGS263U010R3C	26000	10	1 3/8 × 3 1/8	6.24	5.71	5.20
857-0206	CGS303U010V2C	30000	10	2 × 2 1/8	6.36	5.83	5.30
857-0208	CGS443U010V2C	44000	10	2 × 2 1/8	7.99	7.31	6.66
857-0210	CGS114U010W3L	110000	10	2 1/2 × 3 5/8	19.69	18.04	16.40
857-0212	CGS144U010V5L	140000	10	2 × 5 5/8	16.71	15.31	13.93
857-0048	CGS552U016R2C	5500	16	1 3/8 × 2 1/8	4.10	3.28	2.79
857-0050	CGS103U016R3C	10000	16	1 3/8 × 3 1/8	4.55	3.64	3.09
857-0051	CGS153U016R2L	15000	16	1 3/8 × 2 5/8	5.10	4.08	3.47
857-0052	CGS173U016R3C	17000	16	1 3/8 × 3 1/8	5.20	4.16	3.54
857-0214	CGS193U016R3C	19000	16	1 3/8 × 3 1/8	5.83	5.34	4.86
857-0053	CGS233U016V3C	23000	16	2 × 3 1/8	6.73	6.17	5.61
857-0054	CGS253U016V2C	25000	16	2 × 2 1/8	6.70	6.14	5.59
857-0055	CGS343U016R4C	34000	16	1 3/8 × 4 1/8	7.26	6.64	6.04
857-0056	CGS383U016V3C	38000	16	2 × 3 1/8	7.90	7.24	6.59
857-0216	CGS553U016V3L	55000	16	2 × 3 5/8	11.07	10.14	9.23
857-0218	CGS663U016V4C	66000	16	2 × 4 1/8	12.10	11.09	10.09
857-0058	CGS703U016V4C	70000	16	2 × 4 1/8	12.51	11.47	10.43
857-0059	CGS803U016X4C	80000	16	3 × 4 1/8	19.54	17.91	16.29
857-0220	CGS104U016X5C	100000	16	3 × 5 1/8	24.59	22.54	20.49
857-0060	CGS114U016W4C	110000	16	2 1/2 × 4 1/8	22.67	20.79	18.90
857-0110	CGS124U016X3L	120000	16	3 × 3 5/8	26.66	24.44	22.21
857-0222	CGS184U016X4L	180000	16	3 × 4 5/8	37.17	34.09	30.99
857-0224	CGS214U016X5R	210000	16	3 × 5 7/8	41.84	38.36	34.87
857-0005	CGS472U025R2C	4700	25	1 3/8 × 2 1/8	5.43	4.97	4.51
857-0006	CGS562U025R3C	5600	25	1 3/8 × 3 1/8	5.70	5.21	4.74
857-0061	CGS822U025R4C	8200	25	1 3/8 × 4 1/8	6.33	5.80	5.27
857-0007	CGS892U025R3C	8900	25	1 3/8 × 3 1/8	7.00	6.41	5.84
857-0226	CGS103U025R3C	10000	25	1 3/8 × 3 1/8	6.57	6.03	5.47
857-0008	CGS123U025V3C	12000	25	2 × 3 1/8	7.90	7.24	6.59
857-0228	CGS143U025V2C	14000	25	2 × 2 1/8	8.86	8.11	7.39
857-0230	CGS163U025R4C	16000	25	1 3/8 × 4 1/8	7.87	7.21	6.56
857-0010	CGS203U025V3C	20000	25	2 × 3 1/8	9.24	8.47	7.70
857-0065	CGS283U025V3C	28000	25	2 × 3 1/8	11.64	10.67	9.70
857-0232	CGS303U025W3C	30000	25	2 1/2 × 3 1/8	15.01	13.77	12.51
857-0066	CGS323U025V4C	32000	25	2 × 4 1/8	11.74	10.77	9.79
857-0067	CGS433U025X4C	43000	25	3 × 4 1/8	20.53	18.81	17.10
857-0234	CGS503U025W3L	50000	25	2 1/2 × 3 5/8	21.13	19.36	17.60
857-0068	CGS573U025X5C	57000	25	3 × 5 1/8	25.24	23.14	21.03
857-0236	CGS653U025W4C	65000	25	2 1/2 × 4 1/8	24.01	22.01	20.01
857-0238	CGS703U025X4C	70000	25	3 × 4 1/8	30.34	27.81	25.29
857-0240	CGS953U025X4C	95000	25	3 × 4 1/8	36.06	33.06	30.06
857-0242	CGS114U025X5C	110000	25	3 × 5 1/8	39.99	36.66	33.33
857-0244	CGS204U025X8L	200000	25	3 × 8 5/8	75.47	69.19	62.90
857-0070	CGS123U030R4C	12000	30	1 3/8 × 4 1/8	7.33	6.71	6.11
857-0072	CGS303U030V4C	30000	30	2 × 4 5/8	12.04	11.04	10.04
857-0012	CGS222U040R2C	2200	40	1 3/8 × 2 1/8	5.07	4.64	4.23
857-0047	CGS272U040R2C	2700	40	1 3/8 × 2 1/8	5.26	4.83	4.39
857-0080	CGS352U040R2C	3500	40	1 3/8 × 2 1/8	5.50	5.04	4.59
857-0013	CGS422U040R3C	4200	40	1 3/8 × 3 1/8	5.83	5.34	4.86
857-0014	CGS512U040R3C	5100	40	1 3/8 × 3 1/8	6.13	5.63	5.11

Stock No.	Mfr.'s Type	MFD	WV DC	Case Size (In.) Dia. × L	EACH 1-24	EACH 25-49	EACH 50-99
857-0073	CGS602U040R3C	6000	40	1 3/8 × 3 1/8	6.40	5.87	5.34
857-0074	CGS622U040R4C	6200	40	1 3/8 × 4 1/8	6.57	6.03	5.47
857-0075	CGS752U040R4C	7500	40	1 3/8 × 4 1/8	7.00	6.41	5.84
857-0076	CGS932U040V3C	9300	40	2 × 3 1/8	8.13	7.44	6.77
857-0015	CGS113U040V3C	11000	40	2 × 3 1/8	8.70	7.97	7.24
857-0077	CGS133U040V4C	13000	40	2 × 4 1/8	9.34	8.57	7.79
857-0016	CGS173U040V4C	17000	40	2 × 4 1/8	10.77	9.87	8.97
857-0078	CGS203U040V5L	20000	40	2 × 5 5/8	11.89	10.90	9.90
857-0036	CGS403U040W4C	40000	40	2 1/2 × 4 1/8	24.76	22.69	20.63
857-0081	CGS162U050R2C	1600	50	1 3/8 × 2 1/8	4.71	4.33	3.93
857-0017	CGS222U050R2C	2200	50	1 3/8 × 2 1/8	4.93	4.53	4.11
857-0083	CGS292U050R3C	2900	50	1 3/8 × 3 1/8	5.26	4.83	4.39
857-0018	CGS412U050R3C	4100	50	1 3/8 × 3 1/8	5.73	5.24	4.77
857-0084	CGS492U050R3L	4900	50	1 3/8 × 3 5/8	6.13	5.63	5.11
857-0020	CGS612U050R4C	6100	50	1 3/8 × 4 1/8	9.09	7.27	6.17
857-0086	CGS652U050V3C	6500	50	2 × 3 1/8	7.74	7.10	6.46
857-0021	CGS962U050V4C	9600	50	2 × 4 1/8	8.83	8.10	7.36
857-0087	CGS123U050R5L	12000	50	1 3/8 × 5 5/8	8.89	8.14	7.40
857-0088	CGS153U050V4C	15000	50	2 × 4 1/8	10.44	9.57	8.70
857-0089	CGS152U075R3C	1500	75	1 3/8 × 3 1/8	6.03	5.53	5.01
857-0038	CGS212U075R3C	2100	75	1 3/8 × 3 1/8	6.51	5.97	5.43
857-0091	CGS292U075R3C	2900	75	1 3/8 × 3 1/8	7.11	6.53	5.93
857-0092	CGS422U075R4C	4200	75	1 3/8 × 4 1/8	7.90	7.24	6.59
857-0023	CGS482U075V3C	4800	75	2 × 3 1/8	9.33	8.54	7.77
857-0094	CGS712U075V4C	7100	75	2 × 4 1/8	11.23	10.30	9.36
857-0246	CGS851U100R2C	850	100	1 3/8 × 2 1/8	5.26	4.83	4.39
857-0095	CGS122U100R3C	1200	100	1 3/8 × 3 1/8	5.91	5.43	4.93
857-0096	CGS172U100R3C	1700	100	1 3/8 × 3 1/8	6.63	6.07	5.51
857-0250	CGS242U100R4C	2400	100	1 3/8 × 4 1/8	7.74	7.10	6.46
857-0024	CGS402U100V4C	4000	100	2 × 4 1/8	10.81	9.91	9.01
857-0252	CGS902U100V5L	9000	100	2 × 5 5/8	19.33	17.71	16.10
857-0254	CGS153U100X4C	15000	100	3 × 4 1/8	38.49	35.29	32.07
857-0256	CGS213U100X5L	21000	100	3 × 5 5/8	50.80	46.57	42.34
857-0258	CGS333U100X8L	33000	100	3 × 8 5/8	74.66	68.43	62.21
857-0098	CGS401U150R2C	400	150	1 1/8 × 2 1/8	6.54	6.00	5.46
857-0099	CGS112U150R4C	1100	150	1 3/8 × 4 1/8	9.07	8.31	7.57
857-0100	CGS352U150V5L	3500	150	2 × 5 5/8	18.23	16.71	15.20
857-0101	CGS572U150X4C	5700	150	3 × 4 1/8	35.36	32.40	29.46
857-0102	CGS591T200R3C	590	200	1 3/8 × 3 1/8	6.96	6.37	5.79
857-0103	CGS102T200R4C	1000	200	1 3/8 × 4 1/8	9.19	8.41	7.66
857-0042	CGS201T250R2C	200	250	1 3/8 × 2 1/8	5.70	5.21	4.74
857-0028	CGS551T250R4C	550	250	1 3/8 × 4 1/8	7.93	7.27	6.61
857-0030	CGS122T250V3C	1200	250	2 × 3 1/8	12.64	11.59	10.54
857-0106	CGS381T350R4C	380	350	1 3/8 × 4 1/8	9.63	8.81	8.01
857-0107	CGS101T450R2C	100	450	1 3/8 × 2 1/8	6.33	5.80	5.27
857-0260	CGS211T450R4C	210	450	1 3/8 × 4 1/8	8.31	7.61	6.93
857-0108	CGS321T450V3C	320	450	2 × 3 1/8	10.57	9.70	8.81
857-0109	CGS481T450V4C	480	450	2 × 4 1/8	13.17	12.07	10.97
857-0262	CGS801T450V4L	800	450	2 × 4 5/8	18.40	16.87	15.33
857-0264	CGS102T450W4C	1000	450	2 1/2 × 4 1/8	27.50	25.21	22.91
857-0266	CGS142T450W5C	1400	450	2 1/2 × 5 1/8	35.43	32.49	29.53
857-0268	CGS202T450X5C	2000	450	3 × 5 1/8	46.77	42.87	38.99

CGR Computer Grade Capacitors

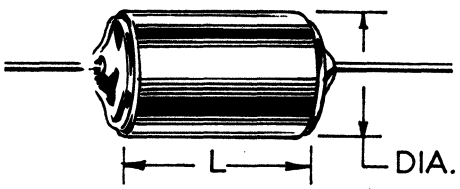
Low ESR high ripple current power supply filtering capacitor. Low DC leakage current plus high ripple capability over broad temperature and frequency ranges. The CGR has been successfully utilized as an output capacitor in high frequency switching regulated power suplies. Operating Temperature: – 55° to + 85°C. Tolerance: – 10% to 75% up through 50 V and – 10% + 50% 75 through 100 V.



Stock No.	Mfr.'s Type	Cap. Mfg.	WV DC	Case Size (In.) D × L	EACH 1-24	EACH 25-49	EACH 50-99
852-0509	CGR343U7R5U3C	34000	7.5	1 3/4 × 3 1/8	14.86	14.09	9.53
852-0500	CGR473U7R5V3C	47000	7.5	2 × 3 1/8	17.71	16.81	11.36
852-0510	CGR663U7R5V4C	66000	7.5	2 × 4 1/8	20.90	19.83	13.40
852-0512	CGR123U012R2L	12000	12	1 3/8 × 2 5/8	9.30	8.83	5.96
852-0515	CGR772U016R2C	7700	16	1 3/8 × 2 1/8	8.86	8.40	5.69
852-0516	CGR113U016R2L	11000	16	1 3/8 × 2 5/8	9.77	9.27	6.27
852-0517	CGR163U016U2L	16000	16	1 3/4 × 2 5/8	14.47	13.73	9.27
852-0501	CGR303U016V3C	30000	16	2 × 3 1/8	17.71	16.81	11.36
852-0518	CGR462U020R2C	4600	20	1 3/8 × 2 1/8	8.80	8.34	5.64
852-0519	CGR103U020R3L	10000	20	1 3/8 × 3 5/8	12.51	11.87	8.03
852-0520	CGR213U020V3L	21000	20	2 × 3 5/8	17.71	16.81	11.36
852-0521	CGR492U030U2C	4900	30	1 3/4 × 2 1/8	10.19	9.67	6.53
852-0504	CGR103U030R4L	10000	30	1 3/8 × 4 5/8	14.47	13.73	9.27
852-0522	CGR153U030V3L	15000	30	2 × 3 5/8	17.71	16.81	11.36

Stock No.	Mfr.'s Type	Cap. Mfg.	WV DC	Case Size (In.) D × L	EACH 1-24	EACH 25-49	EACH 50-99
852-0523	CGR303U030W4C	30000	30	2 1/2 × 4 1/8	29.83	28.30	19.11
852-0524	CGR212U040R2C	2100	40	1 3/8 × 2 1/8	8.39	7.96	5.37
852-0525	CGR392U040R3C	3900	40	1 3/8 × 3 1/8	9.77	9.27	6.27
852-0526	CGR562U040R4C	5600	50	1 3/8 × 4 1/8	11.70	11.10	7.50
852-0505	CGR962U040V3L	9600	40	2 × 3 5/8	16.50	15.66	10.59
852-0527	CGR152U050R2C	1500	50	1 3/8 × 2 1/8	8.39	7.96	5.37
852-0528	CGR292U050R3C	2900	50	1 3/8 × 3 1/8	9.77	9.27	6.27
852-0529	CGR622U050R5L	6200	50	1 3/8 × 5 5/8	14.26	13.53	9.14
852-0530	CGR103U050V4C	10000	50	2 × 4 1/8	18.79	17.81	12.04
852-0531	CGR213U050W4L	21000	50	2 1/2 × 4 5/8	30.41	28.86	19.50
852-0532	CGR122T075R2L	1200	75	1 3/8 × 2 5/8	10.46	9.91	6.70
852-0533	CGR182T075R3L	1800	75	1 3/8 × 3 5/8	13.50	12.80	8.66
852-0534	CGR312T075V2L	3100	75	2 × 2 5/8	17.66	16.76	11.31
852-0537	CGR452T100W4L	4500	100	2 1/2 × 4 5/8	39.69	37.66	25.44

Polystyrene Film Capacitors



WORKING VOLTAGE. SX Types: rated voltage at +40°C, 630 WVDC; rated voltage at +85°C, 500 WVDC. **SXK Types:** rated voltage at +40°C, 33 WVDC; at +85°C, 25 WVDC. **SXL Types:** rated voltage at +40°C, 63 WVDC; at +85°C, 50 WVDC. **SXM Types:** rated voltage at +40°C, 160 WVDC; at +85°C, 125 WVDC.

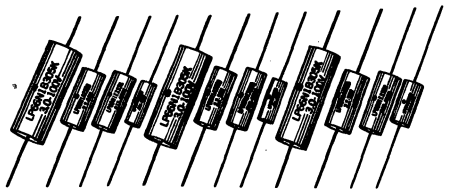
SX types are manufactured from a unique form of stretched and fused polystyrene to provide the ultimate in temperature stability and humidity protection. Can be used to replace mica, film, paper and ceramic types in most applications. **Insulation Resistance:** SXK and SXL types greater than 100 megohms; SXM and SX types greater than 100,000 megohms. **Power Factor:** Less than .05%. **Dielectric Absorption:** Less than .02%. **Temperature Coefficient:** 33 WVDC, −125 PPM/°C ±75 PPM/°C; 63, 160 and 250 WVDC, (<500 pF) −175 ±75 PPM/°C; (>500 pF) −125 ±75 PPM/°C. **Temperature Range:** −40°C to +85°C; for best operating stability, −25°C to +70°C. **Capacity Tolerance:** SX types, ±5%, SXK, SXL and SXM types, ±2.5%. **Inductance:** Between 10 and 30 nH dependent on length of capacitor body, additional inductance for the leads of about 10 nH/cm depending on the lead diameter. **Leads:** Tinned copper wire; the lead closest to the color band indicating the working voltage is connected to outer foil. Lead length is 1.18″ minimum. Lead diameter is shown in table.

Stock No.	Mfr.'s Type	Cap. pF	Max. Size, In. Dia. × Lg.	Lead Dia. In.*	EACH 1-24	25-99	100-499	500-999
852-0080	SXK333	330	.134 × .315	.012	.55	.37	.31	.27
852-0081	SXK210	1000	.161 × .315	.012	.61	.40	.34	.30
852-0082	SXK222	2200	.173 × .473	.016	.78	.51	.43	.38
852-0083	SXK233	3300	.205 × .473	.016	.82	.54	.45	.40
852-0084	SXK110	10000	.272 × .670	.020	.93	.61	.51	.46
852-0085	SXK122	22000	.386 × .670	.020	.85	.56	.47	.42
852-0086	SXK127	27000	.421 × .670	.020	.92	.60	.50	.45
852-0087	SXK147	47000	.480 × .867	.020	1.40	.92	.77	.69
852-0088	SXK010	100000	.670 × .867	.020	1.42	.94	.78	.70
852-0089	SXL210	1000	.173 × .473	.016	.62	.41	.34	.30
852-0090	SXL110	10000	.319 × .670	.020	.84	.55	.46	.41
852-0092	SXL115	15000	.323 × .867	.020	1.12	.74	.62	.55
852-0096	SXM330	300	.185 × .315	.012	.47	.31	.26	.23
852-0097	SXM333	330	.189 × .315	.012	.47	.31	.26	.23
852-0098	SXM339	390	.201 × .315	.012	.47	.31	.26	.23
852-0100	SXM347	470	.209 × .315	.012	.47	.31	.26	.23
852-0101	SXM210	1000	.244 × .473	.016	.68	.45	.38	.34
852-0102	SXM218	1800	.280 × .473	.016	.63	.42	.35	.31
852-0103	SXM220	2000	.285 × .473	.016	.63	.42	.35	.31
852-0104	SXM222	2200	.228 × .670	.020	.70	.46	.38	.34
852-0105	SXM230	3000	.268 × .670	.020	.70	.46	.38	.34
852-0106	SXM247	4700	.335 × .670	.020	.79	.52	.43	.39
852-0107	SXM256	5600	.315 × .867	.020	1.12	.74	.62	.55
852-0108	SXM275	7500	.346 × .867	.020	1.12	.74	.62	.55
852-0110	SXM110	10000	.382 × .867	.020	1.06	.70	.59	.53
852-0010	SX420	20	.173 × .473	.016	1.42	.94	.78	.70
852-0012	SX422	22	.173 × .473	.016	1.42	.94	.78	.70
852-0015	SX433	33	.173 × .473	.016	1.42	.94	.78	.70
852-0019	SX447	47	.185 × .473	.016	1.42	.94	.78	.70
852-0020	SX456	56	.189 × .473	.016	1.42	.94	.78	.70
852-0021	SX475	75	.195 × .473	.016	1.16	.77	.64	.57
852-0026	SX310	100	.201 × .473	.016	1.10	.72	.61	.54
852-0030	SX315	150	.209 × .473	.016	.83	.55	.46	.41
852-0033	SX320	200	.217 × .473	.016	.83	.55	.46	.41
852-0034	SX322	220	.220 × .473	.016	.83	.55	.46	.41
852-0036	SX327	270	.224 × .473	.016	.67	.44	.37	.33
852-0037	SX330	300	.226 × .473	.016	.67	.44	.37	.33
852-0038	SX333	330	.228 × .473	.016	.67	.44	.37	.33
852-0040	SX339	390	.236 × .473	.016	.67	.44	.37	.33
852-0042	SX347	470	.248 × .473	.016	.63	.42	.35	.31
852-0043	SX351	510	.214 × .670	.020	.65	.43	.36	.32
852-0044	SX356	560	.217 × .670	.020	.79	.52	.43	.39
852-0046	SX368	680	.232 × .670	.020	.83	.55	.46	.41
852-0050	SX210	1000	.264 × .670	.020	.80	.53	.44	.39
852-0052	SX212	1200	.283 × .670	.020	.71	.47	.39	.35
852-0054	SX215	1500	.299 × .670	.020	.74	.49	.41	.37
852-0056	SX218	1800	.319 × .670	.020	.74	.49	.41	.37
852-0057	SX220	2000	.329 × .670	.020	.71	.47	.39	.35
852-0058	SX222	2200	.339 × .670	.020	.74	.49	.41	.37
852-0062	SX230	3000	.366 × .670	.020	.74	.49	.41	.37
852-0063	SX233	3300	.378 × .867	.020	1.27	.83	.70	.63
852-0067	SX247	4700	.425 × .867	.020	1.13	.74	.62	.56
852-0068	SX250	5000	.445 × .867	.020	1.17	.77	.65	.58
852-0072	SX268	6800	.480 × .867	.020	1.48	.97	.82	.73
852-0076	SX110	10000	.555 × .867	.020	1.68	1.10	.92	.83

* ±.002″

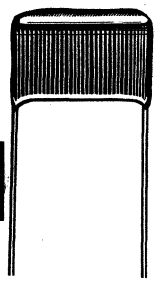
Metallized Polycarbonate

The Series LP66N is an axial leaded metallized polycarbonate capacitor with a flame retardant polyester outer wrap and epoxy endseals. **Temperature Range:** −55°C to +125°C without voltage derating. Series LP66N is commonly used for applications in military and aerospace equipment, in computer systems, industrial control apparatus, radio communications systems, etc. **HIGHLIGHTS. Capacitance:** .01 μF to 10 μF (other cap values available on special order). **Voltage:** 50 V, 100 V, 200 V. **Tolerance:** ±5%, ±10% (other tolerances available on special order).



Stock No.	Mfr.'s Type	Cap. μF	WVDC	Tolerance	EACH 1-24	25-99	100-249	250-499
852-0200	LP66N1A103J	.010	50	5%	3.26	3.03	2.93	2.75
852-0202	LP66N1A104J	.100	50	5%	3.54	3.29	3.18	2.98
852-0204	LP66N1A334J	.330	50	5%	3.85	3.57	3.46	3.25
852-0206	LP66N1A474K	.470	50	10%	3.49	3.24	3.15	2.94
852-0208	LP66N1A564J	.560	50	5%	4.35	4.04	3.92	3.66
852-0210	LP66N1A105K	1.000	50	10%	4.20	3.90	3.78	3.54
852-0212	LP66N1A106K	10.000	50	10%	14.26	13.24	12.83	12.02
852-0214	LP66N1B684J	.680	100	5%	4.46	4.14	4.01	3.77
852-0216	LP66N1B105K	1.000	100	10%	3.97	3.69	3.57	3.34
852-0218	LP66N1B305J	3.000	100	10%	5.83	5.41	5.25	4.91
852-0220	LP66N1C563J	.056	200	5%	2.72	2.53	2.44	2.29
852-0222	LP66N1C104J	.100	200	5%	3.49	3.24	3.15	2.94
852-0224	LP66N1C154J	.150	200	5%	3.89	3.61	3.50	3.28
852-0226	LP66N1C334J	.330	200	5%	4.35	4.04	3.92	3.66
852-0228	LP66N1C394J	.390	200	5%	4.46	4.14	4.01	3.77

Type M60 Multilayer Ceramic Capacitors



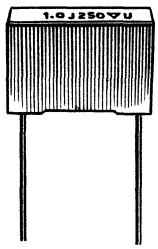
Mallory now offers a new type of Multilayer Ceramic Capacitor. The M60 Series has a very high volumetric efficiency and excellent performance. Newly developed niobium oxide base Y5U (or X7V) dielectric material has twice as high dielectric constant compared to conventional dielectrics.

Features
- ► Highest CV value in compact size
- ► Excellent capacitance stability
- ► Small DC Bias voltage dependency
- ► Ultra high insulation resistance at high temperature

Application
- ► Surge Suppressor for ICs
- ► Filtering for switching power supplies
- ► By-Pass decoupling
- ► Small size electronic equipment

Stock No.	Mfr.'s Type	MFDS	Volt DC	Max. Width	Max. Height	Max Thick	Lead Spacing	Lead Dia.	EACH 1-49	EACH 50-99
852-2200	M60U1M25	1.00	25	.197	.177	.138	.197	.020	1.62	.84
852-2201	M60U1R5M25	1.50	25	.248	.197	.157	.197	.020	2.15	1.11
852-2202	M60U2R2M25	2.20	25	.248	.197	.157	.197	.020	2.74	1.42
852-2203	M60U3R3M25	3.30	25	.295	.295	.157	.197	.020	3.48	1.80
852-2204	M60U4R7M25	4.70	25	.295	.295	.157	.197	.020	4.55	2.36
852-2205	M60U6R8M25	6.80	25	.394	.394	.197	.197	.020	6.22	3.21
852-2206	M60U10M25	10.0	25	.394	.394	.197	.197	.020	8.86	4.57
852-2207	M60U15M25	15.00	25	.500	.472	.197	.394	.024	13.55	7.00
852-2208	M60U22M25	22.00	25	.500	.472	.197	.394	.024	21.18	10.96
852-2209	M60U33M25	33.00	25	.866	.591	.295	.787	.031	40.26	20.81
852-2210	M60U47M25	47.00	25	.866	.591	.295	.787	.031	53.32	27.57
852-2211	M60U68M25	68.00	25	1.102	.591	.295	.984	.031	68.15	35.23
852-2212	M60U100M25	100.00	25	1.102	.591	.295	.984	.031	89.58	46.30
852-2213	M60U4R7M50	4.70	50	.394	.394	.197	.197	.020	5.23	2.70
852-2214	M60U6R8M50	6.80	50	.394	.394	.197	.197	.020	7.63	3.94
852-2215	M60U10M50	10.00	50	.500	.472	.197	.394	.024	11.25	5.81
852-2216	M60U15M50	15.00	50	.500	.472	.197	.394	.024	17.62	9.10
852-2217	M60U22M50	22.00	50	.866	.591	.295	.787	.031	31.75	16.41
852-2218	M60U33M50	33.00	50	.866	.591	.295	.787	.031	53.32	27.57
852-2219	M60U47M50	47.00	50	1.102	.591	.295	.984	.031	70.45	36.40
852-2220	M60U68M50	68.00	50	1.102	.591	.295	.984	.031	86.54	44.73
852-2221	M60U2R2M100	2.20	100	.394	.394	.197	.197	.020	4.60	2.37
852-2222	M60U3R3M100	3.30	100	.394	.394	.197	.197	.020	6.85	3.54
852-2223	M60U4R7M100	4.70	100	.500	.472	.197	.394	.024	9.45	4.89
852-2224	M60U6R8M100	6.80	100	.500	.472	.197	.394	.024	13.89	7.19
852-2225	M60U10M100	10.00	100	.866	.591	.295	.787	.031	40.26	20.81
852-2226	M60U15M100	15.00	100	.866	.591	.295	.787	.031	48.29	24.96
852-2227	M60U22M100	22.00	100	1.102	.591	.295	.984	.031	65.42	33.81
852-2228	M60U33M100	33.00	100	1.102	.591	.295	.984	.031	84.58	43.73
852-2229	M60UR10M250	.10	250	.197	.177	.138	.197	.020	1.91	.99
852-2230	M60UR15M250	.15	250	.248	.197	.157	.197	.020	2.25	1.16
852-2231	M60UR22M250	.22	250	.295	.295	.157	.197	.020	2.60	1.34
852-2232	M60UR33M250	.33	250	.295	.295	.157	.197	.020	3.28	1.70
852-2233	M60UR47M250	.47	250	.394	.394	.197	.197	.020	4.55	2.36
852-2234	M60UR68M250	.68	250	.394	.394	.197	.197	.020	6.02	3.11
852-2235	M60U1M250	1.00	250	.500	.472	.197	.394	.024	8.51	4.40
852-2236	M60U1R5M250	1.50	250	.500	.472	.197	.394	.024	12.08	6.24
852-2237	M60U2R2M250	2.20	250	.866	.591	.295	.787	.031	35.23	18.21
852-2238	M60U3R3M250	3.30	250	.866	.591	.295	.787	.031	42.26	21.84
852-2239	M60U4R7M250	4.70	250	1.102	.591	.295	.984	.031	54.35	28.10
852-2240	M60U6R8M250	6.80	250	1.102	.591	.295	.984	.031	67.46	34.87

Series 160 Metallized Polyester

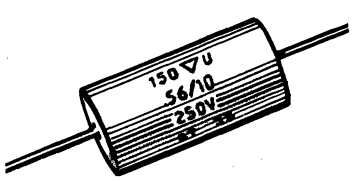


The Series 160 is a radial leaded, metallized polyester capacitor, non-inductively wound that is housed in flame retardant preformed case with epoxy fill. Operating temperature is −55°C to 125°C with voltage derating above 85°C.

Highlights
- ► Capacitance: .001 μF to 4.7 μF (Other cap values available on special order)
- ► Voltage: 160 V, 250 V, 400 V, 630 V, 1000 V
- ► Temperature: −55°C to +125°C (With voltage derating above +85°C)

Stock No.	Mfr.'s Type	CAP	WVDC	Tol %	Length	Thick	Height	Lead Spacing	EACH 1-99	EACH 100-499
852-0900	160104K100C	.1000	100	10	.512	.157	.354	.394	.21	.17
852-0902	160154K100C	.1500	100	10	.512	.157	.354	.394	.22	.17
852-0904	160224K100D	.2200	100	10	.512	.197	.433	.394	.23	.18
852-0906	160334K100E	.3300	100	10	.512	.236	.472	.394	.29	.22
852-0908	160474K100F	.4700	100	10	.709	.197	.433	.591	.42	.33
852-0910	160105K100H	1.000	100	10	.709	.295	.531	.591	.62	.49
852-0912	160475K100P	4.700	100	10	1.260	.433	.787	1.080	1.83	1.43
852-0914	160333K250C	.0330	250	10	.512	.157	.354	.394	.19	.15
852-0916	160473K250C	.0470	250	10	.512	.157	.354	.394	.20	.16
852-0918	160683K250C	.0680	250	10	.512	.157	.354	.394	.20	.16
852-0920	160224K250F	.2200	250	10	.709	.197	.433	.591	.30	.24
852-0922	160474K250H	.4700	250	10	.709	.295	.531	.591	.45	.35
852-0925	160105K250N	1.0000	250	10	1.040	.335	.669	.886	.82	.64
852-0926	160105J250N	1.0000	250	5	1.040	.335	.669	.886	.86	.67
852-0928	160155K250O	1.5000	250	10	1.040	.394	.748	.886	.91	.72
852-0930	160225K250P	2.2000	250	10	1.260	.433	.787	1.080	1.28	1.00
852-0932	160153K400C	.0150	400	10	.512	.157	.354	.394	.19	.15
852-0934	160223K400C	.0220	400	10	.512	.157	.354	.394	.19	.15
852-0936	160473K400E	.0470	400	10	.709	.236	.472	.394	.26	.20
852-0938	160104K400G	.1000	400	10	.709	.236	.472	.591	.33	.26
852-0940	160224K400L	.2200	400	10	1.040	.433	.591	.886	.51	.40
852-0944	160472K630C	.0047	630	10	.512	.157	.354	.394	.22	.17
852-0946	160103K630C	.0100	630	10	.512	.157	.354	.394	.20	.16
852-0950	160473K630G	.0470	630	10	.709	.236	.472	.591	.36	.28
852-0952	160104K630L	.1000	630	10	1.040	.236	.591	.886	.49	.39
852-0954	160102K1000C	.0010	1000	10	.512	.157	.354	.394	.20	.16
852-0956	160222K1000C	.0022	1000	10	.512	.157	.354	.394	.21	.17
852-0960	160103K1000F	.0100	1000	10	.709	.197	.433	.591	.26	.21
852-0962	160223K1000H	.0220	1000	10	.709	.295	.531	.591	.40	.32

Series 150 Metallized Polyester

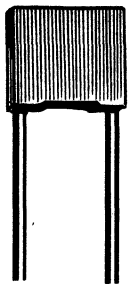


The 150 Series is an axial lead, metallized polyester capacitor, non-inductively wound, that is tape wrapped with epoxy end sealed. Temperature range is −55°C to 125°C with voltage derating above 85°C. Suggested applications are blocking, bypass, decoupling, smoothing, timing and tuning.

Highlights
- ► Capacitance: .001 μF to 3.3 μF (Other cap values available on special order)
- ► Voltage: 100 V, 250 V, 400 V and 630 V
- ► Temperature: −55°C to +125°C (With voltage derating above +85°C)

Stock No.	Mfr.'s Type	CAP	WVDC	Dia.	Length	Tol. %	EACH 1-99	EACH 100-499
852-0850	150104K100BA	.1000	100	.197	.433	10	.41	.35
852-0851	150224K100CB	.2200	100	.256	.650	5	.49	.42
852-0852	150334K100EB	.3300	100	.315	.650	5	.55	.47
852-0854	150474K100DC	.4700	100	.276	.807	5	.64	.55
852-0855	150105K100IC	1.0000	100	.394	.807	10	.91	.78
852-0860	150333K250AA	.0330	250	.197	.433	5	.38	.33
852-0862	150473K250AA	.0470	250	.197	.433	10	.38	.33
852-0864	150104K250CB	.1000	250	.256	.650	5	.43	.37
852-0866	150474K250HC	.4700	250	.374	.807	5	.69	.59
852-0868	150105K250JE	1.0000	250	.413	1.102	5	.91	.78
852-0869	150103K400AA	.0100	400	.197	.433	10	.36	.31
852-0872	150104K400EC	.1000	400	.315	.807	5	.54	.46
852-0874	150102K630AA	.0010	630	.197	.433	5	.40	.35
852-0877	150472K630AA	.0047	630	.197	.433	10	.44	.38

Series 158X Metallized Polyester Suppressor

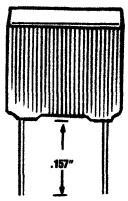


The Series 158X is a radial leaded metallized polyester, AC line suppression capacitor, housed in a flame-retardant pre-molded plastic case with epoxy resin fill. Temperature range is −55°C to 125°C with voltage derating above 85°C. Capacitors range from .047 μF to 1.0 μF. Lead configuration long 1.18″. Suggested applications are energy storage, filtering, pulse discharge, discrimination, and suppression.

Highlights
- **Capacitance: .01 μF to 1.0 μF (Other cap values available on special order)**
- **Voltage: 250 VAC**
- **Temperature: −55°C to +125°C (With voltage derating above +85°C)**
- **International agency approvals**
- **Short leads available as special order item. Add "S" to part number**

Stock No.	Mfr.'s Type	Cap. MFD	VAC 60 Hz	Tol. %	Dimensions (Inch)			Lead Spacing	EACH	
					Length	Thick	Height		1-99	100-499
852-0472	158473M250G	.047	250	20	.714	.241	.477	.590	.49	.39
852-0474	158104K250I	.100	250	10	.714	.340	.576	.590	.74	.59
852-0475	158104M250I	.100	250	20	.714	.340	.576	.590	.71	.56
852-0478	158224M250O	.220	250	20	1.048	.399	.733	.886	1.23	.99
852-0480	158474M250Q	.470	250	20	1.265	.517	.871	1.063	1.77	1.44
852-0482	158105M250S	1.000	250	20	1.265	.714	1.304	1.063	3.54	2.85

Series 168 Metallized Polyester



The Series 168 is a radial leaded metallized polyester film capacitor. Non-inductively wound. Housed in a molded, flame-retardant case with epoxy fill. Temperature range is −55°C to 125°C with voltage derating above 85°C. Suggested applications are blocking, bypass, decoupling, smoothing, timing and tuning.

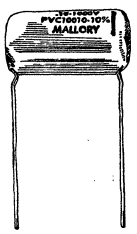
Highlights
- **Capacitance: .001 μF to 1.0 μF (Other cap values available on special order)**
- **Voltage: 50 V, 63 V, and 100 V**
- **Temperature: −55°C to +125°C (With voltage derating above +85°C)**

Stock No.	Mfr.'s Type	Cap. MFD	WVDC	Tol. %	Dimensions (Inch)			Lead Spacing	EACH	
					Length	Thick	Height		1-99	100-499
852-0430	168104K50A	.1000	50	10	.289	.103	.261	.197	.20	.16
852-0432	168474K50E	.4700	50	10	.289	.182	.379	.197	.37	.28
852-0434	168105K50G	1.0000	50	10	.289	.241	.438	.197	.65	.51
852-0436	168102K100A	.0010	100	10	.289	.103	.261	.197	.17	.13
852-0438	168222K100A	.0022	100	10	.289	.103	.261	.197	.17	.13
852-0440	168472K100A	.0047	100	10	.289	.103	.261	.197	.17	.13
852-0442	168103K100A	.0100	100	10	.289	.103	.261	.197	.17	.13
852-0444	168223K100A	.0220	100	10	.289	.103	.261	.197	.17	.13

PVC Series

AC Application Guide

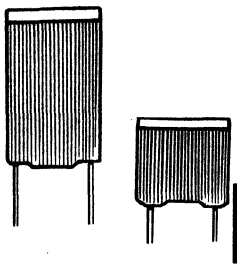
Rated VDC At 60 Hz	Max. AC (RMS) At 60 Hz
100	70
200	100
400	220
600	220
1000	220
1600	500



PVC capacitors are made from the highest grade aluminum for the plate material and ample plate separator thickness is used to provide trouble free service. Combinations of polyester film and polypropylene film dielectrics are utilized and wound under controlled atmospheric conditions. Capacitors are conformally coated with a flame retardant epoxy that protects the capacitor from heat of solderring irons and flow soldering. The coating also protects the capacitor from chlorinated cleaning solvents. The outer foil is identified by the black stripe on the body of the capacitor. The wire leads are crimped in swaged end foil. This type capacitor is adaptable to all electronic circuit applications calling for a bypass and coupling. Uses non-inductive winding design. Tinned copper clad steel leads are .032″ (20 AWG). Life test at +85°C is 500 hours with 1.5 times rated VDC.

Stock No.	Mfr.'s Type	Cap MFD	WVDC	Tol. %	Dim. (Inch)		Lead Space	EACH		
					Length	Dia.		1-24	25-49	50-99
851-0141	PVC1147	.047	100	10	.70	.35	.500	.76	.52	.37
852-0142	PVC101	.100	100	10	.90	.40	.688	.88	.72	.47
852-0143	PVC201	.100	200	10	1.20	.40	.969	.97	.80	.52
852-0144	PVC411	.010	400	10	.70	.35	.500	.69	.56	.37
852-0145	PVC4147	.047	400	10	1.20	.40	.969	.84	.69	.45
852-0146	PVC401	.100	400	10	1.20	.53	.969	1.12	.92	.60
852-0147	PVC4022	.220	400	10	1.20	.60	.969	1.72	1.41	.93
852-0148	PVC621	.001	600	10	.70	.31	.500	.65	.54	.35
852-0149	PVC611	.010	600	10	.90	.40	.688	.77	.63	.41
852-0150	PVC6147	.047	600	10	1.20	.56	.969	1.18	.97	.64
852-0151	PVC615	.050	600	10	1.20	.56	.969	1.29	1.05	.69
852-0152	PVC6156	.056	600	10	1.20	.60	.969	1.29	1.05	.69
852-0153	PVC601	.100	600	10	1.20	.65	.969	1.40	1.15	.76
852-0154	PVC6022	.220	600	10	1.60	.81	1.344	2.83	2.32	1.53
852-0155	PVC10010	.100	1000	10	1.60	.85	1.344	2.61	2.14	1.41
852-0156	PVC16222	.0022	1600	10	1.31	.50	.969	1.19	.98	.64
852-0157	PVC16247	.0047	1600	10	1.31	.50	.969	1.19	.98	.64
852-0158	PVC1611	.010	1600	10	1.31	.60	.969	1.57	1.29	.85

Series 167 Metallized Polyester

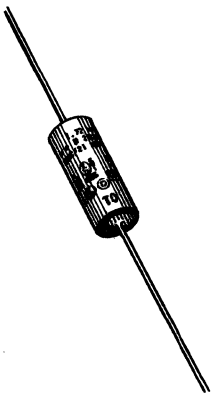


The Series 167 is a radial leaded metallized polyester film capacitor, non-inductively wound, that is housed in a pre-molded, flame retardant plastic case with epoxy fill. Temperature range is −55°C to 125°C with voltage derating above 85°C.

Highlights
- **Capacitance: .001 μF to .56 μF (Other cap values available on special order)**
- **Voltage: 63 V, 100 V, 250 V, 400 V, 630 V**
- **Temperature: −55°C to +125°C (With voltage derating above +85°C)**

Stock No.	Mfr.'s Type	Cap. MFD	WVDC	Tol. %	Dimensions (Inch)			Lead Spacing	EACH	
					Length	Thick	Height		1-99	100-499
852-0800	167104K100B	.1000	100	10	.418	.162	.359	.295	.21	.16
852-0801	167104M100B	.1000	100	20	.418	.162	.359	.295	.20	.15
852-0804	167224K100C	.2200	100	10	.418	.202	.438	.295	.28	.22
852-0806	167103K250A	.0100	250	10	.418	.143	.261	.295	.16	.12
852-0807	167103M250A	.0100	250	20	.418	.143	.261	.295	.15	.11
852-0810	167223K250A	.0220	250	10	.418	.143	.261	.295	.16	.13
852-0812	167333K250B	.0330	250	10	.418	.162	.359	.295	.19	.15
852-0814	167473K250B	.0470	250	10	.418	.162	.359	.295	.19	.15
852-0815	167473M250B	.0470	250	20	.418	.162	.359	.295	.18	.14
852-0820	167472K400A	.0047	400	10	.418	.143	.261	.295	.17	.13
852-0822	167103K400B	.0100	400	10	.418	.162	.359	.295	.19	.15
852-0824	167102K630A	.0010	630	10	.418	.143	.261	.295	.18	.14
852-0826	167222K630A	.0022	630	10	.418	.143	.261	.295	.19	.15

Series 172Y Film-Foil Polypropylene Line to GND Suppression

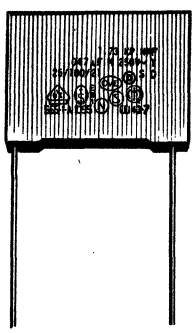


The Series 172Y is an axial leaded film-foil polypropylene capacitor, with a polyester tape outer wrap and epoxy end fill enclosure. The dielectric material is polypropylene with the electrode being aluminum or tin foil, non-inductively wound. The temperature range is −55°C to +105°C with voltage derating above 85°C. Suggested applications are energy storage, pulse discharge, and suppression.

Highlights
- **International approvals**
- **Capacitance: .0015μ F to .047μ F (Other cap values available on special order)**
- **Voltage: 250 VAC**
- **Tolerance: ±20% (Other tolerances available on special order)**
- **Temperature: −55°C to +105°C (With voltage derating above +85°C)**

Stock No.	Mfr.'s Type	Cap. MFD	VAC 60 Hz	Dia.	Length	Tol. %	EACH	
							1-99	100-999
852-0250	172152M250Y	.0015	250	.335	.807	20	.42	.35
852-0252	172222M250Y	.0022	250	.335	.807	20	.37	.31
852-0254	172103M250	.0100	250	.374	1.102	20	.47	.40
852-0256	172473M250	.0470	250	.630	1.299	20	1.04	.88

Series 173Y Film—Foil Polypropylene Line to GND Suppressor

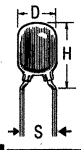


The Series 173Y is radial leaded, film-foil polypropylene capacitor, housed in a pre-molded flame retardant case with epoxy end fill. The dielectric material is a polypropylene with the electrode being aluminum or tin foil, and is non-inductively wound. The temperature range is from −55°C to 105°C with voltage derating above 85°C. Suggested applications are energy storage, pulse discharge and suppression.

Highlights
- **International approvals**
- **Capacitance: .0015 μF to .047 μF (Other cap values available on special order)**
- **Tolerance: ±20% (Other tolerances available on special order)**
- **Voltage: 250 VAC**
- **Temperature: −55°C to +105°C (With voltage derating above +85°C)**

Stock No.	Mfr.'s Type	Cap. MFD	VAC 60 Hz	Tol. %	Dimensions (Inch)			Lead Spacing	EACH	
					Length	Thick	Height		1-99	100-499
852-0270	173152M250Y	.0015	250	20	.714	.202	.438	.591	.25	.21
852-0272	173222M250Y	.0022	250	20	.714	.241	.477	.591	.31	.26
852-0274	173472M250Y	.0047	250	20	.714	.340	.576	.591	.38	.33
852-0276	173103M250Y	.0100	250	20	1.048	.241	.596	.886	.47	.40
852-0278	173473M250Y	.0470	250	20	1.265	.517	.871	.886	.82	.70

Epoxy Dipped Solid Tantalum Capacitors



Type TDC capacitors offer the long life electrical stability characteristics of solid tantalum at low cost. The tough epoxy coating provides uniform lead spacing and protection against mechanical damage and moisture. These capacitors are ideal for industrial and consumer applications where premium performance, minimum size, and low cost are essential. **Operating temperature:** −55°C to +125°C. The TDC dip-coated solid tantalum capacitor had leads 0.187″ maximum in length. A tolerance of ±20% is indicated by an "M" in the Mfr.'s type number; a tolerance of ±10% is indicated by a "K" in the Mfr.'s type number.

4

Stock No.	Mfr.'s Type	WVDC/ Surge VDC	Cap. µF	Case (In.) D	Case (In.) H	Leads S (Space) In.	Leads S (Space) mm	Leads Diameter In.	Leads Diameter mm	EACH 1-49	EACH 50-99
852-5656	TDC336M010NSF	10/13	33	.250	.500	.125	3.17	.020	.51	.95	.79
852-5657	TDC107M010WSG	10/13	100	.350	.650	.250	6.35	.020	.51	2.76	2.30
852-5659	TDC335M015NSE	15/20	3.3	.175	.350	.125	3.17	.020	.51	.45	.38
852-5660	TDC226M015NSF	15/20	22	.250	.500	.125	3.17	.020	.51	.90	.75
852-5661	TDC106K015NSF	15/20	10	.250	.500	.125	3.17	.020	.51	.70	.58
852-5663	TDC225M020NSE	20/26	2.2	.175	.350	.125	3.17	.020	.51	.45	.38
852-5665	TDC106K020NSF	20/26	10	.250	.500	.125	3.17	.020	.51	.90	.75
852-5664	TDC156M020NSF	20/26	15	.250	.500	.125	3.17	.020	.51	.95	.79
852-5667	TDC476K020WSG	20/26	47	.350	.650	.250	6.35	.020	.51	2.76	2.30
852-5666	TDC476M020WSG	20/26	47	.350	.650	.250	6.35	.020	.51	2.66	2.22
852-5672	TDC107K020WSH	20/26	100	.400	.750	.250	6.35	.020	.51	6.60	5.50
852-5668	TDC107M020WSH	20/26	100	.400	.750	.250	6.35	.020	.51	6.50	5.42
852-5669	TDC685M025NSF	25/32	6.8	.250	.500	.125	3.17	.020	.51	.80	.67
852-5673	TDC106K025NSF	25/32	10	.250	.500	.125	3.17	.020	.51	.95	.79
852-5670	TDC106M025NSF	25/32	10	.250	.500	.125	3.17	.020	.51	.90	.75
852-5671	TDC226M025NSF	25/32	22	.250	.500	.125	3.17	.020	.51	2.36	1.97
852-5675	TDC224M035NSE	35/46	.22	.175	.350	.125	3.17	.020	.51	.40	.33
852-5693	TDC224K035NSE	35/46	.22	.175	.350	.125	3.17	.020	.51	.45	.38
852-5677	TDC105K035NSE	35/46	1	.175	.350	.125	3.17	.020	.51	.45	.38
852-5674	TDC105M035NSE	35/46	1	.175	.350	.125	3.17	.020	.51	.40	.33
852-5676	TDC225M035NSE	35/46	2.2	.175	.350	.125	3.17	.020	.51	.60	.50
852-5690	TDC475K035NSF	35/46	4.7	.250	.500	.125	3.17	.020	.51	.80	.67
852-5678	TDC475M035NSF	35/46	4.7	.250	.500	.125	3.17	.020	.51	.75	.63
852-5681	TDC685K035NSF	35/46	6.8	.250	.500	.125	3.17	.020	.51	.90	.75
852-5679	TDC685M035NSF	35/46	6.8	.250	.500	.125	3.17	.020	.51	.85	.71
852-5683	TDC106K035NSF	35/46	10	.250	.500	.125	3.17	.020	.51	1.45	1.21
852-5680	TDC106M035NSF	35/46	10	.250	.500	.125	3.17	.020	.51	1.30	1.08
852-5694	TDC156K035NSG	35/46	15	.350	.650	.250	6.35	.020	.51	2.76	2.30
852-5686	TDC226K035WSG	35/46	22	.350	.650	.250	6.35	.020	.51	2.76	2.30
852-5682	TDC226M035WSG	35/46	22	.350	.650	.250	6.35	.020	.51	2.60	2.17
852-5687	TDC476K035WSH	35/46	47	.400	.750	.250	6.35	.020	.51	6.60	5.50
852-5684	TDC476M035WSH	35/46	47	.400	.750	.250	6.35	.020	.51	6.50	5.42
852-5685	TDC104M050NSE	50/65	.10	.175	.350	.125	3.17	.020	.51	.40	.33
852-5689	TDC474M050NSE	50/65	.47	.175	.350	.125	3.17	.020	.51	.50	.42
852-5691	TDC105M050NSE	50/65	1	.175	.350	.125	3.17	.020	.51	.50	.42

Mounting Hardware

Mounting Rings Weight: 1 oz.

Stock No.	Mfr.'s Type	Dia. Size (In.)	EACH 1-49	EACH 50-99
852-7532	VR3	1 3/8—1 7/16	.70	.65
852-7535	VR6	1 3/4—1 13/16	1.03	.98
852-7536	VR8	2—2 1/16	1.14	1.09
852-7538	VR10	2 1/2—2 9/16	1.31	1.25
852-7540	VR12	3—3 1/8	1.59	1.48

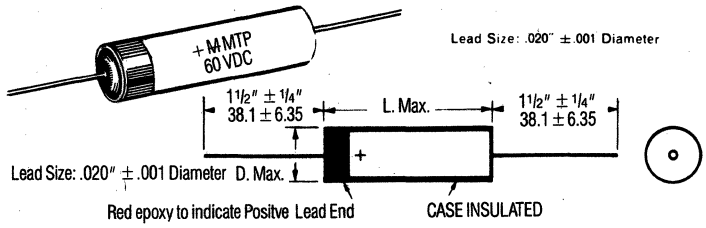
VR

TH

Universal Clamps Weight: 1 oz.

Stock No.	Mfr.'s Type	Dia. Size (In.)	EACH 1-49	EACH 50-99	EACH 100-Up
852-6020	TH23	1—1 1/16	.93	.85	.78
852-6021	TH25	1 3/8—1 7/16	.98	.90	.84

Type MTP Subminiature Capacitors



Case Dimensions Locator

Case Code	Diameter	Length
A	.115″	.403″
B	.145″	.600″
C	.225″	.778″
D	.115″	.300″

Stock No.	Mfr.'s Type	Cap. µF	WVDC @85°C	Max. DCL at Max. WVDC in µA +25°C	Max. DCL at Max. WVDC in µA +85°C	Max. DF @ 25°C	Case Code	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
852-0716	MTP476M006P1A	47	6	2.0	6.0	33	A	4.88	4.01	3.17	2.38
852-0718	MTP157M006P1B	150	6	2.0	8.0	37	B	6.20	5.10	4.03	3.02
852-0720	MTP187M006P1B	180	6	2.0	8.0	37	B	6.20	5.10	4.03	3.02
852-0722	MTP457M006P1C	450	6	2.0	10.0	50	C	10.95	9.01	7.12	5.34
852-0724	MTP477M006P1C	470	6	2.0	10.0	50	C	10.95	9.01	7.12	5.34
852-0725	MTP106M010P1D	10	10	2.0	6.0	20	D	4.54	3.73	2.95	2.21
852-0728	MTP336M010P1A	33	10	2.0	6.0	30	A	4.88	4.01	3.17	2.38
852-0730	MTP107M010P1B	100	10	2.0	8.0	33	B	6.20	5.10	4.03	3.02
852-0732	MTP127M010P1B	120	10	2.0	8.0	35	B	6.20	5.10	4.03	3.02
852-0734	MTP307M010P1C	300	10	2.0	10.0	35	C	10.95	9.01	7.12	5.34
852-0736	MTP337M010P1C	330	10	2.0	10.0	35	C	10.95	9.01	7.12	5.34
852-0738	MTP226M015P1A	22	15	2.0	6.0	33	A	4.88	4.01	3.17	2.38
852-0740	MTP686M015P1B	68	15	2.0	8.0	27	B	6.20	5.10	4.03	3.02
852-0742	MTP806M015P1B	80	15	2.0	8.0	30	B	6.20	5.10	4.03	3.02
852-0744	MTP207M015P1C	200	15	2.0	10.0	30	C	10.95	9.01	7.12	5.34
852-0746	MTP227M015P1C	220	15	2.0	10.0	30	C	10.95	9.01	7.12	5.34
852-0748	MTP685M020P1D	6.8	20	2.0	6.0	20	D	4.54	3.73	2.95	2.21
852-0750	MTP156M020P1A	15	20	2.0	6.0	25	A	4.88	4.01	3.17	2.38
852-0752	MTP476M020P1B	47	20	2.0	8.0	25	B	6.20	5.10	4.03	3.02
852-0754	MTP606M020P1B	60	20	2.0	8.0	25	B	6.20	5.10	4.03	3.02
852-0756	MTP157M020P1C	150	20	2.0	10.0	30	C	10.95	9.01	7.12	5.34
852-0758	MTP106M030P1A	10	30	2.0	6.0	20	A	4.88	4.01	3.17	2.38
852-0760	MTP456M030P1B	45	30	2.0	8.0	25	B	6.20	5.10	4.03	3.02
852-0762	MTP127M030P1C	120	30	2.0	10.0	30	C	10.95	9.01	7.12	5.34
852-0764	MTP475M035P1D	4.7	35	2.0	6.0	20	D	4.54	3.73	2.95	2.21
852-0766	MTP106M035P1A	10	35	2.0	6.0	20	A	4.88	4.01	3.17	2.38
852-0768	MTP107M035P1C	100	35	2.0	10.0	25	C	10.95	9.01	7.12	5.34
852-0770	MTP685M050P1A	6.8	50	2.0	6.0	20	A	4.88	4.01	3.17	2.38
852-0772	MTP306M050P1B	30	50	2.0	8.0	20	B	6.20	5.10	4.03	3.02
852-0774	MTP336M050P1B	33	50	2.0	8.0	20	B	6.20	5.10	4.03	3.02
852-0776	MTP686M050P1C	68	50	2.0	10.0	20	C	10.95	9.01	7.12	5.34
852-0778	MTP786M050P1C	78	50	2.0	10.0	20	C	10.95	9.01	7.12	5.34
852-0780	MTP335M060P1D	3.3	60	2.0	6.0	15	D	4.54	3.73	2.95	2.21
852-0782	MTP106M060P1B	10	60	2.0	8.0	20	B	6.20	5.10	4.03	3.02
852-0784	MTP156M060P1B	15	60	2.0	8.0	20	B	6.20	5.10	4.03	3.02
852-0786	MTP226M060P1B	22	60	2.0	8.0	20	B	6.20	5.10	4.03	3.02
852-0788	MTP476M060P1C	47	60	2.0	10.0	20	C	10.95	9.01	7.12	5.34
852-0790	MTP686M060P1C	68	60	2.0	10.0	20	C	10.95	9.01	7.12	5.34

Capacitor Kits In Plastic Storage Cabinets

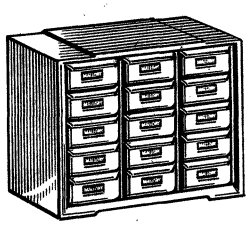
MONO151A Monolithis Capacitor Mallobin
A collection of Monolithic ceramic capacitors with voltages to 200 WVDC. Values from 10 pf to 1 µf.
852-2610. MONO151A ..... **EACH 120.00**

SX301 Polystyrene Capacitor Mallobin
Kit containing two mallobin cabinets with polystyrene film capacitors. Values range from 5 pf to .01 µf.
852-2605. SX301 ..... **EACH 67.23**

SX301A
Assortment of 150 polystyrene film caps in 15 ratings.
852-2606. SX301A ..... **EACH 76.26**

TT151A Mallobin
A selection of axial leaded miniature electrolytic similar to TT151. Voltages to 50 WVDC. Capacitances to 1000 µf.
852-4711. TT151A ..... **EACH 31.27**

TC151A
Assorted axial leaded aluminum electrolytic capacitors with voltages to 600 WVDC. Values from 1 µF to 5,000 µF.
852-2601. TC151A ..... **EACH 36.67**



TDC151A
An assortment of epoxy dipped solid tantalum capacitors. Voltages to 35 WVDC. Values from 1 µF to 150 µF. **Tolerance:** ±10%.
852-2602. TDC151A ..... **EACH 96.22**

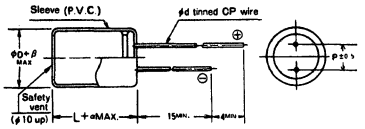
VTL151
A selection of single ended aluminum electrolytic capacitors with voltages to 100 WVDC. Values to 1 µF to 3,300 µF.
852-2603. VTL151 ..... **EACH 49.75**

MTC151
An assortment of horizontal and vertical mount miniature trimmer potentiometers. Values from 100 ohms to 5 megohms.
852-2615. MTC151 ..... **EACH 54.32**

TAC151A Solid Tantalum
An assortment of 78 axial leaded molded solid tantalum capacitors. Six each of 24 popular ratings from 1 µf to 39 µf. Voltages to 50 WVDC.
852-2620. TAC151A ..... **EACH 120.15**

TSC151 Solid Tantalum Surface Mount
An assortment of solid tantalum surface mount devices. Ten each of 20 popular ratings from 1 µf to 68 µf. Voltages to 50 WVDC. Manufactured to EIA IS28.
852-2625. TSC151A ..... **EACH 187.98**

UVX Series Capacitors



UVX miniature electrolytic capacitor for general purpose features reduced case size anti-solvent through 100 volts. The VX series is most suitable for electronic equipment where a smaller case size is required. The small case size makes it ideal for use with high speed automatic insertion equipment. Load life of 2000 hours at 85°C. Units with ϕ 6.3 mm or more are provided with our unique safety case vent. **Capacitance Tolerance:** ±20% at 120 Hz. 20°C. **Operating Temperature Range:** – 40° approximately + 85°C.

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM (D × L)	EACH 1-99	100-499	500-999	1000-Up
859-0500	UVX0J101MAA	100	6.3	5 × 11	0.16	0.12	0.08	0.07
859-0502	UVX0J221MPA	220	6.3	6.3 × 11	0.22	0.16	0.11	0.09
859-0504	UVX0J471MPA	470	6.3	8 × 11.5	0.27	0.20	0.14	0.11
859-0506	UVX0J102MPA	1000	6.3	10 × 12.5	0.45	0.34	0.23	0.19
859-0508	UVX0J222MHA	2200	6.3	12.5 × 20	0.60	0.45	0.30	0.25
859-0510	UVX1A220MAA	22	10	5 × 11	0.13	0.10	0.07	0.05
859-0512	UVX1A330MAA	33	10	5 × 11	0.14	0.11	0.07	0.06
859-0514	UVX1A470MAA	47	10	5 × 11	0.14	0.11	0.07	0.06
859-0516	UVX1A101MAA	100	10	5 × 7	0.16	0.12	0.08	0.07
859-0518	UVX1A221MPA	220	10	6.3 × 11	0.24	0.18	0.12	0.10
859-0520	UVX1A331MPA	330	10	8 × 11.5	0.26	0.20	0.13	0.11
859-0522	UVX1A471MPA	470	10	8 × 12.5	0.38	0.28	0.19	0.16
859-0524	UVX1A102MPA	1000	10	10 × 16	0.45	0.34	0.23	0.19
859-0526	UVX1A222MHA	2200	10	12.5 × 20	0.69	0.52	0.35	0.29
859-0528	UVX1C100MAA	10	16	5 × 11	0.13	0.10	0.07	0.05
859-0530	UVX1CC220MAA	22	16	5 × 11	0.14	0.11	0.07	0.06
859-0532	UVX1C330MAA	33	16	5 × 11	0.14	0.11	0.07	0.06
859-0534	UVX1C470MAA	47	16	5 × 11	0.16	0.12	0.08	0.07
859-0536	UVX1C101MPA	100	16	6.3 × 11	0.22	0.16	0.11	0.09
859-0538	UVX1C221MPA	220	16	8 × 11.5	0.26	0.20	0.13	0.11
859-0540	UVX1C331MPA	330	16	8 × 12.5	0.38	0.28	0.19	0.16
859-0542	UVX1C471MPA	470	16	10 × 12.5	0.40	0.30	0.20	0.16
859-0544	UVX1C102MPA	1000	16	10 × 20	0.55	0.41	0.28	0.23
859-0546	UVX1CC222MHA	2200	16	12.5 × 25	1.06	0.79	0.53	0.44
859-0548	UVX1CC332MHA	3300	16	16 × 25	1.42	1.07	0.71	0.59
859-0550	UVX1C472MHA	4700	16	16 × 31.5	2.03	1.52	1.01	0.84

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM (D × L)	EACH 1-99	100-499	500-999	1000-Up
859-0552	UVX1E4R7MAA	4.7	25	5 × 11	0.13	0.10	0.07	0.05
859-0554	UVX1E100MAA	10	25	5 × 11	0.14	0.11	0.07	0.06
859-0556	UVX1E220MAA	22	25	5 × 11	0.16	0.12	0.08	0.07
859-0560	UVX1E470MAA	47	25	5 × 11	0.22	0.16	0.11	0.09
859-0562	UVX1E101MPA	100	25	6.3 × 11	0.24	0.18	0.12	0.10
859-0564	UVX1E221MPA	220	25	8 × 12.5	0.40	0.30	0.20	0.16
859-0566	UVX1E471MPA	470	25	10 × 16	0.55	0.41	0.28	0.23
859-0568	UVX1E102MHA	1000	25	12.5 × 20	0.78	0.59	0.39	0.33
859-0570	UVX1E222MHA	2200	25	16 × 25	1.42	1.07	0.71	0.59
859-0572	UVX1E472MRA	4700	25	18 × 35.5	2.64	1.98	1.32	1.09
859-0574	UVX1H010MAA	1	50	5 × 11	0.13	0.10	0.07	0.05
859-0576	UVX1H2R2MAA	2	50	5 × 11	0.13	0.10	0.07	0.05
859-0578	UVX1H4R7MAA	4	50	5 × 11	0.16	0.12	0.08	0.07
859-0580	UVX1H100MAA	10	50	5 × 11	0.16	0.12	0.08	0.07
859-0582	UVX1H220MAA	22	50	5 × 11	0.21	0.16	0.11	0.09
859-0584	UVX1H470MPA	47	50	6.3 × 11	0.24	0.18	0.12	0.10
859-0586	UVX1H101MPA	100	50	8 × 12.5	0.38	0.28	0.19	0.16
859-0588	UVX1H221MPA	220	50	10 × 16	0.55	0.41	0.28	0.23
859-0590	UVX1H461MHA	470	50	12.5 × 20	0.78	0.59	0.39	0.33
859-0592	UVX1H102MHA	1000	50	16 × 25	1.44	1.08	0.72	0.60
859-0594	UVX1H222MRA	2200	50	18 × 35.5	2.64	1.98	1.32	1.09
859-0595	UVX2A100MPA	10	100	6.3 × 11	0.24	0.18	0.12	0.10
859-0596	UVX2A220MPA	22	100	8 × 11.5	0.27	0.20	0.14	0.11
859-0597	UVX2A470MPA	47	100	10 × 16	0.40	0.30	0.20	0.16
859-0598	UVX2A101MHA	100	100	12.5 × 20	0.60	0.45	0.30	0.25
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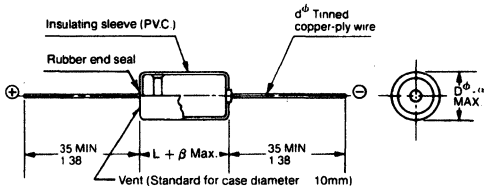
TLB Series Capacitors

LB Compact Series miniature aluminum electrolytic capacitors provide higher component density in solid-state circuitry. Features further miniaturization of both body length and diameter for greater CV density when compared to conventional type aluminum electrolytic lines. **Capacitance:** ±20%. **Operating Temperature Range:** – 40°C approximately + 85°C.



Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM (D × L)	EACH 1-99	100-499	500-999	1000-Up
859-0102	TLB0J471MAA	470	6.3	8 × 20	0.38	0.29	0.19	0.16
859-0104	TLB1A470MAA	47	10	6 × 12	0.23	0.17	0.11	0.09
859-0106	TLB1A101MAA	100	10	6 × 16	0.28	0.21	0.14	0.12
859-0108	TLB1A221MAA	220	10	8 × 16	0.35	0.26	0.18	0.15
859-0112	TLB1A102MCA	1000	10	10 × 26	0.58	0.43	0.29	0.24
859-0114	TLB1A222MCA	2200	10	13 × 31.5	1.10	0.82	0.55	0.45
859-0118	TLB1C220MAA	22	16	5 × 12	0.23	0.17	0.11	0.09
859-0119	TLB1C330MAA	33	16	6 × 12	0.23	0.17	0.12	0.10
859-0120	TLB1C470MAA	47	16	6 × 12	0.28	0.21	0.14	0.12
859-0122	TLB1C101MAA	100	16	8 × 16	0.30	0.22	0.15	0.12
859-0124	TLB1C221MAA	220	16	8 × 16	0.35	0.26	0.18	0.15
859-0126	TLB1C471MCA	470	16	10 × 21	0.50	0.37	0.25	0.21
859-0128	TLB1C102MCA	1000	16	13 × 36	0.85	0.64	0.42	0.35
859-0130	TLB1C222MCA	2200	16	16 × 31.5	1.34	1.01	0.67	0.56
859-0132	TLB1C472MDA	4700	16	18 × 40	2.42	1.82	1.21	1.00
859-0133	TLB1C682MDA	6800	16	22 × 40	2.86	2.14	1.43	1.19
859-0134	TLB1C103MDA	10000	16	22 × 52	3.77	2.83	1.89	1.57
859-0136	TLB1E100MAA	10	25	5 × 12	0.23	0.17	0.11	0.09
859-0138	TLB1E220MAA	22	25	6 × 12	0.23	0.17	0.12	0.10
859-0140	TLB1E470MAA	47	25	6 × 16	0.28	0.21	0.14	0.12
859-0142	TLB1E101MAA	100	25	8 × 16	0.35	0.26	0.18	0.15
859-0144	TLB1E221MAA	220	25	8 × 20	0.49	0.37	0.25	0.20
859-0146	TLB1E471MCA	470	25	10 × 26	0.70	0.53	0.35	0.29
859-0148	TLB1E102MCA	1000	25	13 × 26	1.10	0.82	0.55	0.45
859-0150	TLB1E222MCA	2200	25	16 × 41.5	1.94	1.46	0.97	0.81
859-0151	TLB1E332MDA	3300	25	18 × 40	2.47	1.85	1.23	1.02
859-0152	TLB1E472MDA	4700	25	22 × 40	2.86	2.14	1.43	1.19
859-0154	TLB1V100MAA	10	35	5 × 12	0.23	0.17	0.11	0.09
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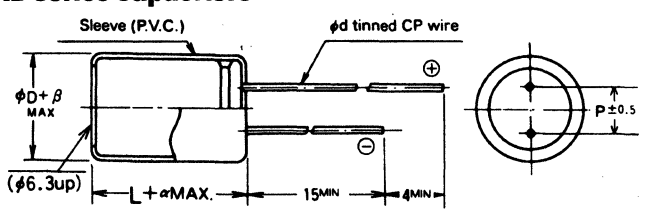
Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM (D × L)	EACH 1-99	100-499	500-999	1000-Up
859-0156	TLB1V220MAA	22	35	6 × 12	0.28	0.21	0.14	0.12
859-0158	TLB1V470MAA	47	35	8 × 16	0.31	0.23	0.15	0.13
859-0160	TLB1V101MAA	100	35	8 × 20	0.35	0.26	0.18	0.15
859-0162	TLB1V221MAA	220	35	10 × 21	0.56	0.42	0.28	0.23
859-0164	TLB1V471MCA	470	35	13 × 26	0.89	0.67	0.44	0.37
859-0166	TLB1V102MCA	1000	35	13 × 31.5	1.32	0.99	0.66	0.55
859-0168	TLB1V222MCA	2200	35	16 × 34.5	2.26	1.70	1.13	0.94
859-0170	TLB1V472MDA	4700	35	22 × 52	3.70	2.78	1.85	1.54
859-0172	TLB1V103MDA	10000	35	30 × 61	7.36	5.52	3.68	3.05
859-0174	TLB1HR47MAA	.47	50	5 × 12	0.23	0.17	0.11	0.09
859-0175	TLB1H010MAA	1	50	5 × 12	0.23	0.17	0.11	0.09
859-0176	TLB1H2R2MAA	2.2	50	5 × 12	0.23	0.17	0.11	0.09
859-0177	TLB1H3R3MAA	3.3	50	5 × 12	0.23	0.17	0.11	0.09
859-0178	TLB1H4R7MAA	4.7	50	5 × 12	0.23	0.17	0.11	0.09
859-0179	TLB1H100MAA	10	50	6 × 12	0.28	0.21	0.14	0.12
859-0180	TLB1H220MAA	22	50	6 × 16	0.28	0.21	0.14	0.12
859-0182	TLB1H470MAA	47	50	8 × 16	0.35	0.26	0.18	0.15
859-0183	TLB1H101MAA	100	50	8 × 20	0.49	0.37	0.24	0.20
859-0184	TLB1H221MCA	220	50	10 × 26	0.69	0.52	0.35	0.29
859-0185	TLB1H331MCA	330	50	13 × 26	0.92	0.69	0.46	0.38
859-0186	TLB1H471MCA	470	50	13 × 26	1.10	0.82	0.55	0.45
859-0187	TLB1H102MAA	1000	50	16 × 31.5	1.69	1.27	0.85	0.70
859-0188	TLB1H222MDA	2200	50	22 × 40	3.30	2.48	1.65	1.37
859-0189	TLB1H332MDA	3300	50	22 × 52	4.04	3.03	2.02	1.68
859-0190	TLB1H472MDA	4700	50	25.4 × 52	5.20	3.90	2.60	2.16
859-0192	TLB2A100MAA	10	100	8 × 16	0.31	0.23	0.15	0.13
859-0194	TLB2A470MCA	47	100	10 × 21	0.58	0.43	0.29	0.24
859-0196	TLB2A101MCA	100	100	13 × 26	0.90	0.67	0.45	0.37
859-0198	TLB2A471MCA	470	100	16 × 41.5	2.86	2.14	1.43	1.19

UKB Series Capacitors

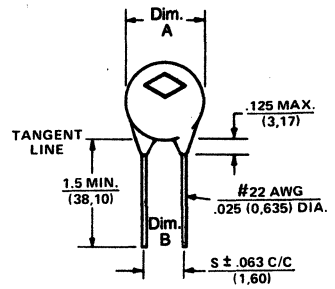


UKB low leakage current electrolytic capacitor features anti-solvent. The KB series will exhibit only a slight increase in their leakage current when subjected to no load at high temperature or shelved for long periods of time at normal temperature. Standard units have a capacitance tolerance of ±20%, but units with ±10% tolerance are also available on request. The Nichicon Safety Vent is standard on capacitors with diameters ≥ 10 mm. **Capacitance Tolerance:** ±20% (M) at 120 Hz. 20°C **Leakage Current:** After 2 minutes of application at rated voltage, leakage current will be no more than 0.002 CV or 0.4μA, whichever is greater. **Operating Temperature Range:** – 40 approximately + 85°C.

Stock No.	Mfr.'s Type	μF	WVDC	Case Size MM (D × L)	EACH 1-99	100-499	500-999	1000-Up
859-0600	UKB1A220MAAANA	22	10	5 × 11	0.19	0.14	0.10	0.080
859-0605	UKB1A470MAAANA	47	10	6 × 11	0.22	0.16	0.11	0.090
859-0610	UKB1A101MAAANA	100	10	8 × 11.5	0.26	0.20	0.13	0.110
859-0615	UKB1C100MAAANA	10	16	5 × 11	0.31	0.23	0.16	0.130
859-0620	UKB1C220MAAANA	22	16	6 × 11	0.22	0.16	0.11	0.090
859-0625	UKB1C470MAAANA	47	16	8 × 11.5	0.26	0.20	0.13	0.110
859-0630	UKB1C101MPAANA	100	16	10 × 12.5	0.29	0.22	0.15	0.120
859-0635	UKB1E4R7MAAANA	4.7	25	5 × 11	0.19	0.14	0.10	0.080
859-0640	UKB1E100MAAANA	10	25	6 × 11	0.22	0.16	0.11	0.090
859-0645	UKB1E220MAAANA	22	25	8 × 11.5	0.26	0.20	0.13	0.110
859-0650	UKB1E470MPAANA	47	25	10 × 12.5	0.29	0.22	0.15	0.120
859-0655	UKB1E101MPAANA	100	25	10 × 16	0.34	0.25	0.17	0.140
859-0660	UKB1H010MAAANA	1	50	5 × 11	0.19	0.14	0.10	0.080
859-0665	UKB1H2R2MAAANA	2.2	50	5 × 11	0.19	0.14	0.10	0.080
859-0670	UKB1H4R7MAAANA	4.7	50	6 × 11	0.22	0.16	0.11	0.090
859-0675	UKB1H100MAAANA	10	50	8 × 11.5	0.26	0.20	0.13	0.110
859-0680	UKB1H220MPAANA	22	50	10 × 12.5	0.29	0.22	0.15	0.120
859-0685	UKB1H101MRAANA	100	50	13 × 20	0.65	0.49	0.33	0.269

Capacitors

Centralab General Purpose capacitors provide a wide choice of 1000 Volt DC rated units for general purpose applications. These high dielectric ceramic discs offer small physical size, tighter tolerances and a rugged humidity resistant coating. Capacitors are primarily designed for non-critical coupling, bypass and filter applications found in all types of entertainment, industrial and medical equipment. **Capacitance Tolerance:** ±10%, (*) ±20% or (†) +100 −0% (GMV) or (‡) +80 −20% as listed. **Working Voltage:** 1000 volts DC except (‡) 600 DC. **Dielectric Strength:** 200% of rated working voltage. **Operating Temperature Range:** −55°C to +85°C. **Encapsulation:** Phenolic coated, wax impregnated. **Insulation Resistance:** 10,000 megohms minimum. Tested at 500 volts DC maximum. **Marking:** Centralab diamond, capacitance value, capacitance tolerance or code letter (D = ±0.5 pf, K = ±10%, M = ±20%, P = +100 −0%) working voltage and EIA temperature characteristic code as space permits.

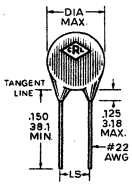


Size Code

Code	Dim. A		Dim. B		Thk.	
	In.	mm	In.	mm	In.	mm
A	.290	7.37	.250	6.35	.156	3.96
B	.305	7.74	.250	6.35	.156	3.96
C	.405	10.29	.250	6.35	.156	3.96
D	.500	12.70	.250	6.35	.156	3.96
E	.605	15.37	.375	9.52	.156	3.96
F	.705	17.91	.375	9.52	.156	3.96
G	.690	17.53	.375	9.52	.156	3.96
H	.718	18.24	.375	9.52	.250	6.35
I	.875	22.22	.375	9.52	.250	6.35

Stock No.	Mfr.'s Type	Capacitance pF	Size Code	EIA T.C. Code	EACH 1-99	EACH 100-999
748-0050	DD-050	5	A	S2L	.21	.19
748-0100	DD-100	10	A	S2L	.21	.19
748-0150	DD-150	15	A	S2L	.21	.19
748-0180	DD-180	18	A	S2L	.21	.19
748-0200	DD-200	20	A	S2L	.25	.19
748-0220	DD-220	22	A	S2L	.21	.19
748-0250	DD-250	25	A	S2L	.21	.19
748-0270	DD-270	27	A	S2L	.21	.19
748-0300	DD-300	30	A	S2L	.21	.19
748-0330	DD-330	33	A	S2L	.21	.19
748-0390	DD-390	39	A	S2L	.21	.19
748-0470	DD-470	47	A	S2L	.21	.19
748-0500	DD-500	50	A	S3N	.21	.19
748-0560	DD-560	56	B	S3N	.21	.19
748-0680	DD-680	68	B	S3N	.21	.19
748-0820	DD-820	82	B	S3N	.21	.19
748-0101	DD-101	100	B	S3N	.21	.19
748-0121	DD-121	120	B	S3N	.21	.19
748-0151	DD-151	150	B	S3N	.21	.19
748-0181	DD-181	180	B	S3N	.21	.19
748-0201	DD-201	200	B	S3N	.21	.19
748-0221	DD-221	220	B	Z5F	.21	.19
748-0251	DD-251	250	B	Z5F	.21	.19
748-0271	DD-271	270	B	Z5F	.21	.19
748-0301	DD-301	300	B	Z5F	.21	.19
748-0331	DD-331	330	B	Z5F	.21	.19
748-0391	DD-391	390	B	Z5F	.21	.19
748-0471	DD-471	470	B	Z5F	.21	.19
748-0501	DD-501	500	B	Z5F	.21	.19
748-0561	DD-561	560	B	Z5F	.21	.19
748-0681	DD-681	680	B	Z5R	.21	.19
748-0751	DD-751	750	B	Z5R	.21	.19
748-0821	DD-821	820	B	Z5F	.21	.19
748-0102	DD-102	1000	C	Z5F	.25	.21
748-0152	DD-152	1500	C	Z5R	.25	.21
748-0202	DD-202	2000*	C	Z5U	.25	.21
748-0222	DD-222	2200*	C	Z5U	.21	.19
748-0302	DD-302	3000*	C	Z5U	.21	.19
748-0392	DD-392	3900*	C	Z5U	.27	.24
748-0472	DD-472	4700*	D	Z5U	.33	.29
748-0502	DD-502	5000†	E	Z5U	.35	.31
748-0682	DD-682	6800*	E	Z5U	.35	.31
748-0103	DD-103	10000†	F	Z5U	.56	.47
748-0153	DD-153	15000‡	G	Z5U	.57	.47
748-0203	DD-203	20000‡	G	Z5U	.58	.48
748-0303	DD-303	30000‡	H	Z5U	2.17	1.82
748-0503	DD-503	50000‡	I	Z5U	2.83	2.37

Series DD High-Voltage Disc Ceramics



Designed for noncritical coupling, by-pass and filter applications. **Operating Temperature Range:** −55° to +85°C. Tinned wire leads. **Encapsulation:** Phenolic coated, wax impregnated. **Dielectric Strength:** 200% of rated working voltage. These high dielectric ceramic discs offer small size, tighter tolerances and a rugged humidity resistant coating. **Weight:** 2 oz.

Stock No.	Mfr.'s Type	pF	WVDC	% Tol.	Size In. D×T×Spac.	EACH 1-99	EACH 100-999
748-0805	DD16-103	10000	1600	GMV	.835 × .172 × .375	.97	.82
748-0865	DD30-101	100	3000	±20	.330 × .203 × .250	.62	.53
748-0867	DD30-102	1000	3000	±20	.430 × .203 × .250	.69	.59
748-0912	DD30-502	5000	3000	±20	.800 × .203 × .375	1.35	1.13
748-0977	DD60-501	500	6000	±20	.660 × .313 × .375	1.10	.92
748-0944	DD60-102	1000	6000	±20	.660 × .313 × .375	1.12	.92
748-0955	DD60-202	2000	6000	±20	.760 × .313 × .375	1.50	1.25

Low-Voltage Ceramic Disc Capacitors

Working voltage is 50 VDC to 150 VDC. Tolerance of type DDA is −30% to +80%. Tolerance of type CK is −20% to +80%. Tolerance of type DC is ±20%. Tolerance of type DDM is −40% to +60%. Dielectric strength is 250% of rated marking voltage. **Operating Temperature Range:** −55° to +80°C. All have Z5V characteristic +22% to −82% max. capacitance change from +25°C reading over temperature range of +10°C to +85°C. **Weight:** 2 oz.

Stock No.	Mfr.'s Type	µF	WVDC	Size, In. Max. Dia. × Max. Thick.	EACH 1-99	EACH 100-999
748-0385	CK-502	.005	50	.390 × .156	.25	.21
748-0365	CK-103	.01	50	.390 × .156	.25	.21
748-0373	CK-203	.02	50	.590 × .156	.42	.35
748-0389	CK-503	.05	50	.690 × .156	.57	.47
748-0369	CK-104	.1	50	.718 × .171	1.68	1.42
748-0753	DDA-104	.1	75	.718 × .156	1.75	1.47
748-0430	DC-103	.01	100	.390 × .156	.29	.24
748-0760	DDM-103	.01	150	.390 × .156	.29	.24

UK Miniature Disc Capacitors

Centralab's Ultra-Kap capacitors provide many advantages when compared to ordinary ceramic capacitors. Their unique semiconductor design allows for the maximum in capacitance while retaining the miniature size required for today's low voltage applications. Dissipation factor at 1 kHz, 5-10%. **Tolerance:** 10 and 20 WVDC, −20% to +80. 12, 16, 25 and 50 WVDC tolerance is ±20%. Tinned wire leads #22 AWG. **Weight:** 1 ounce.

Stock No.	Mfr.'s Type	µF	WVDC	Size, In. Max. Dia. × Spacing	EACH 1-99	EACH 100-999
748-6047	UK10-503	.05	10	.290 × .250	.41	.35
748-6035	UK10-104	.1	10	.405 × .250	.49	.39
748-6039	UK10-204	.2	10	.590 × .375	.67	.56
748-6043	UK10-474	.47	10	.820 × .375	1.14	.96
748-6057	UK12-503	.05	12	.290 × .250	.43	.36
748-6055	UK12-104	.1	12	.405 × .250	.49	.41
748-6060	UK16-103	.01	16	.290 × .250	.43	.36
748-6067	UK16-503	.05	16	.390 × .250	.49	.41
748-6061	UK16-104	.1	16	.485 × .375	.63	.51
748-6087	UK20-503	.05	20	.405 × .250	.48	.39

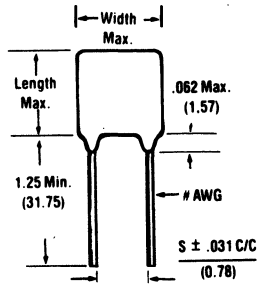
Stock No.	Mfr.'s Type	µF	WVDC	Size, In. Max. Dia. × Spacing	EACH 1-99	EACH 100-999
748-6080	UK20-104	.1	20	.590 × .375	.69	.57
748-6110	UK25-103	.01	25	.290 × .250	.43	.36
748-6113	UK25-223	.022	25	.290 × .250	.43	.36
748-6122	UK25-503	.05	25	.405 × .250	.49	.36
748-6111	UK25-104	.1	25	.590 × .375	.72	.60
748-6165	UK50-103	.01	50	.290 × .250	.43	.36
748-6170	UK50-104	.1	50	.820 × .375	1.24	1.05
748-6180	UK50-223	.022	50	.485 × .250	.62	.51
748-6190	UK50-473	.047	50	.590 × .375	.72	.60
748-6195	UK50-503	.05	50	.590 × .375	.72	.60

Series Capacitors

MONO-KAP® Ceramic Capacitors

Size Code*	Max. Length	Max. Width	Max. Thickness	Lead Space	Lead	
					Diameter	#AWG
15	.150 (3.81)	.150 (3.81)	.100 (2.54)	.100 (2.54)	.016 (0.40)	26
20	.200 (5.08)	.200 (5.08)	.125 (3.17)	.100 (2.54)	.020 (0.50)	24
30	.300 (7.62)	.300 (7.62)	.150 (3.81)	.200 (5.08)	.020 (0.50)	24
40	.400 (10.16)	.400 (10.16)	.150 (3.81)	.200 (5.08)	.020 (0.50)	24
50	.500 (12.70)	.500 (12.70)	.200 (5.08)	.400 (10.16)	.025 (0.63)	22

* Size Chart. Code based on first 2 digits in Mfr.'s Type No.



The CW-Series capacitors are designed to provide reliable temperature stable performance over an extremely wide temperature range in bypass, coupling and blocking operations. The CY- and CZ-Series capacitors are ideally suited for a wide range of non-critical general purpose bypass, coupling and filtering applications. **Note:** CN types have COG (NPO) temperature characteristic and are ideally suited for RC network, pulse and RF tuned circuit applications where extremely stable performance is required.

CW Series — Temperature Stable and Epoxy Coated

Stock No.	Mfr.'s Type*	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-2001	CW15C151K	50	150pf	0.43	0.33	0.25	0.20
748-2003	CW15C221K	50	220pf	0.43	0.33	0.25	0.20
748-2004	CW15C221M	50	220pf	0.43	0.33	0.25	0.20
748-2008	CW15C471K	50	470pf	0.43	0.33	0.25	0.20
748-2009	CW15C561K	50	560pf	0.43	0.33	0.25	0.20
748-2010	CW15C681K	50	680pf	0.43	0.33	0.25	0.20
748-2011	CW15C821K	50	820pf	0.43	0.33	0.25	0.20
748-2012	CW15C102K	50	.0010mfd	0.43	0.33	0.25	0.20
748-2013	CW15C102M	50	.0010mfd	0.43	0.33	0.25	0.20
748-2017	CW15C222K	50	.0022mfd	0.43	0.33	0.25	0.20
748-2019	CW15C332K	50	.0033mfd	0.43	0.33	0.25	0.20
748-2021	CW15C472K	50	.0047mfd	0.43	0.33	0.25	0.20
748-2024	CW15C103K	50	.01mfd	0.45	0.34	0.26	0.21
748-2025	CW15C103M	50	.01mfd	0.43	0.33	0.25	0.20
748-2027	CW15C153K	50	.015mfd	0.57	0.42	0.33	0.28
748-2028	CW20C103K	50	.01mfd	0.45	0.34	0.26	0.21
748-2030	CW20C223K	50	.022mfd	0.63	0.51	0.42	0.36
748-2034	CW20C473K	50	.047mfd	0.62	0.50	0.41	0.35
748-2035	CW20C473M	50	.047mfd	0.59	0.48	0.38	0.30
748-2037	CW20C683K	50	.068mfd	0.59	0.48	0.38	0.30
748-2039	CW20C104K	50	.1mfd	0.59	0.48	0.38	0.30
748-2040	CW20C104M	50	.1mfd	0.55	0.42	0.34	0.29
748-2041	CW30C104K	50	.1mfd	1.46	1.22	1.02	0.82
748-2042	CW30C104M	50	.1mfd	1.46	1.22	1.02	0.82
748-2043	CW30C154K	50	.15mfd	1.54	1.29	1.08	0.89
748-2044	CW30C224K	50	.22mfd	1.73	1.50	1.25	1.03
748-2050	CW15A471K	100	470pf	0.43	0.33	0.25	0.20
748-2052	CW15A681K	100	680pf	0.43	0.33	0.25	0.20
748-2054	CW15A102K	100	.001mfd	0.43	0.33	0.25	0.20
748-2058	CW15A222K	100	.0022mfd	0.43	0.33	0.25	0.20
748-2060	CW15A332K	100	.0033mfd	0.43	0.33	0.25	0.20
748-2062	CW15A472K	100	.0047mfd	0.43	0.33	0.25	0.20
748-2066	CW20A103M	100	.01mfd	0.63	0.53	0.43	0.36
748-2067	CW20A123K	100	.012mfd	0.65	0.55	0.44	0.38
748-2070	CW20A223K	100	.022mfd	0.65	0.55	0.44	0.38
748-2072	CW20C333K	100	.033mfd	0.65	0.55	0.44	0.38
748-2074	CW30A473K	100	.047mfd	0.99	0.86	0.78	0.69
748-2080	CW40A224K	100	.22mfd	1.78	1.60	1.40	1.25
748-2081	CW40A334K	100	.33mfd	3.64	3.01	2.75	2.30
748-2082	CW50A474K	100	.47mfd	11.25	10.39	9.59	8.61

* Last Letter of Mfr.'s Type No. indicates tolerance: K- ± 10%; M- ± 20%; Z- + 80, – 20%; P- + 100, – 0%; J- ± 5%.D

CY-CZ Series General-Purpose Miniature Size Capacitors With High Capacitance, Epoxy Coated

Stock No.	Mfr.'s Type*	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-3001	CZ15C102M	50	.001mfd	0.41	0.31	0.22	0.17
748-3002	CZ15C103Z	50	.010mfd	0.65	0.54	0.45	0.36
748-3003	CZ20C473Z	50	.047mfd	0.50	0.41	0.33	0.26
748-3004	CZ20C104M	50	.1mfd	0.35	0.26	0.21	0.18
748-3005	CZ20C104Z	50	.1mfd	0.35	0.26	0.21	0.18
748-3006	CZ20C224M	50	.22mfd	0.51	0.46	0.42	0.38
748-3007	CZ20C224Z	50	.22mfd	0.51	0.46	0.42	0.38
748-3009	CZ30C334M	50	.33mfd	0.51	0.46	0.42	0.38
748-3010	CZ30C474Z	50	.47mfd	1.04	0.93	0.82	0.71
748-3011	CZ30C105M	50	1.0mfd	1.10	0.96	0.85	0.75
748-4005	CY15C222M	50	.0022mfd	0.57	0.47	0.36	0.28
748-4006	CY15C332M	50	.0033mfd	0.57	0.47	0.36	0.28
748-4009	CY15C103M	50	.01mfd	0.59	0.49	0.38	0.30
748-4010	CY15C103P	50	.01mfd	0.57	0.47	0.36	0.28
748-4012	CY15C223M	50	.022mfd	0.57	0.47	0.36	0.28
748-4016	CY20C104M	50	.1mfd	0.27	0.23	0.16	0.13
748-4017	CY20C104P	50	.1mfd	0.51	0.46	0.42	0.38
748-4018	CY20C104Z	50	.1mfd	0.51	0.46	0.42	0.38
748-4019	CY20C154M	50	.15mfd	0.58	0.48	0.37	0.29
748-4020	CY20C224M	50	.22mfd	0.59	0.49	0.38	0.30
748-4022	CZ30C474M	50	.47mfd	1.03	0.89	0.81	0.73
748-4023	CY30C684M	50	.68mfd	1.19	1.01	0.90	0.79
748-4024	CY30C105M	50	1.0mfd	1.19	1.01	0.90	0.79
748-4025	CY30C105P	50	1.00mfd	1.25	1.03	0.92	0.80
748-4028	CZ05C335M	50	3.3mfd	5.17	4.77	4.01	3.70
748-4029	CZ50C475M	50	4.7mfd	5.85	5.25	4.55	4.01
748-4031	CY15A103M	100	.01mfd	0.51	0.46	0.42	0.38
748-4038	CY20A104M	100	.1mfd	0.50	0.45	0.41	0.37
748-3008	CZ20A104M	100	.1mfd	0.51	0.46	0.42	0.38
748-4039	CY20A104P	100	.1mfd	0.29	0.25	0.20	0.17
748-4041	CZ30A224M	100	.22mfd	0.96	0.88	0.78	0.71
748-4042	CY30A334M	100	.33mfd	1.15	1.06	0.97	0.87
748-4043	CY30A474M	100	.47mfd	1.65	1.37	1.11	0.98
748-4045	CZ40A105M	100	1.0mfd	5.43	4.65	4.01	3.66

* Last Letter of Mfr.'s Type No. indicates tolerance: K- ± 10%; M- ± 20%; Z- + 80, – 20%; P- + 100, – 0%; J- ± 5%.D

CN Series — Ultra Stable COG (NPO) Rated

Stock No.	Mfr.'s Type*	WVDC	Capacitance	EACH			
				1-99	100-999	1000-9999	10000-Up
748-1022	CN15C101K	50	100pf	0.54	0.47	0.40	0.33
748-1020	CN30C103K	50	.01mfd	2.33	2.15	1.89	1.01
748-1021	CN30C103J	50	.01mfd	2.46	2.27	1.91	1.70
748-1001	CN15A100K	100	10pf	0.57	0.48	0.36	0.28
748-1002	CN15A150K	100	15pf	0.57	0.48	0.36	0.28
748-1003	CN15A220K	100	22pf	0.57	0.48	0.36	0.28
748-1004	CN15A330K	100	33pf	0.57	0.48	0.36	0.28
748-1005	CN15A470K	100	47pf	0.57	0.48	0.36	0.28
748-1006	CN15A680K	100	68pf	0.57	0.48	0.36	0.28
748-1023	CN15A101J	100	100pf	0.75	0.63	0.54	0.47
748-1007	CN15A101K	100	100pf	0.57	0.48	0.36	0.28
748-1008	CN15A151K	100	150pf	0.60	0.50	0.38	0.29
748-1009	CN15A221K	100	220pf	0.63	0.53	0.41	0.32
748-1010	CN20A331K	100	330pf	0.67	0.57	0.45	0.35
748-1011	CN20A471K	100	470pf	0.69	0.59	0.47	0.37
748-1024	CN20A102J	100	.001mfd	1.03	0.87	0.69	0.51
748-1013	CN20A102K	100	.001mfd	0.83	0.69	0.51	0.43
748-1014	CN20A152K	100	.0015mfd	1.38	1.15	1.01	0.89
748-1015	CN30A222K	100	.0022mfd	1.94	1.62	1.49	1.35
748-1016	CN30A332K	100	.0033mfd	1.96	1.64	1.51	1.37
748-1017	CN30A472K	100	.0047mfd	2.50	2.20	1.93	1.80
748-1018	CN30A682J	100	.0068mfd	2.24	2.01	1.81	1.70
748-1019	CN40A103K	100	.01mfd	9.00	7.18	6.50	6.01
—	—	—	—	—	—	—	—

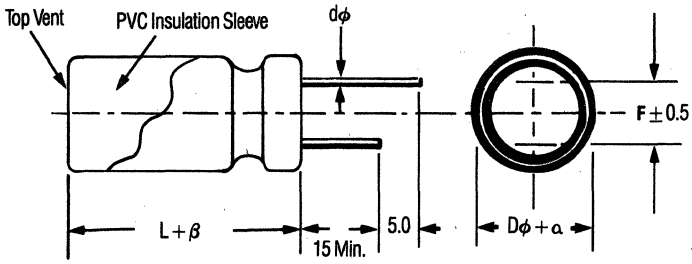
Ceramic Disc Capacitor Kit With Metal Storage Cabinet

Kit — 60D Disc Capacitor Kit. Contains 245 of the most widely used general purpose disc capacitors in 600 and 1000 WVDC units. For bypass and noncritical coupling applications. Includes five each: 5, 10, 15, 20, 22, 25, 33, 47, 50, 68, 120, 150, 180, 220, 250, 270, 300, 330, 390, 470, 500, 680, 820, 1500, 2200, 3000, 4700, 6800, 20,000, 50,000 pF. Ten each: 100, 200, 2000 pF. Fifteen each: 5000 pF. Twenty-five each: 1000, 10,000 pF. Sturdy 15-drawer cabinet.

748-0765 ..... **EACH 150.00**

NRSA

NRSA industrial grade miniature aluminum electrolytic capacitors cover a wide variety of applications with economical pricing. The NRSA series features the latest generation of miniature sizing, anti-solvent end seals and long operating life at 85°C (2000 hours for 5-8 ϕ sizes and 4000 hours for 10 ϕ sizes). Capacitance tolerance is ±20% at 120 Hz and operating temperature range is −40°C to +85°C.



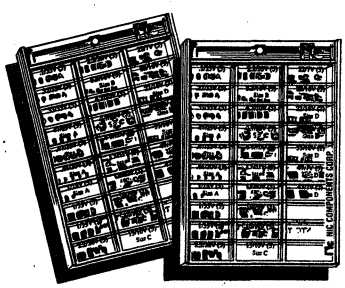
Case Dia. (Dϕ)	Leads Dia. (dϕ)	Lead Spacing (F) (Nominal)	Dim. α	Dim. β
.197 (5.0)	.020 (0.5)	.080 (2.0)	.020 (0.5)	.060 (1.5)
.250 (6.3)	.024 (0.6)	.100 (2.5)	.020 (0.5)	.060 (1.5)
.315 (8.0)	.024 (0.6)	.140 (3.5)	.020 (0.5)	.060 (1.5)
.394 (10.0)	.024 (0.6)	.200 (5.0)	.020 (0.5)	.060 (1.5)
.492 (12.5)	.024 (0.6)	.200 (5.0)*	.020 (0.5)	.060 (1.5)
.630 (16.0)	.032 (0.8)	.300 (7.5)	.020 (0.5)	.080 (2.0)
.709 (18.0)	.032 (0.8)	.300 (7.5)	.020 (0.5)	.080 (2.0)

Dimensions in inches (mm). *.300 (7.5) spacing optional.

Stock No.	Mfr.'s Type	µF	WVDC	Case Size MM D×L	EACH 1-99	100-499	500-999	1000-Up
874-1000	NRSA331M6.3V6.3×11	330	6.3	6.3×11	.11	.10	.09	.08
874-1002	NRSA102M6.3V10×12.5	1000	6.3	10×12.5	.22	.19	.17	.16
874-1004	NRSA332M6.3V12.5×20	3300	6.3	12.5×20	.38	.32	.30	.27
874-1006	NRSA101M10V5×11	100	10	5×11	.08	.07	.06	.06
874-1008	NRSA221M10V6.3×11	220	10	6.3×11	.09	.08	.07	.07
874-1010	NRSA471M10V8×11.5	470	10	8×11.5	.13	.11	.10	.09
874-1012	NRSA102M10V10×16	1000	10	10×16	.23	.20	.18	.17
874-1014	NRSA222M10V12.5×20	2200	10	12.5×20	.37	.31	.29	.27
874-1016	NRSA472M10V16×25	4700	10	16×25	.88	.74	.68	.63
874-1018	NRSA331M16V8×11.5	330	16	8×11.5	.13	.11	.10	.09
874-1020	NRSA471M16V10×12.5	470	16	10×12.5	.16	.14	.13	.12
874-1022	NRSA102M16V10×20	1000	16	10×20	.28	.24	.22	.20
874-1024	NRSA222M16V12.5×25	2200	16	12.5×25	.49	.41	.38	.35
874-1026	NRSA332M16V16×25	3300	16	16×25	.70	.59	.54	.50
874-1028	NRSA472M16V16×31	4700	16	16×31	.94	.79	.73	.67
874-1030	NRSA47M25V5×11	47	25	5×11	.07	.06	.05	.05
874-1032	NRSA101M25V6.3×1.1	100	25	6.3×11	.09	.07	.07	.06
874-1034	NRSA221M25V8×11.5	220	25	8×11.5	.11	.10	.09	.08
874-1036	NRSA331M25V10×12.5	330	25	10×12.5	.17	.14	.13	.12
874-1038	NRSA471M25V10×16	470	25	10×16	.25	.21	.19	.18
874-1040	NRSA102M25V12.5×20	1000	25	12.5×20	.42	.35	.33	.30
874-1042	NRSA222M25V16×25	2200	25	16×25	.72	.60	.56	.51
874-1044	NRSA332M25V16×31	3300	25	16×31	.98	.82	.76	.70
874-1046	NRSA472M25V18×36	4700	25	18×36	2.00	1.17	1.08	1.00

Stock No.	Mfr.'s Type	µF	WVDC	Case Size MM D×L	EACH 1-99	100-499	500-999	1000-Up
874-1048	NRSA33M35V5×11	33	35	5×11	.07	.06	.05	.05
874-1050	NRSA221M35V10×12.5	220	35	10×12.5	.16	.14	.13	.12
874-1052	NRSA331M35V10×16	330	35	10×16	.24	.20	.19	.17
874-1054	NRSA471M35V10×20	470	35	10×20	.28	.24	.22	.20
874-1056	NRSA102M35V12.5×25	1000	35	12.5×25	.49	.41	.38	.35
874-1058	NRSA222M35V16×31	2200	36	16×31	.90	.75	.69	.64
874-1060	NRSA10M50V5×11	10	50	5×11	.07	.06	.06	.05
874-1062	NRSA22M50V5×11	22	50	5×11	.08	.07	.06	.06
874-1064	NRSA33M50V6.3×11	33	50	6.3×11	.09	.07	.07	.06
874-1066	NRSA47M50V6.3×11	47	50	6.3×11	.10	.09	.08	.07
874-1068	NRSA101M50V8×11.5	100	50	8×11.5	.14	.12	.11	.10
874-1070	NRSA221M50V10×16	220	50	10×16	.25	.21	.20	.18
874-1072	NRSA331M50V10×20	330	50	10×20	.33	.28	.26	.24
874-1074	NRSA471M50V12.5×20	470	50	12.5×20	.42	.35	.33	.30
874-1076	NRSA102M50V16×25	1000	50	16×25	.90	.54	.50	.45
874-1078	NRSA222M50V18×36	2200	50	18×36	1.34	1.12	1.03	.95
874-1080	NRSA1M100V5×11	1	100	5×11	.07	.06	.05	.05
874-1082	NRSA2.2M100V5×11	2.2	100	5×11	.07	.06	.05	.05
874-1084	NRSA3.3M100V5×11	3.3	100	5×11	.07	.06	.05	.05
874-1086	NRSA4.7M100V5×11	4.7	100	5×11	.07	.06	.06	.05
874-1088	NRSA10M100V6.3×11	10	100	6.3×11	.09	.08	.07	.07
874-1090	NRSA22M100V8×11.5	22	100	8×11.5	.11	.10	.09	.08
874-1092	NRSA47M100V10×16	47	100	10×16	.20	.17	.15	.14
874-1094	NRSA101M100V12.5×20	100	100	12.5×20	.33	.28	.26	.24

Surface Mount Capacitor Kits



NIC's Kits offer a wide variety of values, sizes and characteristics in convenient Kit format. These Kits are ideally suited for designing and prototyping your circuit boards, as well as testing component performance during your production processing. Each Kit comes with product specifications and easily identifiable compartments.

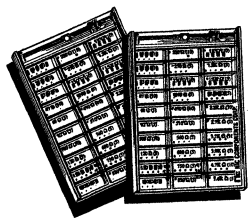
NMC 1206 Kit
Multi-layer ceramic chip capacitors in 1206 sizes. **Capacitance Range:** 10pfd to .22mfd. **Working Voltage:** 50WVDC. **Temperature Characteristics:** NPO, X7R, Y5V. **Terminations:** Nickel barrier. **Quantity:** 200 pieces total. 5 each—22pf, 33pf, 150pf, 330pf, 680pf, .0033mf, .0068mf, .033mf, .068mf, .22mf. 10 each—10pf, 47pf, 100pf, 220pf, 470pf, .0022mf, .0047mf, .022mf, .047mf. 20 each—.001mf, .01mf, .1mf
874-0010 ..... **EACH 35.00**

NMC 0805 Kit
Multi-layer ceramic chip capacitors in 0805 sizes. **Capacitance Range:** 10pfd to .1mfd. **Working Voltage:** 50WVDC. **Temperature Characteristics:** NPO, X7R, Y5V. **Terminations:** Nickel barrier. **Quantity:** 200 pieces total. 5 each—22pf, 33pf, 150pf, 680pf, .0033mf, .0068mf, .033mf, .068mf. 10 each—10pf, 47pf, 100pf, 220pf, 470pf, .0022mf, .0047mf, .022mf, .047mf. 20 each—.001mf, .01mf, .1mf
874-0015 ..... **EACH 35.00**

NFC Kit
Molded, metallized polyester film chip capacitors. **Capacitance Range:** .01mfd to .22mfd. **Working Voltage:** 25WVDC to 630WVDC. **Temperature Range:** −40°C to +85°C. **Tolerance:** ±10% (K). **Quantity:** 60 pieces total. 10 each—.01mf, .022mf, .033mf, .047mf, .1mf, .22mf
874-0020 ..... **EACH 60.00**

NTC Kit
Resin molded solid tantalum chip capacitors. **Capacitance Range:** 0.1mfd to 47mfd. **Working Voltage:** 7WVDC to 35WVDC. **Temperature Range:** −55°C to +125°C. **Tolerance:** ±20% (M). **Quantity:** 150 pieces total. 5 each—.1mf, .22mf, .33mf, .68mf, 3.3mf, 6.8mf, 15mf, 33mf, 47mf. 10 each—.47mf, 2.2mf, 22mf. 15 each—10mf. 20 each: 1mf, 4.7mf.
874-0025 ..... **EACH 135.00**

Surface Mount Resistor Kits



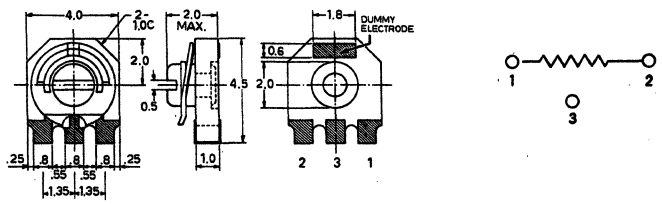
NIC's Kits offer a wide variety of values, sizes and characteristics in convenient Kit format. These Kits are ideally suited for designing and prototyping your circuit boards, as well as testing component performance during your production processing. Each Kit comes with product specifications and easily identifiable compartments.

NSMN-C Kit
Thick film resistor network in small-outline package, 16 pins. **Circuit Type:** Common. **Resistance Range:** 100 ohms to 220 K ohms. **Power Rating:** 1/2 watt package. **Maximum Working Voltage:** Rated power × resistance value or 50 V whichever is less. **Tolerance:** ±2% (G). **Quantity:** 50 pieces, 20 resistance values.
874-0030 ..... **EACH 72.00**

NSMN-I Kit
Thick film resistor network in small-outline package, 16 pins. **Circuit Type:** Isolated. **Resistance Range:** 100 ohms to 220 K ohms. **Power Rating:** 1/2 watt package. **Maximum Working Voltage:** Rated power × resistance value or 50 V whichever is less. **Tolerance:** ±2% (G). **Quantity:** 50 pieces, 20 resistance values.
874-0035 ..... **EACH 72.00**

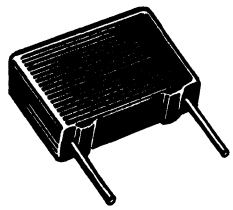
NRC 18 Kit
Thick film chip resistors in 1206 size (in two plastic cases). **Resistance Range:** 10 ohms to 1 Megohm. **Power Rating:** 1/8 watt at 70°C. **Working Voltage:** 200 V. **Tolerance:** ±5% (J). **Quantity:** 365 pieces, 60 resistance values.
874-0040 ..... **EACH 48.00**

NRCT 43BM Cermet Trimmer Resistor Kit



Cermet Trimmer Resistor Chips: 3 terminals minus driver. **Power Rating:** 1/2 watt at 70°C. **Tolerance:** ±25%. **Temperature Coefficient:** ±300 ppm/°C. **Resistance Range:** 500 ohms to 2.2 megohms. **Quantity:** 36 pieces of 12 popular values.
874-0050 ..... **EACH 48.00**

MKT Metallized Polyester Series

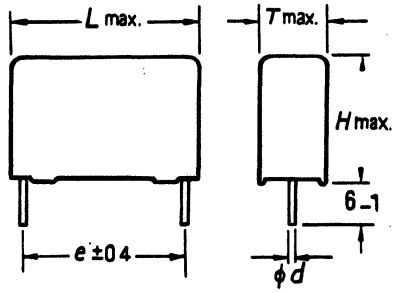


- **Excellent pulse handling characteristics**
- **Superior current absorbtion during prolonged spike periods**
- **Tighter tolerances**
- **Enhanced protection from voltage/current/temperature overloads even if they occur simultaneously**
- **High capacitance-to-volume ratio**

Self-healing capacitor with polyethyleneterephthalate dielectric. Encapsulated in a flame-retardant rectangular plastic case (in accordance with UL 94 V-0). Epoxy resin sealed for humidity resistance. For improved solderability, the package is provided with spacers. Connections: parallel leads, tinned, plug-in in the lead spacing. Particularly suited for spacesaving assembly at high packing density on any pc board.

Today's voltage-sensitive electronic designs require capacitors that can stand up to the rigors of overload punishment and keep on performing. That's why at Siemens, we've developed a broad line of rugged, self-healing stacked-film capacitors. Our stacked-film capacitors are the high reliability alternative to conventional capacitor technology. Advanced metallized film design ensures consistent, quality performance.

Capacitors with 5 mm and 7.5 mm lead spacing, as well as capacitors with a lead spacing of 7.5/5 mm (leads crimped to a lead spacing of 5 mm) are also available on continuous tape. For taping specifications and ordering information refer to closest Allied Sales Office.



L	Lead spacing "e"	ϕd
7.5	5.0	0.5
10.0	10.0	0.6
13.0	10.0	0.8
18.0	15.0	0.8
27.0	22.5	0.8
31.5	27.5	0.8

Voltage Ratings	
DC	AC
63 V	40 V
100 V	63 V
250 V	160 V
400 V	200 V
630 V	220 V

5% Tolerance

Stock No.	Mfr.'s Type	Uf	Volts DC	Dim T×H×L	L.S. (mm)	EACH 1-99	EACH 100-249	EACH 250-Up
856-0100	B32529-B0102-J	.0010	63	2.5×6.5×7.2	5.0	.44	.38	.30
856-0105	B32529-B0222-J	.0022	63	2.5×6.5×7.2	5.0	.24	.20	.16
856-0110	B32529-B0332-J	.0033	63	2.5×6.5×7.2	5.0	.24	.20	.16
856-0115	B32529-B0472-J	.0047	63	2.5×6.5×7.2	5.0	.24	.20	.16
856-0120	B32529-B0682-J	.0068	63	2.5×6.5×7.2	5.0	.24	.20	.16
856-0125	B32529-B0103-J	.0100	63	2.5×6.5×7.2	5.0	.24	.20	.16
856-0130	B32529-B0223-J	.0220	63	2.5×6.5×7.2	5.0	.26	.22	.18
856-0135	B32529-B0333-J	.0330	63	2.5×6.5×7.2	5.0	.30	.25	.20
856-0140	B32529-B0473-J	.0470	63	2.5×6.5×7.2	5.0	.31	.26	.21
856-0145	B32529-B0683-J	.0680	63	2.5×6.5×7.2	5.0	.33	.27	.22
856-0150	B32529-B0104-J	.1000	63	2.5×6.5×7.2	5.0	.34	.28	.22
856-0155	B32529-B0224-J	.2200	63	3.5×8.0×7.2	5.0	.56	.45	.36
856-0160	B32529-B0334-J	.3300	63	3.5×8.0×7.2	5.0	.64	.53	.42
856-0165	B32529-B0474-J	.4700	63	4.5×9.5×7.2	5.0	.73	.60	.48
856-0170	B32529-B0684-J	.6800	63	5.1×10.0×7.2	5.0	1.00	.82	.65
856-0175	B32529-B0105-J	1.0000	63	6.0×10.5×7.2	5.0	1.33	1.10	.87
856-0180	B32520-B0224-J	.2200	63	3.0×8.0×10.0	7.5	.45	.37	.30
856-0185	B32520-B0334-J	.3300	63	4.0×8.5×10.0	7.5	.56	.46	.37
856-0190	B32520-B0474-J	.4700	63	4.0×8.5×10.0	7.5	.64	.53	.42
856-0195	B32520-B0684-J	.6800	63	5.0×10.5×10.0	7.5	.72	.60	.48
856-0199	B32520-B0105-J	1.0000	63	6.0×12.0×10.0	7.5	1.60	1.32	1.05
856-0200	B32529-B1102-J	.0010	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-0205	B32529-B1222-J	.0022	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-0210	B32529-B1332-J	.0033	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-0215	B32529-B1472-J	.0047	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-0220	B32529-B1682-J	.0068	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-0225	B32529-B1103-J	.0100	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-0230	B32529-B1223-J	.0220	100	2.5×6.5×7.2	5.0	.26	.22	.18
856-0235	B32529-B1333-J	.0330	100	2.5×6.5×7.2	5.0	.30	.25	.20
856-0240	B32529-B1473-J	.0470	100	3.0×6.5×7.2	5.0	.32	.27	.21
856-0245	B32529-B1683-J	.0680	100	3.5×8.0×7.2	5.0	.33	.27	.22
856-0250	B32529-B1104-J	.1000	100	4.5×9.5×7.2	5.0	.34	.28	.22
856-0255	B32529-B1224-J	.2200	100	5.0×10.0×7.2	5.0	.44	.36	.29
856-0260	B32529-B1334-J	.3300	100	6.0×10.5×7.2	5.0	.56	.45	.36
856-0265	B32529-B1474-J	.4700	100	7.2×13.0×7.2	5.0	.64	.53	.42
856-0280	B32520-B1473-J	.0470	100	3.0×8.0×10.0	7.5	.29	.24	.19
856-0285	B32520-B1683-J	.0680	100	3.0×8.0×10.0	7.5	.29	.24	.19
856-0290	B32520-B1104-J	.1000	100	3.0×8.0×10.0	7.5	.29	.25	.20
856-0295	B32520-B1224-J	.2200	100	4.0×8.5×10.0	7.5	.45	.37	.30
856-0299	B32520-B1334-J	.3300	100	5.0×10.5×10.0	7.5	.57	.47	.37
856-0300	B32520-B3223-J	.0220	250	3.0×8.0×10.0	5.0	.28	.23	.18
856-0305	B32520-B3333-J	.0330	250	3.0×8.0×10.0	5.0	.28	.23	.19
856-0310	B32520-B3473-J	.0470	250	4.0×8.0×10.0	5.0	.29	.25	.20
856-0315	B32520-B3683-J	.0680	250	5.0×10.5×10.0	5.0	.31	.26	.21
856-0320	B32520-B3104-J	.1000	250	5.0×10.5×10.0	5.0	.36	.30	.24
856-0350	B32521-B3473-J	.0470	250	4.0×9.0×13.0	10.0	.27	.22	.17
856-0355	B32521-B3683-J	.0680	250	4.0×9.0×13.0	10.0	.28	.23	.19
856-0360	B32521-B3104-J	.1000	250	5.0×11.5×13.0	10.0	.32	.25	.20

10% Tolerance

Stock No.	Mfr.'s Type	Uf	Volts DC	Dim T×H×L	L.S. (mm)	EACH 1-99	EACH 100-249	EACH 250-Up
856-1100	B32529-B0102-K	.0010	63	2.5×6.5×7.2	5.0	.21	.18	.14
856-1105	B32529-B0222-K	.0022	63	2.5×6.5×7.2	5.0	.21	.18	.14
856-1110	B32529-B0332-K	.0033	63	2.5×6.5×7.2	5.0	.21	.18	.14
856-1115	B32529-B0472-K	.0047	63	2.5×6.5×7.2	5.0	.21	.18	.14
856-1120	B32529-B0682-K	.0068	63	2.5×6.5×7.2	5.0	.21	.18	.14
856-1125	B32529-B0103-K	.0100	63	2.5×6.5×7.2	5.0	.21	.18	.14
856-1130	B32529-B0223-K	.0220	63	2.5×6.5×7.2	5.0	.23	.20	.16
856-1135	B32529-B0333-K	.0330	63	2.5×6.5×7.2	5.0	.26	.22	.18
856-1140	B32529-B0473-K	.0470	63	2.5×6.5×7.2	5.0	.28	.24	.19
856-1145	B32529-B0683-K	.0680	63	2.5×6.5×7.2	5.0	.29	.24	.19
856-1150	B32529-B0104-K	.1000	63	2.5×6.5×7.2	5.0	.30	.25	.20
856-1155	B32529-B0224-K	.2200	63	3.5×8.0×7.2	5.0	.49	.40	.32
856-1160	B32529-B0334-K	.3300	63	3.5×8.0×7.2	5.0	.57	.48	.38
856-1165	B32529-B0474-K	.4700	63	4.5×9.5×7.2	5.0	.65	.54	.43
856-1170	B32529-B0684-K	.6800	63	5.1×10.0×7.2	5.0	.88	.73	.58
856-1175	B32529-B0105-K	1.0000	63	6.0×10.5×7.2	5.0	1.20	.98	.78
856-1180	B32520-B0224-K	.2200	63	3.0×8.0×10.0	7.5	.41	.35	.28
856-1185	B32520-B0334-K	.3300	63	4.0×8.5×10.0	7.5	.50	.42	.34
856-1190	B32520-B0474-K	.4700	63	4.0×8.5×10.0	7.5	.66	.49	.39
856-1195	B32520-B0648-K	.6800	63	5.0×10.5×10.0	7.5	.69	.56	.44
856-1199	B32520-B0105-K	1.0000	63	6.0×12.0×10.0	7.5	1.44	1.19	.96
856-1200	B32529-B1102-K	.0010	100	2.5×6.5×7.2	5.0	.22	.18	.14
856-1205	B32529-B1222-K	.0022	100	2.5×6.5×7.2	5.0	.22	.18	.14
856-1210	B32529-B1332-K	.0033	100	2.5×6.5×7.2	5.0	.22	.18	.14
856-1215	B32529-B1472-K	.0047	100	2.5×6.5×7.2	5.0	.22	.18	.14
856-1220	B32529-B1682-K	.0068	100	2.5×6.5×7.2	5.0	.22	.18	.14
856-1225	B32529-B1103-K	.0100	100	2.5×6.5×7.2	5.0	.22	.18	.14
856-1230	B32529-B1223-K	.0220	100	2.5×6.5×7.2	5.0	.24	.20	.16
856-1235	B32529-B1333-K	.0330	100	2.5×6.5×7.2	5.0	.26	.22	.18
856-1240	B32529-B1473-K	.0470	100	3.0×6.5×7.2	5.0	.28	.24	.19
856-1245	B32529-B1683-K	.0680	100	3.5×8.0×7.2	5.0	.28	.24	.19
856-1250	B32529-B1104-K	.1000	100	4.5×9.5×7.2	5.0	.30	.25	.20
856-1255	B32529-B1224-K	.2200	100	5.0×10.0×7.2	5.0	.49	.40	.32
856-1260	B32529-B1334-K	.3300	100	6.0×10.5×7.2	5.0	.64	.48	.38
856-1265	B32529-B1474-K	.4700	100	7.2×13.0×7.2	5.0	.64	.48	.38
856-1280	B32520-B1473-K	.0470	100	3.0×8.0×10.0	7.5	.26	.22	.18
856-1285	B32520-B1683-K	.0680	100	3.0×8.0×10.0	7.5	.26	.22	.18
856-1290	B32520-B1104-K	.1000	100	3.0×8.0×10.0	7.5	.28	.23	.18
856-1295	B32520-B1224-K	.2200	100	4.0×8.5×10.0	7.5	.41	.35	.28
856-1299	B32520-B1334-K	.3300	100	5.0×10.5×10.0	7.5	.52	.44	.35
856-1325	B32520-B3223-K	.0220	250	3.0×8.0×10.0	5.0	.28	.21	.17
856-1330	B32520-B3333-K	.0330	250	3.0×8.0×10.0	5.0	.28	.22	.17
856-1335	B32520-B3473-K	.0470	250	4.0×8.0×10.0	5.0	.29	.23	.18
856-1340	B32520-B3683-K	.0680	250	5.0×10.5×10.0	5.0	.31	.24	.19
856-1345	B32520-B3104-K	.1000	250	5.0×10.5×10.0	5.0	.33	.27	.22
856-1375	B32521-B3473-K	.0470	250	4.0×9.0×13.0	10.0	.24	.20	.16
856-1380	B32521-B3683-K	.0680	250	4.0×9.0×13.0	10.0	.26	.22	.17
856-1385	B32521-B3104-K	.1000	250	5.0×11.5×13.0	10.0	.28	.24	.19

Solid Tantalum Capacitors, Type 150D

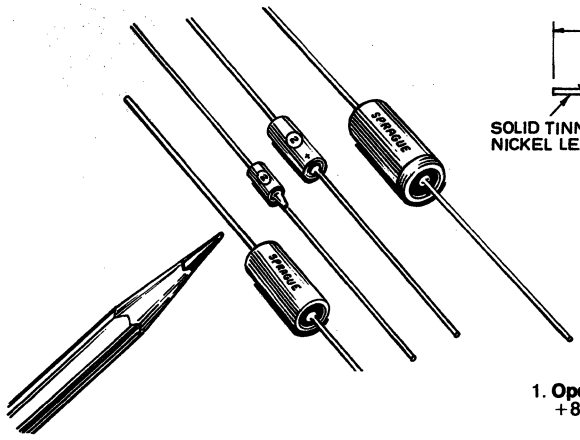
- Hermetically sealed metal cases.
- Recommended for industrial, military, and commercial applications.
- Capacitors listed have outer plastic-film insulation.
- Capacitors listed have capacitance tolerance of ±10%.
- Operating Temperature Range: −80°C to +85°C; to +125°C with voltage derating.

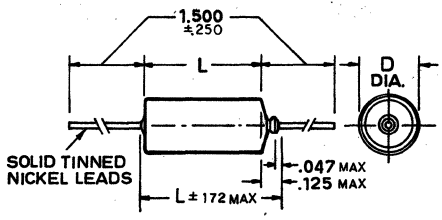
4

Dimensions

Size	D	L
A	0.135″	0.286″
B	0.185″	0.474″
R	0.289″	0.686″
S	0.351″	0.786″

For quantities in excess of 100 pieces, call for pricing and delivery at 1-800-433-5700.





1. **Operating Temperature Range:** −80°C to +85°C; to +125°C with voltage derating.

6 WVDC, 8 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1508	150D105X9006A2	1	A	.93	.65	.47
926-1514	150D335X9006A2	3.3	A	.93	.65	.47
926-1518	150D685X9006A2	6.8	A	.93	.65	.47
926-1520	150D106X9006B2	10	B	1.88	1.32	.95
926-1524	150D226X9006B2	22	B	1.88	1.32	.95
926-1526	150D336X9006B2	33	B	1.88	1.32	.95
926-1528	150D476X9006B2	47	B	1.88	1.32	.95
926-1529	150D566X9006B2	56	B	1.88	1.32	.95
926-1530	150D686X9006R2	68	R	5.05	3.54	2.56
926-1532	150D107X9006R2	100	R	5.05	3.54	2.56
926-1534	150D157X9006R2	150	R	5.05	3.54	2.56
926-1536	150D227X9006S2	220	S	9.68	6.79	4.90

10 WVDC, 13 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1539	150D224X9010A2	.22	A	.93	.65	.47
926-1544	150D564X9010A2	.56	A	.93	.65	.47
926-1547	150D105X9010A2	1	A	.93	.65	.47
926-1551	150D225X9010A2	2.2	A	.93	.65	.47
926-1554	150D395X9010A2	3.9	A	.93	.65	.47
926-1555	150D475X9010A2	4.7	A	.93	.65	.47
926-1557	150D685X9010B2	6.8	B	.93	.65	.47
926-1558	150D825X9010B2	8.2	B	.93	.65	.47
926-1564	150D276X9010B2	27	B	1.88	1.32	.95
926-1565	150D336X9010B2	33	B	1.88	1.32	.95
926-1566	150D396X9010B2	39	B	1.88	1.32	.95
926-1568	150D566X9010R2	56	R	5.05	3.54	2.56
926-1571	150D107X9010R2	100	R	5.05	3.54	2.56
926-1572	150D127X9010R2	120	R	5.05	3.54	2.56
926-1573	150D157X9010S2	150	S	9.68	6.79	4.90
926-1575	150D227X9010S2	220	S	9.68	6.79	4.90

15 WVDC, 20 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1578	150D334X9015A2	.33	A	.93	.65	.47
926-1584	150D105X9015A2	1	A	.93	.65	.47
926-1586	150D155X9015A2	1.5	A	.93	.65	.47
926-1588	150D225X9015A2	2.2	A	.93	.65	.47
926-1590	150D335X9015A2	3.3	A	.93	.65	.47
926-1592	150D475X9015B2	4.7	B	1.88	1.32	.95
926-1596	150D106X9015B2	10	B	1.88	1.32	.95
926-1598	150D156X9015B2	15	B	1.88	1.32	.95
926-1600	150D226X9015B2	22	B	1.88	1.32	.95
926-1608	150D107X9015S2	100	S	9.68	6.79	4.90
926-1609	150D127X9015S2	120	S	9.68	6.79	4.90
926-1610	150D157X9015S2	150	S	9.68	6.79	4.90

20 WVDC, 23 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1611	150D472X9020A2	.0047	A	.93	.65	.47
926-1615	150D103X9020A2	.01	A	.93	.65	.47
926-1617	150D153X9020A2	.015	A	.93	.65	.47
926-1619	150D223X9020A2	.022	A	.93	.65	.47
926-1621	150D333X9020A2	.033	A	.93	.65	.47
926-1623	150D473X9020A2	.047	A	.93	.65	.47
926-1627	150D104X9020A2	.1	A	.93	.65	.47
926-1637	150D684X9020A2	.68	A	.93	.65	.47
926-1639	150D105X9020A2	1	A	.93	.65	.47

20 WVDC, 23 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1642	150D185X9020A2	1.8	A	.93	.65	.47
926-1643	150D225X9020A2	2.2	A	.93	.65	.47
926-1644	150D275X9020B2	2.7	B	1.88	1.32	.95
926-1645	150D335X9020B2	3.3	B	1.88	1.32	.95
926-1650	150D825X9020B2	8.2	B	1.88	1.32	.95
926-1651	150D106X9020B2	10	B	1.88	1.32	.95
926-1652	150D126X9020B2	12	B	1.88	1.32	.95
926-1653	150D156X9020B2	15	B	1.88	1.32	.95
926-1654	150D186X9020R2	18	R	5.05	3.54	2.56
926-1655	150D226X9020R2	22	R	5.05	3.54	2.56
926-1656	150D276X9020R2	27	R	5.05	3.54	2.56
926-1658	150D396X9020R2	39	R	5.05	3.54	2.56
926-1659	150D476X9020R2	47	R	5.05	3.54	2.56
926-1661	150D686X9020S2	68	S	9.68	6.79	4.90
926-1663	150D107X9020S2	100	S	9.68	6.79	4.90

35 WVDC, 46 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1664	150D472X9035A2	.0047	A	.93	.65	.47
926-1668	150D103X9035A2	.01	A	.93	.65	.47
926-1672	150D223X9035A2	.022	A	.93	.65	.47
926-1676	150D473X9035A2	.047	A	.93	.65	.47
926-1678	150D683X9035A2	.068	A	.93	.65	.47
926-1680	150D104X9035A2	.1	A	.93	.65	.47
926-1684	150D224X9035A2	.22	A	.93	.65	.47
926-1686	150D334X9035A2	.33	A	.93	.65	.47
926-1688	150D474X9035A2	.47	A	.93	.65	.47
926-1690	150D684X9035A2	.68	A	.93	.65	.47
926-1691	150D824X9035A2	.82	A	.93	.65	.47
926-1692	150D105X9035A2	1	A	.93	.65	.47
926-1693	150D125X9035B2	1.2	B	1.88	1.32	.95
926-1696	150D225X9035B2	2.2	B	1.88	1.32	.95
926-1697	150D275X9035B2	2.7	B	1.88	1.32	.95
926-1698	150D335X9035B2	3.3	B	1.88	1.32	.95
926-1699	150D395X9035B2	3.9	B	1.88	1.32	.95
926-1700	150D475X9035B2	4.7	B	1.88	1.32	.95
926-1701	150D565X9035B2	5.6	B	1.88	1.32	.95
926-1702	150D685X9035B2	6.8	B	1.88	1.32	.95
926-1703	150D825X9035R2	8.2	R	5.05	3.54	2.56
926-1704	150D106X9035R2	10	R	5.05	3.54	2.56
926-1706	150D156X9035R2	15	R	5.05	3.54	2.56
926-1708	150D226X9035R2	22	R	5.05	3.54	2.56
926-1709	150D276X9035S2	27	S	9.68	6.79	4.90
926-1710	150D336X9035S2	33	S	9.68	6.79	4.90
926-1711	150D396X9035S2	39	S	9.68	6.79	4.90
926-1712	150D476X9035S2	47	S	9.68	6.79	4.90

50 WVDC, 65 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1714	150D562X9050A2	.0056	A	1.00	.70	.51
926-1715	150D682X9050A2	.0068	A	1.00	.70	.51
926-1717	150D103X9050A2	.01	A	1.00	.70	.51
926-1721	150D223X9050A2	.022	A	1.00	.70	.51
926-1723	150D333X9050A2	.033	A	1.00	.70	.51
926-1725	150D473X9050A2	.047	A	1.00	.70	.51
926-1726	150D563X9050A2	.056	A	1.00	.70	.51
926-1729	150D104X9050A2	.1	A	1.00	.70	.51
926-1733	150D224X9050A2	.22	A	1.00	.70	.51
926-1737	150D474X9050A2	.47	A	1.00	.70	.51
926-1739	150D684X9050A2	.68	1A	1.00	.70	.51
926-1741	150D105X9050A2	1	A	1.00	.70	.51

50 WVDC, 65 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1747	150D335X9050B2	3.3	B	1.98	1.39	1.00
926-1749	150D475X9050B2	4.7	B	1.98	1.39	1.00
926-1750	150D565X9050R2	5.6	R	5.23	3.67	2.65
926-1753	150D106X9050R2	10	R	5.23	3.67	2.65
926-1755	150D156X9050R2	15	R	5.23	3.67	2.65
926-1757	150D226X9050S2	22	S	9.95	6.98	5.04

60 WVDC, 78 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1458	150D223X9060A2	.022	A	1.75	1.23	.89
926-1464	150D683X9060A2	.068	A	1.75	1.23	.89
926-1465	150D823X9060A2	.082	A	1.75	1.23	.89
926-1466	150D104X9060A2	.1	A	1.75	1.23	.89
926-1478	150D105X9060B2	1	B	3.30	2.32	1.67
926-1494	150D226X9060S2	22	S	17.42	12.23	8.82

75 WVDC, 98 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1760	150D472X9075A2	.0047	A	1.75	1.23	.89
926-1768	150D223X9075A2	.022	A	1.75	1.23	.89
926-1769	150D273X9075A2	.027	A	1.75	1.23	.89
926-1772	150D473X9075A2	.047	A	1.75	1.23	.89
926-1774	150D683X9075A2	.068	A	1.75	1.23	.89
926-1776	150D104X9075A2	.1	A	1.75	1.23	.89
926-1778	150D154X9075A2	.15	A	1.75	1.23	.89
926-1780	150D224X9075A2	.22	A	1.75	1.23	.89
926-1786	150D684X9075A2	.68	A	1.75	1.23	.89
926-1788	150D105X9075B2	1	B	3.53	2.47	1.78
926-1789	150D125X9075B2	1.2	B	3.53	2.47	1.78
926-1791	150D185X9075B2	1.8	B	3.53	2.47	1.78
926-1792	150D225X9075B2	2.2	B	3.53	2.47	1.78
926-1794	150D335X9075B2	3.3	B	3.53	2.47	1.78
926-1795	150D475X9075R2	4.7	R	8.63	6.05	4.37
926-1799	150D106X9075R2	10	R	8.63	6.05	4.37

100 WVDC, 130 VDC Surge

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1814	150D103X9100A2	.01	A	3.58	2.51	1.81
926-1820	150D333X9100A2	.033	A	3.58	2.51	1.81
926-1823	150D683X9100A2	.068	A	3.58	2.51	1.81
926-1825	150D104X9100A2	.1	A	3.58	2.51	1.81
926-1830	150D274X9100A2	.27	A	3.58	2.51	1.81
926-1832	150D474X9100A2	.47	A	3.58	2.51	1.81
926-1834	150D684X9100B2	.68	B	5.28	3.70	2.67
926-1836	150D125X9100B2	1.2	B	5.28	3.70	2.67
926-1838	150D185X9100B2	1.8	B	5.28	3.70	2.67
926-1841	150D335X9100R2	3.3	R	17.50	12.28	8.86

125 WVDC, 140 VDC Surge

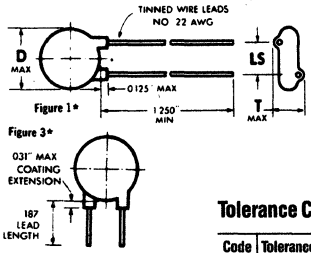
Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	25-49	50-99
926-1863	150D154X9125A2	.15	A	3.58	2.51	1.81
926-1873	150D105X9125B2	1	B	5.28	3.70	2.67
926-1876	150D185X9125B2	1.8	B	5.28	3.70	2.67

Cera-Mite® Ceramic Capacitors

Tiny, tough and dependable. Fine replacement for molded micas and tubular ceramics. Heavy moisture-proof insulating coat. For 85°C use.

Stock No.	Mfr.'s Type	Cap., pF	VDC	Size Fig./ Code	Tol.	EACH 1-24	EACH 25-49	EACH 50-99
926-3200	TCXQ10	10	100	3/C	J	0.30	0.27	0.23
926-3202	TCXQ47	47	100	3/C	K	0.30	0.27	0.23
926-3203	TST10	100	100	2/C	K	0.22	0.20	0.17
926-3204	TST22	220	100	2/C	K	0.22	0.20	0.17
926-3205	TST47	470	100	2/C	K	0.22	0.20	0.17
926-3206	TSD10	1000	100	2/C	M	0.22	0.20	0.17
926-3209	TGS10	10000	100	1/F	Y	0.22	0.20	0.17
926-3212	TGCS10	10000	100	3/F*	Z	0.28	0.25	0.22
926-3214	TGS50	50000	100	1/R	M	0.98	0.89	0.75
926-3215	TGP10	100000	100	1/W	M	1.78	1.62	1.37
926-3216	5TSD10	1000	500	1/E	K	0.28	0.25	0.22
926-3218	5TSD22	2200	500	1/F	K	0.30	0.27	0.23
926-3220	5TSD47	4700	500	1/H	K	0.44	0.40	0.34
926-3221	5TSD50	5000	500	1/F	Z	0.40	0.36	0.31
926-3222	5TSS10	10000	500	1/K	M	0.44	0.40	0.34
926-3224	5HKSS10	10000	500	1/G	Z	0.32	0.29	0.25
926-3225	5GASS20	20000	500	1/J	M	0.46	0.42	0.35
926-3226	5GAS50	50000	500	1/P	M	0.92	0.84	0.71
926-3228	5GAP10	100000	500	1/Y	M	2.62	2.38	2.02
926-3229	5HKP10	100000	500	1/Y	Z	2.34	2.13	1.80
926-3251	5GAD33	3300	1000	1/F	M	0.32	0.29	0.25
926-3252	5GAD47	4700	1000	1/F	M	0.30	0.27	0.23
926-3253	5GAD50	5000	1000	1/F	M	0.30	0.27	0.23
926-3254	5GAD68	6800	1000	1/G	M	0.36	0.33	0.28
926-3255	5GAD82	8200	1000	1/H	M	0.46	0.42	0.35
926-3256	5GAS10	10000	1000	1/J	M	0.46	0.42	0.35
926-3257	5HKZS10	10000	1000	1/H	Z	0.46	0.42	0.35
926-3258	5HKS10	10000	1000	1/J	Z	0.52	0.47	0.40
926-3259	5GAS15	15000	1000	1/K	M	0.52	0.47	0.40
926-3260	5GAS20	20000	1000	1/L	M	0.58	0.53	0.45
926-3261	10HKS50	50000	1000	1/X	Z	2.44	2.22	1.88
926-3262	10GAP10	100000	1000	1/Y	M	2.80	2.55	2.15
926-3263	30GAQ10	10	3000	1/E	M	0.46	0.42	0.35
926-3264	30GAQ12	12	3000	1/E	M	0.46	0.42	0.35
926-3265	30GAQ15	15	3000	1/E	M	0.46	0.42	0.35
926-3266	30GAQ22	22	3000	1/E	M	0.46	0.42	0.35
926-3267	30GAQ27	27	3000	1/E	M	0.46	0.42	0.35
926-3268	30GAQ33	33	3000	1/E	M	0.46	0.42	0.35
926-3269	30GAQ47	47	3000	1/E	M	0.46	0.42	0.35
926-3270	30GAQ56	56	3000	1/E	M	0.46	0.42	0.35
926-3271	30GAQ68	68	3000	1/E	M	0.46	0.42	0.35
926-3272	30GAT10	100	3000	1/E	M	0.46	0.42	0.35
926-3274	30GAT22	220	3000	1/E	M	0.46	0.42	0.35
926-3276	30GAT33	330	3000	1/E	M	0.46	0.42	0.35
926-3277	30GAT39	390	3000	1/E	M	0.46	0.42	0.35
926-3278	30GAT47	470	3000	1/E	M	0.46	0.42	0.35
926-3279	39GAT68	680	3000	1/E	M	0.46	0.42	0.35
926-3280	30GAD10	1000	3000	1/E	M	0.50	0.45	0.38
926-3281	30GAD15	1500	3000	1/F	M	0.52	0.47	0.40
926-3282	30GAD22	2200	3000	1/G	M	0.58	0.53	0.45
926-3284	30GAD33	3300	3000	1/H	M	0.72	0.65	0.55
926-3285	30GAD39	3900	3000	1/J	M	0.82	0.75	0.63
926-3286	30GAD47	4700	3000	1/J	M	0.94	0.85	0.72
926-3287	30GAD68	6800	3000	1/L	M	1.08	0.98	0.83
926-3289	30GAS10	10000	3000	1/P	M	1.88	1.71	1.45
926-3290	30GASS10	10000	3000	1/M	M	1.20	1.09	0.92

* No coating on leads



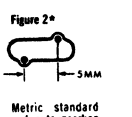


Figure 2*

Metric standard and auto-insertion standard

Tolerance Codes

Code	Tolerance	Code	Tolerance
J	±5%	Y	+50, −20%
K	±10%	Z	+80, −20%
M	±20%	P	+100, −0%

Dimensions (in inches)

Size Code	Maximum Diameter	Maximum Thickness	Std. Lead Spacing
C	.250	.156	.250
E	.295	.156	.250
F	.375	.156	.250
G	.440	.156	.250
H	.490	.156	.250
J	.560	.156	.375
K	.630	.156	.375
L	.680	.156	.375
M	.760	.156	.375
P	.890	.156	.375
R	.510	.220	.250
S	.360	.220	.250
W	.700	.220	.375
X	.770	.220	.375
Y	.900	.220	.375

Temperature Stable

Used where minimum capacitance change with temperature is an important consideration. Rated 1000 WVDC.

Stock No.	Mfr.'s Type	Cap., pF	VDC	Size Fig./ Code	Tol.	EACH 1-24	EACH 25-49	EACH 50-99
926-3304	10TSQ10	10	1000	1/E	K	0.26	0.24	0.20
926-3305	10TSQ25	25	1000	1/E	K	0.36	0.33	0.28
926-3311	10TSQ50	50	1000	1/E	K	0.32	0.29	0.25
926-3313	10TSQ68	68	1000	1/C	K	0.32	0.29	0.25
926-3315	10TSQ82	82	1000	1/C	K	0.36	0.33	0.28
926-3316	10TST10	100	1000	1/C	K	0.26	0.24	0.20
926-3318	10TST15	150	1000	1/C	K	0.32	0.29	0.25
926-3319	10TST18	180	1000	1/E	K	0.32	0.29	0.25
926-3321	10TST22	220	1000	1/E	K	0.26	0.24	0.20
926-3322	10TST25	250	1000	1/E	K	0.32	0.29	0.25
926-3325	10TST33	330	1000	1/E	K	0.26	0.24	0.20
926-3327	10TST47	470	1000	1/E	K	0.32	0.29	0.25
926-3328	10TST50	500	1000	1/E	K	0.32	0.29	0.25
926-3330	10TST68	680	1000	1/E	K	0.32	0.29	0.25
926-3331	10TST75	750	1000	1/F	K	0.36	0.33	0.28
926-3332	10TST82	820	1000	1/F	K	0.36	0.33	0.28
926-3333	10TSD10	1000	1000	1/F	K	0.36	0.33	0.28
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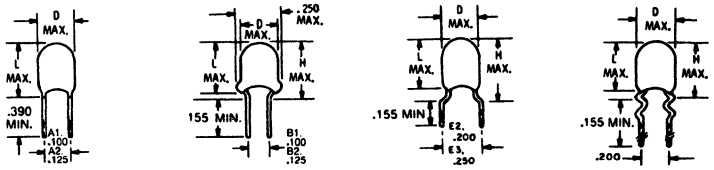
Hypercon® Ceramic Discs

Ultraminiature discs for transistorized circuitry, bypass and coupling. Especially suited for any low voltage use where high capacitance and low power factors are important.

Stock No.	Mfr.'s Type	Cap., pF	WVDC	Size Fig./ Code	Tol.	EACH 1-24	EACH 25-49	EACH 50-99
926-3401	HY110	0.1000	12	1/G	M	0.34	0.31	0.26
926-3402	HY122	0.2200	12	1/J	M	0.52	0.47	0.40
926-3403	HY147	0.4700	12	1/P	M	0.74	0.67	0.57
926-3404	HY111	1.0000	12	1/Y	Y	1.38	1.25	1.06
926-3405	HY520	0.0100	25	1/C	Z	0.20	0.18	0.15
926-3406	HY820	0.0100	25	1/C	M	0.26	0.24	0.20
926-3407	HY820X	0.0100	25	3/C	M	0.30	0.27	0.23
926-3408	HY525	0.0220	25	1/E	Z	0.26	0.24	0.20
926-3409	HY825	0.0220	25	1/E	M	0.30	0.27	0.23
926-3411	HY535	0.0470	25	1/G	Z	0.30	0.27	0.23
926-3413	HY735	0.0470	25	1/G	Y	0.30	0.27	0.23
926-3414	HY838	0.0500	25	1/G	M	0.34	0.31	0.26
926-3416	HY550	0.1000	25	1/H	Z	0.40	0.36	0.31
926-3417	HY750	0.1000	25	1/H	Y	0.40	0.36	0.31
926-3418	HY850	0.1000	25	1/H	M	0.44	0.40	0.34
926-3420	HY570	0.2000	25	1/L	Z	0.74	0.67	0.57
926-3421	HMMD22	0.0022	100	2/C	M	0.26	0.24	0.20
926-3422	HMMD47	0.0047	100	2/C	M	0.26	0.24	0.20
926-3423	HMMXD47	0.0047	100	1/E	M	0.30	0.27	0.23
926-3424	HMMS10	0.0100	100	2/E	M	0.26	0.24	0.20

Type 199D Tantalex® Resin-Coated Solid-Tantalum Capacitors

Designed for use in entertainment and commercial equipment and many other minimum-cost applications. Priced competitively with any other capacitor of this type, domestic or offshore. Capacitors listed below are standard stock items; numbers ending with A1 have lead spacing of .100". Other lead styles available on special order. Drawing below shows those styles available. **Tolerance:** ±20%; for ±10% tolerance, change 9th character in Sprague number from 0 to 9; prices available on request. **Operating Temperature Range:** −55°C to +85°C.



Code	Terminal Codes Available	Dimensions D	Dimensions L	Dimensions H
A	A1, B1, E2, E3, G2	.177"	.280"	.340"
B	A1, B1, E2, E3, G2	.196"	.300"	.360"
C	A1, B1, E2, E3, G2	.216"	.360"	.420"
D	A1, B1, E2, E3, G2	.236"	.400"	.460"
E	E2, E3	.340"	.492"	.552"
F	E2, E3	.380"	.650"	.710"

Terminal A1, A2 Terminal B1, B2 Terminal E2, E3 Terminal G2

Stock No.	Mfr.'s Type	Cap., µF	WVDC	Case Code	EACH 1-24	EACH 25-49	EACH 50-99
926-1900	199D475X0003AA1	4.70	3.0	A	0.58	0.52	0.32
926-1901	199D685X0003AA1	6.80	3.0	A	0.58	0.52	0.32
926-1902	199D106X0003AA1	10.00	3.0	A	0.58	0.52	0.32
926-1903	199D156X0003AA1	15.00	3.0	A	0.78	0.70	0.43
926-1904	199D226X0003BA1	22.00	3.0	B	0.83	0.75	0.46
926-1905	199D336X0003BA1	33.00	3.0	B	0.94	0.85	0.52
926-1906	199D476X0003CA1	47.00	3.0	C	1.11	1.00	0.62
926-1907	199D686X0003DA1	68.00	3.0	D	1.31	1.17	0.72
926-1908	199D107X0003DA1	100.00	3.0	D	1.64	1.48	0.91
926-1909	199D157X0003DA1	150.00	3.0	D	2.83	2.55	1.57
926-1910	199D227X0003EE2	220.00	3.0	E	4.76	4.30	2.65
926-1911	199D337X0003EE2	330.00	3.0	E	6.67	6.00	3.69
926-1912	199D477X0003FE2	470.00	3.0	F	8.17	7.35	4.52
926-1913	199D687X0003FE2	680.00	3.0	F	14.97	13.48	8.29
926-1914	199D475X06R3AA1	4.70	6.3	A	0.58	0.52	0.32
926-1915	199D685X06R3AA1	6.80	6.3	A	0.72	0.65	0.40
926-1916	199D106X06R3BA1	10.00	6.3	B	0.83	0.75	0.46
926-1917	199D156X06R3BA1	15.00	6.3	B	0.94	0.85	0.52
926-1918	199D226X06R3CA1	22.00	6.3	C	1.11	1.00	0.62
926-1919	199D336X06R3CA1	33.00	6.3	C	1.19	1.08	0.66
926-1920	199D476X06R3DA1	47.00	6.3	D	1.19	1.08	0.66
926-1921	199D686X06R3DA1	68.00	6.3	D	1.47	1.33	0.82
926-1922	199D107X06R3DA1	100.00	6.3	D	4.31	3.88	2.38
926-1923	199D157X06R3EE2	150.00	6.3	E	4.61	4.15	2.55
926-1924	199D227X06R3EE2	220.00	6.3	E	7.22	6.50	4.00
926-1925	199D337X06R3FE2	330.00	6.3	F	9.50	8.55	5.26
926-1926	199D335X0010AA1	3.30	10.0	A	0.58	0.52	0.32
926-1927	199D475X0010AA1	4.70	10.0	A	0.67	0.60	0.37
926-1928	199D685X0010BA1	6.80	10.0	B	0.83	0.75	0.46
926-1929	199D106X0010BA1	10.00	10.0	B	0.94	0.85	0.52
926-1930	199D156X0010CA1	15.00	10.0	C	1.11	1.00	0.62
926-1931	199D226X0010CA1	22.00	10.0	C	1.19	1.08	0.66
926-1932	199D336X0010DA1	33.00	10.0	D	1.47	1.33	0.82
926-1933	199D476X0010DA1	47.00	10.0	D	2.64	2.37	1.46
926-1934	199D686X0010DA1	68.00	10.0	D	4.31	3.88	2.38
926-1935	199D107X0010EE2	100.00	10.0	E	4.61	4.15	2.55
926-1936	199D157X0010EE2	150.00	10.0	E	8.17	7.35	4.52
926-1937	199D227X0010FE2	220.00	10.0	F	9.50	8.55	5.26
926-1938	199D225X0016AA1	2.20	16.0	A	0.64	0.58	0.35
926-1939	199D335X0016AA1	3.30	16.0	A	0.67	0.60	0.37
926-1940	199D475X0016BA1	4.70	16.0	B	0.83	0.75	0.46
926-1941	199D685X0016BA1	6.80	16.0	B	1.00	0.90	0.55
926-1942	199D106X0016CA1	10.00	16.0	C	1.17	1.05	0.65
926-1943	199D156X0016CA1	15.00	16.0	C	1.19	1.08	0.66
926-1944	199D226X0016DA1	22.00	16.0	D	1.47	1.33	0.82
926-1945	199D336X0016DA1	33.00	16.0	D	2.75	2.47	1.52
926-1946	199D476X0016EE2	47.00	16.0	E	4.31	3.88	2.38
926-1947	199D686X0016EE2	68.00	16.0	E	4.61	4.15	2.55
926-1948	199D107X0016FE2	100.00	16.0	E	7.31	6.58	4.05
926-1949	199D157X0016FE2	150.00	16.0	F	9.50	8.55	5.26
926-1950	199D335X0020BA1	3.30	20.0	B	0.67	0.60	0.37
926-1951	199D475X0020BA1	4.70	20.0	B	0.89	0.80	0.49
926-1952	199D685X0020CA1	6.80	20.0	C	1.06	0.95	0.58
926-1953	199D106X0020CA1	10.00	20.0	C	1.17	1.05	0.65
926-1954	199D156X0020DA1	15.00	20.0	D	1.47	1.33	0.82
926-1955	199D226X0020DA1	22.00	20.0	D	1.75	1.58	0.97
926-1956	199D336X0020EE2	33.00	20.0	E	4.14	3.73	2.29
926-1957	199D476X0020EE2	47.00	20.0	E	4.50	4.05	2.49
926-1958	199D686X0020FE2	68.00	20.0	F	7.58	6.83	4.20
926-1959	199D107X0020FE2	100.00	20.0	F	9.50	8.55	5.26
926-1960	199D105X0025AA1	1.00	25.0	A	0.58	0.52	0.32
926-1961	199D155X0025AA1	1.50	25.0	A	0.58	0.52	0.32
926-1962	199D225X0025AA1	2.20	25.0	A	0.67	0.60	0.37
926-1963	199D335X0025BA1	3.30	25.0	B	0.83	0.75	0.46
926-1964	199D475X0025BA1	4.70	25.0	B	0.94	0.85	0.52
926-1965	199D685X0025CA1	6.80	25.0	C	1.17	1.05	0.65
926-1966	199D106X0025CA1	10.00	25.0	C	1.47	1.33	0.82
926-1967	199D156X0025DA1	15.00	25.0	D	2.36	2.13	1.31
926-1968	199D226X0025DA1	22.00	25.0	D	3.44	3.10	1.91
926-1969	199D336X0025EE2	33.00	25.0	E	4.83	4.35	2.68
926-1970	199D476X0025EE2	47.00	25.0	E	7.58	6.83	4.20
926-1971	199D686X0025FE2	68.00	25.0	F	9.50	8.55	5.26
926-1972	199D104X0035AA1	0.10	35.0	A	0.58	0.52	0.32
926-1973	199D154X0035AA1	0.15	35.0	A	0.58	0.52	0.32
926-1974	199D224X0035AA1	0.22	35.0	A	0.58	0.52	0.32
926-1975	199D334X0035AA1	0.33	35.0	A	0.58	0.52	0.32
926-1976	199D474X0035AA1	0.47	35.0	A	0.58	0.52	0.32
926-1977	199D684X0035AA1	0.68	35.0	A	0.58	0.52	0.32
926-1978	199D105X0035AA1	1.00	35.0	A	0.58	0.52	0.32
926-1979	199D155X0035AA1	1.50	35.0	A	0.78	0.70	0.43
926-1980	199D225X0035BA1	2.20	35.0	B	0.83	0.75	0.46
926-1982	199D335X0035BA1	3.30	35.0	B	0.68	0.62	0.52
926-1983	199D475X0035CA1	4.70	35.0	C	0.84	0.76	0.65
926-1984	199D685X0035DA1	6.80	35.0	D	0.94	0.85	0.72
926-1985	199D106X0035DA1	10.00	35.0	D	1.26	1.15	0.97
926-1986	199D156X0035EE2	15.00	35.0	E	2.86	2.60	2.20
926-1987	199D226X0035EE2	22.00	35.0	E	3.28	2.98	2.52
926-1988	199D336X0035FE2	33.00	35.0	F	5.50	5.00	4.23
926-1989	199D476X0035FE2	47.00	35.0	F	6.84	6.22	5.26
926-1990	199D104X0050AA1	0.10	50.0	A	0.42	0.38	0.32
926-1991	199D154X0050AA1	0.15	50.0	A	0.42	0.38	0.32
926-1992	199D224X0050AA1	0.22	50.0	A	0.42	0.38	0.32
926-1993	199D334X0050AA1	0.33	50.0	A	0.46	0.42	0.35
926-1994	199D474X0050AA1	0.47	50.0	A	0.52	0.47	0.40
926-1995	199D684X0050AA1	0.68	50.0	A	0.56	0.51	0.43
926-1996	199D105X0050BA1	1.00	50.0	B	0.42	0.38	0.32
926-1997	199D155X0050CA1	1.50	50.0	C	0.84	0.76	0.65
926-1998	199D225X0050CA1	2.20	50.0	C	0.90	0.82	0.69
926-1999	199D335X0050DA1	3.30	50.0	D	0.98	0.89	0.75
926-2000	199D475X0050DA1	4.70	50.0	D	1.22	1.11	0.94
926-2001	199D685X0050FE2	6.80	50.0	F	2.48	2.25	1.91
926-2002	199D106X0050FE2	10.00	50.0	F	3.36	3.05	2.58
926-2003	199D156X0050FE2	15.00	50.0	F	3.70	3.36	2.85
926-2004	199D226X0050FE2	22.00	50.0	F	7.06	6.42	5.43
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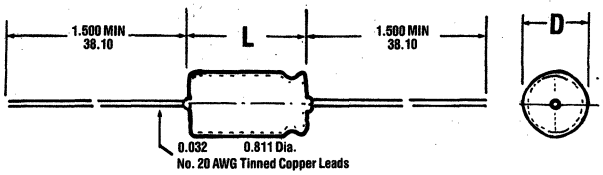
Type TE LITTL-LYTIC Electrolytics

- Proven dependable performance in industrial and electronic equipment with either transistor or modified electron-tube circuits.
- All terminal connections welded, eliminating possibility of "open" or intermittent contacts occassionally found in pressure joints of conventional capacitors
- Superior in size, performance characteristics, shelf life, construction, reliability.
- Metal-encased, with clear plastic outer insulating sleeve.
- Excellent circuit performance when used as coupling capacitors.
- Minimum drain and long battery life when used in battery bypass applications.
- Better performance under life test than most miniature aluminum electrolytic capacitors.



Dimensions in Inches

Size Code	D	L
BA	0.260	0.536
BB	0.260	0.723
CB	0.322	0.723
CC	0.322	0.848
DB	0.385	0.723
DC	0.385	0.848
DD	0.385	0.973
DF	0.385	1.286
DH	0.385	1.536

25 WVDC

Stock No.	Mfr.'s Type	Cap. (MF)	Size Code	EACH 1-24	EACH 25-99	EACH 100-499
926-0326	TE1202	5	BA	1.32	1.19	.74
926-0328	TE1204	10	BB	1.39	1.24	.77
926-0330	TE1205	15	BB	1.39	1.24	.77
926-0332	TE1206	20	CB	1.54	1.39	.86
926-0334	TE1207	25	CB	1.54	1.39	.86
926-0336	TE1209	50	CC	1.61	1.44	.89
926-0338	TE1211	100	DD	1.64	1.47	.91
926-0340	TE1212	150	DF	1.82	1.64	1.01
926-0342	TE1213	200	DH	1.95	1.76	1.09

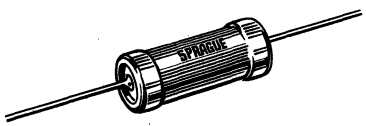
50 WVDC

Stock No.	Mfr.'s Type	Cap. (MF)	Size Code	EACH 1-24	EACH 25-99	EACH 100-499
926-0344	TE1300	1	BA	1.32	1.19	.74
926-0346	TE1303	5	BB	1.39	1.24	.77
926-0348	TE1304	10	CB	1.54	1.39	.86
926-0350	TE1304.2	15	CB	1.54	1.39	.86
926-0352	TE1305	20	CC	1.61	1.44	.89
926-0354	TE1305.5	25	CC	1.61	1.44	.89
926-0356	TE1307	50	DD	1.64	1.44	.89
926-0358	TE1309	100	DH	1.95	1.76	1.09

100 WVDC

Stock No.	Mfr.'s Type	Cap. (MF)	Size Code	EACH 1-24	EACH 25-99	EACH 100-499
926-0370	TE1400	1	BA	1.32	1.19	.74
926-0372	TE1404	5	CC	1.61	1.44	.89
926-0374	TE1407	10	DC	1.64	1.47	.91
926-0376	TE1409	20	DF	1.82	1.64	1.01
926-0378	TE1410	25	DH	1.95	1.76	1.09
926-0380	TE1411	30	DH	1.95	1.76	1.09

192P Pacer Filmite "E" Capacitors



Extended foil film sections are terminated in end caps with wire leads, to assure the best possible non-inductive section. Protected by heat shrinkable plastic sleeve or epoxy coating. Designed for operation to 85°C. **Tolerance:** ± 10%.

80 WVDC

Stock No.	Mfr.'s Type	μF	Dia. × L (Inches)	EACH 1-49	EACH 50-99	EACH 100-499
926-4000	192P2229R8	.00220	.138 × 5/16	.54	.36	.28
926-4004	192P4729R8	.00470	.138 × 5/16	.54	.36	.28
926-4005	192P5629R8	.00560	.170 × 3/8	.60	.40	.32
926-4007	192P1039R8	.01000	.170 × 3/8	.54	.36	.28
926-4009	192P1539R8	.01500	.170 × 7/16	.66	.44	.35
926-4013	192P3339R8	.03300	.204 × 7/16	.70	.47	.37
926-4014	192P3939R8	.03900	.204 × 9/16	.72	.48	.38
926-4015	192P4739R8	.04700	.204 × 9/16	.68	.45	.36
926-4019	192P1049R8	.10000	.290 × 1/2	.78	.52	.41
926-4021	192P1549R8	.15000	.290 × 5/8	.96	.63	.49
926-4023	192P2249R8	.22000	.318 × 5/8	1.16	.76	.28

200 WVDC

Stock No.	Mfr.'s Type	μF	Dia. × L (Inches)	EACH 1-49	EACH 50-99	EACH 100-499
926-4028	192P10192	.00010	.138 × 5/16	.59	.38	.31
926-4040	192P10292	.00100	.138 × 5/16	.45	.29	.23
926-4044	192P22292	.00220	.170 × 5/16	.47	.31	.24
926-4048	192P47292	.00470	.170 × 7/16	.47	.31	.24
926-4049	192P56292	.00560	.170 × 7/16	.49	.32	.26
926-4050	192P68292	.00680	.170 × 7/16	.49	.32	.26
926-4051	192P82292	.00820	.170 × 1/2	.51	.33	.27
926-4052	192P10392	.01000	.170 × 1/2	.49	.32	.26
926-4055	192P22392	.02200	.204 × 9/16	.57	.37	.30
926-4056	192P27392	.02700	.225 × 9/16	.59	.38	.31
926-4058	192P39392	.03900	.290 × 1/2	.65	.42	.34
926-4059	192P47392	.04700	.290 × 1/2	.65	.42	.34
926-4060	192P56392	.05600	.290 × 5/8	.69	.45	.36
926-4061	192P68392	.06800	.290 × 5/8	.73	.47	.38
926-4062	192P82392	.08200	.318 × 5/8	.76	.50	.40
926-4063	192P10492	.10000	.318 × 5/8	.73	.47	.38
926-4064	192P12492	.12000	.318 × 7/8	.96	.63	.50
926-4067	192P22492	.22000	.318 × 13/16	.98	.64	.51

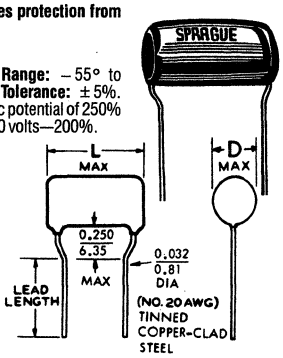
400 WVDC

Stock No.	Mfr.'s Type	μF	Dia. × L (Inches)	EACH 1-49	EACH 50-99	EACH 100-499
926-4069	192P47194	.00047	.170 × 3/8	.65	.42	.34
926-4077	192P22294	.00220	.170 × 7/16	.67	.44	.35
926-4079	192P33294	.00330	.204 × 7/16	.67	.44	.35
926-4082	192P56294	.00560	.225 × 9/16	.69	.45	.36
926-4085	192P10394	.01000	.225 × 9/16	.69	.45	.36
926-4088	192P18394	.01800	.290 × 5/8	.82	.54	.43
926-4089	192P22394	.02200	.290 × 5/8	.84	.55	.44
926-4092	192P39394	.03900	.318 × 7/8	1.04	.68	.54
926-4093	192P47394	.04700	.318 × 7/8	1.04	.68	.54
926-4094	192P56394	.05600	.318 × 13/16	1.04	.68	.54
926-4095	192P68394	.06800	.318 × 13/16	1.12	.73	.58

Type 715P Orange Drop Polypropylene Dipped Tubulars

- Conformly coated with flame-retardant epoxy which provides protection from humidity and mechanical damage
- Furnished with 1.250" long "Hockeystick" crimped leads

PERFORMANCE CHARACTERISTICS. Operating Temperature Range: −55° to +85°C; to +105°C with 50% voltage derating. **Capacitance Tolerance:** ±5%. **Dielectric Strength:** Unit rated up to 800 volts shall withstand a d-c potential of 250% of rated voltage for not more than 5 seconds. Units rated above 800 volts—200%.



Dimensions in Inches

Size Code	D	L	Size Code	D	L
BJ	.400	.750	NL	.650	1.300
DJ	.450	.750	PL	.700	1.300
DK	.450	.950	QL	.750	1.300
EK	.500	.950	QM	.750	1.700
FK	.550	.950	RM	.800	1.700
EL	.500	1.300	SM	.850	1.700
FL	.550	1.300	TM	.900	1.700
GL	.600	1.300	UM	.950	1.700

800 WVDC

Stock No.	Mfr.'s Type	μF	Size Code	EACH 1-49	EACH 50-99	EACH 100-999
926-7100	715P10256JD3	.0010	BJ	.53	.41	.26
926-7101	715P15256JD3	.0015	BJ	.53	.41	.26
926-7102	715P22256JD3	.0022	BJ	.53	.41	.26
926-7103	715P33256JD3	.0033	BJ	.53	.41	.26
926-7104	715P47256JD3	.0047	DJ	.53	.41	.26
926-7105	715P68256JD3	.0068	DJ	.58	.45	.28
926-7120	715P10356KD3	.0100	DK	.65	.49	.33
926-7121	715P15356KD3	.0150	EK	.67	.51	.34
926-7122	715P22356KD3	.0220	FK	.68	.52	.34
926-7123	715P47356KD3	.0470	GL	.85	.65	.43
926-7124	715P68356LD3	.0680	NL	1.05	.80	.53
926-7125	715P10456LD3	.1000	QL	1.35	1.03	.68
926-7126	715P15456MD3	.1500	QM	1.15	.87	.58
926-7127	715P22456MD3	.2200	SM	2.25	1.71	1.13

800 WVDC

Stock No.	Mfr.'s Type	μF	Size Code	EACH 1-49	EACH 50-99	EACH 100-999
926-7140	715P15358LD3	.0150	FL	.85	.65	.43
926-7141	715P22358LD3	.0220	GL	1.05	.80	.53
926-7142	715P33358LD3	.0330	PL	1.35	1.03	.68
926-7143	715P68358LD3	.0680	RM	1.88	1.43	.95
926-7144	715P10458MD3	.1000	TM	2.25	1.71	1.13

1200 WVDC

Stock No.	Mfr.'s Type	μF	Size Code	EACH 1-49	EACH 50-99	EACH 100-999
926-7160	715P153512LD3	.0150	NL	1.35	1.03	.68
926-7161	715P473512MD3	.0470	SM	2.48	1.89	1.25

1600 WVDC

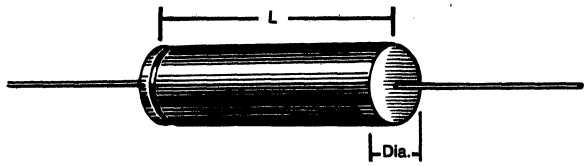
Stock No.	Mfr.'s Type	μF	Size Code	EACH 1-49	EACH 50-99	EACH 100-999
926-7180	715P222516LD3	.0022	EL	.85	.65	.43
926-7181	715P332516LD3	.0033	FL	.98	.75	.50
926-7182	715P472516LD3	.0047	GL	.98	.75	.50
926-7183	715P682516LD3	.0068	NL	1.10	.84	.55
926-7184	715P103516LD3	.0100	PL	1.65	1.25	.83
926-7185	715P153516MD3	.0150	QM	1.88	1.43	.95
926-7186	715P223516MD3	.0220	SM	2.48	1.89	1.25
926-7187	715P333516MD3	.0330	UM	3.02	2.29	1.52

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

Type TVA ATOM® Tubular Electrolytic Capacitors

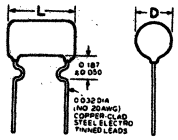
Polarized Single Units

Smallest standard tubular capacitors available. High dependability with lower leakage currents and long shelf life. Withstands high temperatures, ripple currents, and surge voltages. Capacitors rated at 100 WVDC or less operate at – 40° to + 85°C; above 100 WVDC, – 20° to + 85°C. Metal case with thermoplastic outer insulating sleeve. *NOTE: Sizes subject to change without notice.*



Stock No.	Mfr.'s Type	µF	WVDC	Case Size D × L Inches	EACH 1-24	EACH 25-49	EACH 50-Up
926-0100	TVA1100.5	75	6	5/16 × 23/32	1.15	0.89	0.79
926-0101	TVA1101.5	150	6	3/8 × 27/32	1.21	0.93	0.84
926-0102	TVA1101.7	200	6	3/8 × 27/32	1.33	1.02	0.92
926-0103	TVA1102	250	6	3/8 × 31/32	1.39	1.07	0.97
926-0104	TVA1102.1	300	6	3/8 × 31/32	1.39	1.07	0.97
926-0105	TVA1102.3	400	6	3/8 × 19/32	1.43	1.09	0.99
926-0106	TVA1103	500	6	3/8 × 117/32	1.43	1.09	0.99
926-0107	TVA1104	1000	6	1/2 × 19/32	1.58	1.22	1.09
926-0108	TVA1105	1500	6	1/2 × 117/32	1.69	1.30	1.17
926-0109	TVA1106	2000	6	1/2 × 125/32	1.85	1.43	1.28
926-0110	TVA1129.4	4000	10	7/8 × 129/32	2.52	1.94	1.75
926-0111	TVA1129.5	5000	10	1 × 25/32	2.89	2.22	2.00
926-0112	TVA1129.8	10000	10	1 × 221/32	5.42	4.16	3.75
926-0113	TVA1131.1	290	12	3/8 × 19/32	1.43	1.09	0.99
926-0114	TVA1135	3000	12	7/8 × 121/32	2.89	2.22	2.00
926-0115	TVA1147	20	16	1/4 × 23/32	1.15	0.89	0.79
926-0116	TVA1148	25	16	1/4 × 23/32	1.15	0.89	0.79
926-0117	TVA1150	50	16	5/16 × 23/32	1.21	0.93	0.84
926-0118	TVA1160	100	16	3/8 × 27/32	1.33	1.02	0.92
926-0119	TVA1160.3	150	16	3/8 × 31/32	1.33	1.02	0.92
926-0120	TVA1160.4	175	16	3/8 × 31/32	1.39	1.07	0.97
926-0121	TVA1160.6	200	16	3/8 × 19/32	1.39	1.07	0.97
926-0122	TVA1161	250	16	3/8 × 19/32	1.43	1.09	0.99
926-0123	TVA1161.1	300	16	3/8 × 117/32	1.43	1.09	0.99
926-0124	TVA1162	500	16	7/16 × 117/32	1.43	1.09	0.99
926-0125	TVA1162.2	600	16	7/16 × 117/32	1.58	1.22	1.09
926-0126	TVA1162.3	800	16	1/2 × 19/16	1.58	1.22	1.09
926-0127	TVA1163	1000	16	1/2 × 113/16	1.69	1.30	1.17
926-0128	TVA1164	1200	16	1/2 × 113/16	1.85	1.43	1.28
926-0129	TVA1175.2	1500	16	3/4 × 121/32	1.85	1.43	1.28
926-0130	TVA1175.3	2500	16	7/8 × 129/32	2.52	1.94	1.75
926-0131	TVA1175	3000	16	7/8 × 129/32	2.52	1.94	1.75
926-0132	TVA1175.4	4000	16	7/8 × 25/32	4.08	3.14	2.83
926-0133	TVA1175.5	5000	16	1 × 25/32	4.77	3.67	3.30
926-0134	TVA1175.6	6000	16	11/8 × 25/32	5.76	4.43	3.99
926-0135	TVA1175.7	8000	16	11/8 × 211/16	6.58	5.06	4.55
926-0136	TVA1175.8	10000	16	11/4 × 211/16	9.97	7.67	6.90
926-0137	TVA1175.11	15000	16	11/4 × 311/16	9.97	7.67	6.90
926-0138	TVA1180	150	20	3/8 × 31/32	1.43	1.09	0.99
926-0139	TVA1190	1500	20	7/8 × 121/32	2.52	1.94	1.75
926-0140	TVA1194	2300	20	1 × 121/32	2.89	2.22	2.00
926-0141	TVA1203.3	8	25	1/4 × 17/32	1.15	0.89	0.79
926-0142	TVA1204	10	25	1/4 × 17/32	1.15	0.89	0.79
926-0143	TVA1204.2	15	25	1/4 × 23/32	1.15	0.89	0.79
926-0144	TVA1204.5	20	25	5/16 × 23/32	1.15	0.89	0.79
926-0145	TVA1205.1	30	25	5/16 × 23/32	1.21	0.93	0.84
926-0146	TVA1205.2	35	25	5/16 × 23/32	1.21	0.93	0.84
926-0147	TVA1205.7	40	25	5/16 × 27/32	1.21	0.93	0.84
926-0148	TVA1206	50	25	5/16 × 27/32	1.21	0.93	0.84
926-0149	TVA1206.1	75	25	3/8 × 27/32	1.33	1.02	0.92
926-0150	TVA1207	100	25	3/8 × 31/32	1.40	1.08	0.97
926-0151	TVA1207.5	150	25	3/8 × 19/32	1.43	1.09	0.99
926-0152	TVA1207.7	200	25	3/8 × 117/32	1.43	1.09	0.99
926-0153	TVA1208	250	25	7/16 × 117/32	1.43	1.09	0.99
926-0154	TVA1208.5	300	25	7/16 × 117/32	1.43	1.09	0.99
926-0155	TVA1208.6	350	25	7/16 × 117/32	1.58	1.22	1.09
926-0156	TVA1208.7	400	25	1/2 × 15/16	1.58	1.22	1.09
926-0157	TVA1208.8	450	25	1/2 × 19/16	1.58	1.22	1.09
926-0158	TVA1209	500	25	1/2 × 19/16	1.72	1.32	1.20
926-0159	TVA1209.2	600	25	1/2 × 113/16	1.72	1.32	1.20
926-0160	TVA1211	1000	25	3/4 × 121/32	2.14	1.64	1.48
926-0161	TVA1212	1500	25	7/8 × 129/32	2.52	1.94	1.75
926-0162	TVA1213	2000	25	1 × 129/32	2.89	2.22	2.00
926-0163	TVA1213.5	2500	25	1 × 129/32	4.73	3.63	3.28
926-0164	TVA1214.2	4000	25	11/8 × 211/16	6.58	5.06	4.55
926-0165	TVA1214.5	5000	25	11/8 × 211/16	6.58	5.06	4.55
926-0166	TVA1214.8	8000	25	11/4 × 311/16	9.97	7.67	6.90
926-0167	TVA1214.10	10000	25	13/8 × 311/16	11.13	8.57	7.70
926-0168	TVA1223	200	35	7/16 × 117/32	1.58	1.22	1.09
926-0169	TVA1227	500	35	1/2 × 113/16	1.85	1.43	1.28
926-0170	TVA1229	5500	35	1 × 313/32	7.48	5.75	5.18
926-0171	TVA1300	1	50	1/4 × 17/32	1.15	0.89	0.79
926-0172	TVA1301	2	50	1/4 × 17/32	1.15	0.89	0.79
926-0173	TVA1302	3	50	1/4 × 17/32	1.15	0.89	0.79
926-0174	TVA1302.7	4	50	1/4 × 17/32	1.15	0.89	0.79
926-0175	TVA1303	5	50	1/4 × 23/32	1.15	0.89	0.79
926-0176	TVA1303.1	6	50	1/4 × 23/32	1.15	0.89	0.79
926-0177	TVA1303.2	8	50	1/4 × 23/32	1.15	0.89	0.79
926-0178	TVA1305	15	50	5/16 × 23/32	1.21	0.93	0.84
926-0179	TVA1305.5	20	50	5/16 × 27/32	1.21	0.93	0.84
926-0180	TVA1306	25	50	5/16 × 27/32	1.21	0.93	0.84
926-0181	TVA1306.2	35	50	3/8 × 27/32	1.33	1.02	0.92
926-0182	TVA1306.5	40	50	3/8 × 31/32	1.39	1.07	0.97
926-0183	TVA1308	50	50	3/8 × 31/32	1.39	1.07	0.97
926-0184	TVA1309.3	60	50	3/8 × 19/32	1.39	1.07	0.97
926-0185	TVA1309.4	75	50	3/8 × 19/32	1.43	1.09	0.99
926-0186	TVA1310	100	50	3/8 × 117/32	1.43	1.09	0.99
926-0187	TVA1310.1	120	50	7/16 × 19/32	1.43	1.09	0.99
926-0188	TVA1310.2	125	50	7/16 × 117/32	1.43	1.09	0.99
926-0189	TVA1311	150	50	7/16 × 117/32	1.43	1.09	0.99
926-0190	TVA1311.5	200	50	1/2 × 15/16	1.58	1.22	1.09
926-0191	TVA1312	250	50	1/2 × 15/16	1.69	1.30	1.17
926-0192	TVA1312.1	300	50	1/2 × 19/16	1.72	1.32	1.20
926-0193	TVA1312.2	350	50	1/2 × 113/16	1.85	1.43	1.28
926-0194	TVA1313	400	50	1/2 × 113/16	2.14	1.64	1.48
926-0195	TVA1315	500	50	3/4 × 121/32	2.14	1.64	1.48
926-0196	TVA1315.2	600	50	3/4 × 121/32	2.52	1.94	1.75
926-0197	TVA1315.4	800	50	7/8 × 121/32	2.52	1.94	1.75
926-0198	TVA1316	1000	50	7/8 × 129/32	2.89	2.22	2.00
926-0199	TVA1318	1500	50	15/16 × 25/32	4.08	3.14	2.83
926-0200	TVA1318.2	2000	50	11/8 × 25/32	5.76	4.43	3.99
926-0201	TVA1318.3	2500	50	11/8 × 211/16	6.58	5.06	4.55
926-0202	TVA1318.4	3000	50	11/4 × 211/16	7.57	5.82	5.23
926-0203	TVA1318.5	4000	50	11/4 × 35/32	8.85	6.81	6.13
926-0204	TVA1318.7	5000	50	13/8 × 31/8	10.06	7.74	6.97
926-0205	TVA1318.10	8000	50	13/8 × 45/32	12.04	9.26	8.34
926-0206	TVA1319	250	60	1/2 × 19/16	1.85	1.43	1.28
926-0207	TVA1319.5	500	75	1 × 221/32	2.89	2.22	2.00
926-0208	TVA1319.7	1000	75	1 × 221/32	5.42	4.16	3.75
926-0209	TVA1319.9	2000	75	13/8 × 23/8	7.69	5.92	5.32
926-0210	TVA1333	4	100	5/16 × 23/32	1.21	0.93	0.84
926-0211	TVA1335	6	100	5/16 × 27/32	1.33	1.02	0.92
926-0212	TVA1337	10	100	3/8 × 27/32	1.33	1.02	0.92
926-0213	TVA1338	15	100	3/8 × 31/32	1.39	1.07	0.97
926-0214	TVA1339	20	100	3/8 × 19/32	1.43	1.09	0.99
926-0215	TVA1340	25	100	3/8 × 117/32	1.43	1.09	0.99
926-0216	TVA1341	30	100	3/8 × 117/32	1.43	1.09	0.99
926-0217	TVA1343	50	100	1/2 × 19/16	1.58	1.22	1.09
926-0218	TVA1344	60	100	1/2 × 19/16	1.58	1.22	1.09
926-0219	TVA1345	75	100	1/2 × 113/16	1.69	1.30	1.17
926-0220	TVA1345.2	85	100	3/4 × 113/32	1.69	1.30	1.17
926-0221	TVA1346	100	100	3/4 × 113/32	1.85	1.43	1.28
926-0222	TVA1347	150	100	3/4 × 121/32	2.46	1.90	1.70
926-0223	TVA1348	200	100	7/8 × 129/32	2.52	1.94	1.75
926-0224	TVA1349	250	100	7/8 × 129/32	2.89	2.22	2.00
926-0225	TVA1350	300	100	1 × 129/32	4.59	3.53	3.17
926-0226	TVA1376	500	100	11/8 × 25/32	5.76	4.43	3.99
926-0227	TVA1382	1500	100	11/4 × 311/16	9.97	7.67	6.90
926-0228	TVA1384	2000	100	13/8 × 45/32	12.04	9.26	8.34
926-0229	TVA1400	1	150	1/4 × 17/32	1.15	0.89	0.79
926-0230	TVA1400.1	2	150	1/4 × 23/32	1.39	1.07	0.97
926-0231	TVA1400.2	3	150	5/16 × 23/32	1.39	1.07	0.97
926-0232	TVA1402	4	150	5/16 × 27/32	1.39	1.07	0.97
926-0233	TVA1403	5	150	5/16 × 27/32	1.39	1.07	0.97
926-0234	TVA1403.1	6	150	3/8 × 27/32	1.39	1.07	0.97
926-0235	TVA1405	8	150	3/8 × 27/32	1.43	1.09	0.99
926-0236	TVA1406	10	150	3/8 × 31/32	1.43	1.09	0.99
926-0237	TVA1408	15	150	3/8 × 19/32	1.43	1.09	0.99
926-0238	TVA1409	16	150	3/8 × 117/21	1.43	1.09	0.99
926-0239	TVA1410	20	150	3/8 × 117/32	1.58	1.22	1.09
926-0240	TVA1411	25	150	7/16 × 19/32	1.58	1.22	1.09
926-0241	TVA1412	30	150	7/16 × 117/32	1.72	1.32	1.20
926-0242	TVA1412.1	35	150	1/2 × 117/32	1.72	1.32	1.20
926-0243	TVA1413	40	150	1/2 × 117/32	1.85	1.43	1.28
926-0244	TVA1414	50	150	1/2 × 113/16	1.85	1.43	1.28
926-0245	TVA1415	60	150	3/4 × 113/32	2.52	1.94	1.75
926-0246	TVA1416	75	150	7/8 × 113/32	2.52	1.94	1.75
926-0247	TVA1418	80	150	7/8 × 113/32	2.89	2.22	2.00
926-0248	TVA1420	100	150	7/8 × 121/32	2.89	2.22	2.00
926-0249	TVA1422	150	150	7/8 × 25/32	4.08	3.14	2.83
926-0250	TVA1423	200	150	1 × 25/32	4.77	3.67	3.30
926-0251	TVA1425	300	150	11/8 × 211/16	6.58	5.06	4.55
926-0252	TVA1426.1	400	150	11/4 × 211/16	7.57	5.82	5.23
926-0253	TVA1428	500	150	11/4 × 35/32	7.57	5.82	5.23
926-0254	TVA1429	1000	150	13/8 × 45/32	12.04	9.26	8.34
926-0255	TVA1434	1	200	1/4 × 23/32	1.21	0.93	0.84
926-0256	TVA1435	2	200	5/16 × 23/32	1.33	1.02	0.92
926-0257	TVA1436	3	200	5/16 × 27/32	1.39	1.07	0.97
926-0258	TVA1437	4	200	3/8 × 27/32	1.43	1.09	0.99
926-0259	TVA1438	5	200	3/8 × 27/32	1.43	1.09	0.99
926-0260	TVA1439	6	200	3/8 × 31/32	1.43	1.09	0.99
926-0261	TVA1440	8	200	3/8 × 19/32	1.43	1.09	0.99
926-0262	TVA1441	10	200	3/8 × 19/32	1.43	1.09	0.99
926-0263	TVA1442	15	200	7/16 × 19/32	1.58	1.22	1.09
926-0264	TVA1442.1	20	200	7/16 × 117/32	1.72	1.32	1.20
926-0265	TVA1442.2	25	200	1/2 × 135/64	1.85	1.43	1.28
926-0266	TVA1442.3	30	200	1/2 × 113/16	2.46	1.90	1.70
926-0267	TVA1442.5	40	200	3/4 × 113/32	2.52	1.94	1.75
926-0268	TVA1443	50	200	3/4 × 121/32	2.52	1.94	1.75
926-0269	TVA1445	100	200	7/8 × 25/32	4.08	2.73	2.46
926-0270	TVA1484	500	200	11/4 × 311/16	9.97	7.67	6.90
926-0271	TVA1500.1	2	250	3/8 × 23/32	1.39	1.07	0.97
926-0272	TVA1500.2	3	250	3/8 × 27/32	1.43	1.09	0.99
926-0273	TVA1501	4	250	3/8 × 31/32	1.43	1.09	0.99
926-0274	TVA1502.1	6	250	3/8 × 19/32	1.43	1.09	0.99
926-0275	TVA1503	8	250	3/8 × 117/32	1.58	1.22	1.09
926-0276	TVA1504	10	250	7/16 × 19/32	1.58	1.22	1.09
926-0277	TVA1505	12	250	7/16 × 117/32	1.72	1.32	1.20
926-0278	TVA1508	20	250	1/2 × 113/16	1.85	1.43	1.28
926-0279	TVA1510	30	250	13/16 × 113/32	2.52	1.94	1.75
926-0280	TVA1511	40	250	7/8 × 113/32	2.89	2.22	2.00
926-0281	TVA1512	50	250	7/8 × 113/32	3.91	3.01	2.71
926-0282	TVA1513	60	250	7/8 × 121/32	4.04	3.11	2.79
926-0283	TVA1522	100	250	1 × 129/32	4.77	3.67	3.30
926-0284	TVA1525	150	250	11/8 × 25/32	5.76	4.43	3.99
926-0285	TVA1526	160	250	1 × 25/32	4.59	3.53	3.17
926-0286	TVA1528.2	225	250	11/4 × 211/16	5.42	4.16	3.75
926-0287	TVA1528.5	300	250	11/4 × 35/32	8.85	6.81	6.13
926-0288	TVA1528.7	400	250	11/4 × 311/16	9.97	7.67	6.90
926-0289	TVA1528.9	500	250	13/8 × 311/16	11.13	8.57	7.70
926-0290	TVA1529	600	250	13/8 × 45/32	12.04	9.26	8.34
926-0291	TVA1960	4	600	13/16 × 23/8	8.85	6.81	6.13
926-0292	TVA1962	8	600	11/16 × 27/8	11.01	8.46	7.61
926-0293	TVA1963	10	600	11/16 × 33/16	9.03	6.95	6.24
926-0294	TVA1965	16	600	11/16 × 43/16	12.89	9.92	8.92
926-0295	TVA1966	20	600	11/16 × 37/8	12.04	9.26	8.34

Type PS Orange Drop Dipped Tubular Capacitors



- Double dipped in bright orange epoxy resin — beats heat and humidity
- Outside foil on all units identified by black striping
- Crimped wire leads for correct spacing when mounted on printed wiring boards
- Dual Dielectric (Polyester Film-Paper) solidly impregnated with exclusive HCX — Produces rock-hard capacitor section
- Other values and voltages available upon request

Dimensions (in inches)

Size Code	D	L	Size Code	D	L	Size Code	D	L	Size Code	D	L
A1	.343	0.703	C1	.484	1.609	D3	.453	1.203	E5	.437	0.906
A2	.359	0.703	C2	.562	1.609	D4	.531	1.203	E6	.484	0.906
A3	.546	0.703	C3	.598	1.609	D5	.562	1.203	F1	.828	1.812
A4	.312	0.703	—	—	—	D6	.609	1.203	F2	.890	1.812
A5	.390	0.703	C5	.703	1.609	D7	.656	1.203	—	—	—
A6	.406	0.703	C6	.812	1.609	D8	.484	1.203	—	—	—
A7	.328	0.703	C7	.656	1.609	D9	.578	1.203	—	—	—
—	—	—	C8	.750	1.609	E1	.390	0.906	—	—	—
—	—	—	C9	.859	1.609	E2	.406	0.906	—	—	—
—	—	—	D1	.406	1.203	E3	.453	0.906	H1	.890	1.625
—	—	—	D2	.500	1.203	E4	.359	0.906	—	—	—

200 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2100	2PSS20	.02	A1	0.70	0.60
926-2101	2PSS22	.022	A1	0.70	0.60
926-2102	2PSS47	.047	E1	0.83	0.71
926-2103	2PSS50	.05	E1	0.90	0.77
926-2104	2PSP10	.1	D1	1.17	1.00
926-2105	2PSP15	.15	D3	1.38	1.19
926-2106	2PSP20	.2	D2	1.52	1.30
926-2107	2PSP22	.22	D2	1.52	1.30
926-2108	2PSP25	.25	C2	1.98	1.70
926-2109	2PSP33	.33	C1	1.98	1.70
926-2110	2PSP47	.47	C2	2.63	2.26
926-2111	2PSP50	.5	C2	2.63	2.26

400 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2112	4PSS10	.01	A2	0.70	0.60
926-2113	4PSS15	.015	A3	0.70	0.60
926-2114	4PSS20	.02	E1	0.78	0.67
926-2115	4PSS22	.022	E1	0.78	0.67
926-2116	4PSS25	.025	E1	0.83	0.71
926-2117	4PSS30	.03	E2	0.83	0.71
926-2118	4PSS33	.033	E2	0.83	0.71
926-2119	4PSS40	.04	D1	0.93	0.80
926-2120	4PSS47	.047	D1	0.93	0.80
926-2121	4PSS50	.05	D1	1.17	1.00
926-2122	4PSS68	.068	D3	1.17	1.00
926-2123	4PSS75	.075	D3	1.35	1.16
926-2124	4PSP10	.1	D4	1.35	1.16
926-2125	4PSP15	.15	D9	1.52	1.30
926-2126	4PSP20	.2	C3	2.08	1.79
926-2127	4PSP22	.22	C3	2.08	1.79
926-2128	4PSP25	.25	C3	2.37	2.03

600 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2129	6PSD10	.001	A4	0.67	0.57
926-2130	6PSD12	.0012	A1	0.67	0.57
926-2131	6PSD15	.0015	A1	0.67	0.57
926-2132	6PSD18	.0018	A1	0.67	0.57
926-2133	6PSD20	.002	A1	0.67	0.57
926-2134	6PSD22	.0022	A1	0.67	0.57
926-2135	6PSD25	.0025	A1	0.67	0.57
926-2136	6PSD27	.0027	A2	0.67	0.57
926-2137	6PSD30	.003	A2	0.67	0.57
926-2138	6PSD33	.0033	A2	0.67	0.57
926-2139	6PSD39	.0039	A5	0.72	0.61
926-2140	6PSD40	.004	A5	0.72	0.61
926-2141	6PSD47	.0047	A5	0.72	0.61
926-2142	6PSD50	.005	A5	0.72	0.61
926-2143	6PSD56	.0056	A6	0.72	0.61
926-2144	6PSD60	.006	A6	0.72	0.61
926-2145	6PSD68	.0068	A6	0.72	0.61
926-2146	6PSD75	.0075	A6	0.78	0.67
926-2147	6PSD80	.008	E2	0.78	0.67
926-2148	6PSD82	.0082	E2	0.78	0.67
926-2149	6PSS10	.01	E2	0.78	0.67
926-2150	6PSS12	.012	E2	0.83	0.71
926-2151	6PSS15	.015	E2	0.83	0.71
926-2152	6PSS20	.02	E3	0.93	0.80
926-2153	6PSS22	.022	E3	0.93	0.80
926-2154	6PSS25	.025	E3	1.20	1.03
926-2155	6PSS27	.027	D3	1.20	1.03
926-2156	6PSS30	.03	D3	1.20	1.03
926-2157	6PSS33	.033	D3	1.20	1.03
926-2158	6PSS35	.035	D3	1.42	1.21
926-2159	6PSS39	.039	D5	1.42	1.21
926-2160	6PSS40	.04	D5	1.42	1.21
926-2161	6PSS47	.047	D5	1.42	1.21

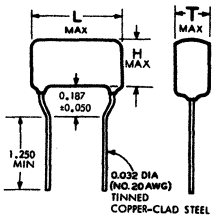
600 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2162	6PSS50	.05	D5	1.60	1.37
926-2163	6PSS56	.056	D6	1.60	1.37
926-2164	6PSS60	.06	D6	1.60	1.37
926-2165	6PSS68	.068	D6	1.60	1.37
926-2166	6PSS75	.075	D6	1.73	1.49
926-2167	6PSS82	.082	D7	1.73	1.49
926-2168	6PSP10	.1	D7	1.73	1.49
926-2169	6PSP15	.15	C5	2.47	2.11
926-2170	6PSP20	.2	C6	3.43	2.94
926-2171	6PSP22	.22	C6	3.43	2.94
926-2172	6PSP25	.25	F1	3.68	3.16
926-2173	6PSP33	.33	F2	4.53	3.89
926-2174	6PSP47	.47	H1	7.48	6.41

1000 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2175	10PSD10	.001	A4	0.88	0.76
926-2176	10PSD15	.0015	A7	0.88	0.76
926-2177	10PSD20	.002	A2	0.88	0.76
926-2178	10PSD22	.0022	A2	0.88	0.76
926-2179	10PSD33	.0033	E4	0.90	0.77
926-2180	10PSD40	.004	E2	1.17	1.00
926-2181	10PSD50	.005	E2	1.25	1.07
926-2182	10PSD68	.0068	E5	1.25	1.07
926-2183	10PSS10	.01	E6	1.35	1.16
926-2184	10PSS15	.015	D8	1.48	1.27
926-2185	10PSS22	.022	C3	1.63	1.40
926-2186	10PSS33	.033	C7	1.90	1.63
926-2187	10PSS39	.039	C7	2.08	1.79
926-2188	10PSS47	.047	C7	2.08	1.79
926-2189	10PSS56	.056	C8	2.37	2.03
926-2190	10PSS68	.068	C8	2.37	2.03
926-2191	10PSP10	.1	C9	3.15	2.70

Type 225P Orange Drop® Polyester Capacitors



Type 225 capacitors are designed for PC boards and are furnished with radial leads to facilitate insertions. Used in TV sets, radios, instruments and commercial electronic equipment. Sections are wound from polyester film and thin gauge foil. Wax-free conformal epoxy coating protects against moisture. For operation up to 85°C. Tolerance ± 10%.

Dimensions (in inches)

Size Code	H	T	L	Size Code	H	T	L	Size Code	H	T	L
AB	.315	.815	.703	CA	.562	.234	.812	DJ	0.812	.484	0.812
AC	.328	.234	.703	CB	.593	.250	.812	EA	0.890	.562	1.187
AD	.343	.250	.703	CC	.265	.281	.812	EB	0.906	.513	1.187
AE	.375	.281	.703	—	—	—	—	EC	0.953	.656	1.187
AF	.531	.328	.703	CE	.718	.375	.812	ED	0.984	.734	1.187
BA	.593	.375	.812	CF	.375	.421	.812	FA	0.718	.421	1.187
BB	.625	.406	.812	CG	.781	.468	.812	FB	0.843	.500	1.187
BC	.171	.439	.812	DA	.843	.531	.812	—	—	—	—
BD	.718	.468	.812	DE	.593	.250	.812	GA	0.812	.484	1.187
BE	.375	.500	.812	DF	.593	.281	.812	GB	0.890	.562	1.187
BF	.781	.531	.812	DG	.593	.312	.812	GC	1.000	.734	1.187
BG	.812	.562	.812	DH	.656	.343	.812	GD	1.140	.843	1.187
—	—	—	—	DI	.656	.421	.812	—	—	—	—

100 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2250	225P10291WD3	.001	AB	0.46	0.41
926-2251	225P12291WD3	.0012	AB	0.46	0.41
926-2252	225P15291WD3	.0015	AB	0.46	0.41
926-2253	225P18291WD3	.0018	AB	0.46	0.41
926-2254	225P22291WD3	.0022	AB	0.46	0.41
926-2255	225P27291WD3	.0027	AB	0.46	0.41
926-2256	225P33291WD3	.0033	AB	0.46	0.41
926-2257	225P39291WD3	.0039	AB	0.46	0.41
926-2258	225P47291WD3	.0047	AB	0.46	0.41
926-2259	225P56291WD3	.0056	AB	0.46	0.41
926-2260	225P68291WD3	.0068	AB	0.46	0.41
926-2261	225P82291WD3	.0082	AB	0.46	0.41
926-2262	225P10391WD3	.01	AB	0.46	0.41
926-2263	225P12391WD3	.012	AB	0.46	0.41
926-2264	225P15391WD3	.015	AB	0.61	0.55
926-2265	225P18391WD3	.018	AB	0.46	0.41
926-2266	225P22391WD3	.022	AB	0.46	0.41
926-2267	225P27391WD3	.027	AC	0.46	0.41
926-2268	225P33391WD3	.033	AC	0.46	0.41
926-2269	225P39391WD3	.039	AD	0.51	0.46
926-2270	225P47391WD3	.047	AD	0.51	0.46
926-2271	225P56391WD3	.056	AE	0.53	0.48
926-2272	225P68391WD3	.068	AE	0.54	0.49
926-2273	225P82391WD3	.082	AF	0.53	0.48
926-2274	225P10491WD3	.1	AF	0.54	0.49
926-2275	225P12491XD3	.12	BA	0.46	0.41

100 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2276	225P15491XD3	.15	BB	0.72	0.65
926-2277	225P18491XD3	.18	BC	0.85	0.76
926-2278	225P22491XD3	.22	BD	0.85	0.76
926-2279	225P27491XD3	.27	BE	1.00	0.90
926-2280	225P33491XD3	.33	BF	1.03	0.93
926-2281	225P39491XD3	.39	BG	1.61	1.45
926-2282	225P47491XD3	.47	BF	1.61	1.45
926-2283	225P56491YD3	.56	EA	1.99	1.79
926-2284	225P68491YD3	.68	EB	1.99	1.79
926-2285	225P82491YD3	.82	EC	2.46	2.21
926-2286	225P10591YD3	1.0	ED	2.46	2.21

200 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2287	225P10292XD3	.001	CA	0.54	0.49
926-2288	225P15292XD3	.0015	CA	0.54	0.49
926-2289	225P22292XD3	.0022	CA	0.54	0.49
926-2290	225P33292XD3	.0033	CA	0.54	0.49
926-2291	225P47292XD3	.0047	CA	0.54	0.49
926-2292	225P68292XD3	.0068	CB	0.54	0.49
926-2293	225P10392XD3	.01	CB	0.54	0.49
926-2294	225P15392XD3	.015	CB	0.61	0.55
926-2295	225P22392XD3	.022	CB	0.61	0.55
926-2296	225P33392XD3	.033	CC	0.65	0.59
926-2297	225P47392XD3	.047	CC	0.65	0.59
926-2298	225P68392XD3	.068	CC	0.65	0.59

200 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2299	225P10492XD3	.1	CE	0.65	0.59
926-2300	225P15492XD3	.15	CF	0.72	0.65
926-2301	225P22492XD3	.22	CG	0.85	0.76
926-2302	225P33492YD3	.33	FA	1.03	0.93
926-2303	225P47492YD3	.47	FB	1.63	1.46
926-2304	225P68492YD3	.68	GD	2.31	2.08

400 WVDC

Stock No.	Mfr.'s Type	µF	Size Code	EACH 1-24	EACH 25-49
926-2305	225P10294XD3	.001	CA	0.54	0.49
926-2306	225P15294XD3	.0015	CA	0.54	0.49
926-2307	225P22294XD3	.0022	CA	0.54	0.49
926-2308	225P33294XD3	.0033	CA	0.54	0.49
926-2309	225P47294XD3	.0047	CA	0.54	0.49
926-2310	225P68294XD3	.0068	DE	0.54	0.49
926-2311	225P10394XD3	.01	DE	0.54	0.49
926-2312	225P15394XD3	.015	DF	0.57	0.51
926-2313	225P22394XD3	.022	DG	0.57	0.51
926-2314	225P33394XD3	.033	DH	0.65	0.59
926-2315	225P47394XD3	.047	DI	0.65	0.59
926-2316	225P68394XD3	.068	DJ	0.72	0.65
926-2317	225P10494XD3	.1	DA	0.85	0.76
926-2318	225P15494YD3	.15	GA	1.03	0.93
926-2319	225P22494YD3	.22	GB	1.63	1.46
926-2320	225P33494YD3	.33	GC	2.31	2.08
926-2321	225P47494YD3	.47	GA	4.44	4.00

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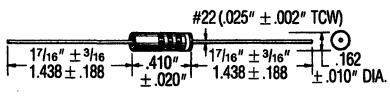
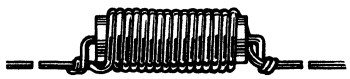
Subminiature Shielded RF Inductors



Epoxy molded and shielded for minimum coupling in high-density package. Meet electrical and environmental requirements of **MIL-C-15305C, Grade 1** (resistance to moisture and immersion). **Class B** (– 55° to + 125°). For altitudes to 70,000 feet. **Tolerance:** ± 10%. **Less than 3% coupling. Low DC resistance. Dielectric strength:** 700 V rms. **Size:** 0.162. ± .010 dia. × 0.410" ± .020 long. AWG #22 leads. **Weight per 100:** 3-1/2 oz.

Stock No.	Mfr.'s Type	Ind. µH	Q	@ MHz	MIL Type	EACH 1-99	EACH 100-249
871-3030	9250-331	.33	46	25.000	MS-75087-7	2.33	1.71
871-3060	9250-102	1.00	47	25.000	MS-75088-1	2.44	1.79
871-3065	9250-222	2.20	44	7.900	MS-75088-5	2.44	1.79
871-3070	9250-332	3.30	44	7.900	MS-75088-7	2.44	1.79
871-3110	9250-472	4.70	44	7.900	MS-75088-9	2.44	1.79
871-3130	9250-103	10.00	49	7.900	MS-75088-13	2.44	1.79
871-3150	9250-223	22.00	46	2.500	MS-75089-3	2.44	1.79
871-3155	9250-273	27.00	49	2.500	MS-75089-4	2.44	1.79
871-3170	9250-473	47.00	52	2.500	MS-75089-7	2.68	1.96
871-3175	9250-563	56.00	50	2.500	MS-75008-8	2.68	1.96
871-3180	9250-683	68.00	51	2.500	MS-75089-9	2.68	1.96
871-3200	9250-104	100.00	52	2.500	MS-75089-11	2.93	2.15
871-3210	9250-224	220.00	58	.790	MS-75089-15	2.93	2.15
871-3220	9250-334	330.00	54	.790	MS-75089-17	2.93	2.15
871-3225	9250-474	470.00	60	.790	MS-75008-19	2.93	2.15
871-3250	9250-105	1000.00	65	.790	MS-75089-23	2.93	2.15
871-3270	9250-225	2200.00	50	.250	MS-75089-27	3.36	2.46
871-3275	9250-336	33.00K	27	.079	MS-75008-41	4.01	2.94

Heavy Duty Hash Chokes



High current hash filter chokes, molded powdered iron or ferrite form for relatively high inductance. Core is 1 1/4" long (31.75 mm). **Tolerance:** ± 20%.

Stock No.	Mfr.'s Type	Ind µH	Ohms Max.	Amperes	Diameter In.	Diameter mm	EACH 1-99	EACH 100-249
871-5240	5240	40.0	.082	3.0	9/16	14.287	2.22	1.65
871-5248	5248	68.0	.054	5.0	17/32	13.394	2.67	1.97
871-5250	5250	100.0	.216	2.0	5/16	7.937	2.67	1.97
871-5252	5252	125.0	.080	3.5	1/2	12.700	2.95	2.19
871-5254	5254	250.0	.170	2.5	7/16	11.113	2.95	2.19
871-5256	5256	500.0	.260	2.0	9/16	14.287	2.95	2.19

Subminiature RF Chokes

► **Moisture Resistant**

Iron core RF chokes are designed to meet demand for high-reliability ultraminiature components. Suited to network and filter design, delay lines, and computer applications.

Stock No.	Mfr.'s Type	Ind µH	Q Min.	Ohms	Max. MA	EACH 1-99	EACH 100-249
871-6105	70F107AP*	.1	49	.013	3992	.78	.57
871-6110	70F106A1	1.0	41	.048	2041	.78	.57
871-6115	70F226A1	2.2	43	.156	1132	.94	.69
871-6120	70F336A1	3.3	40	.240	912	.94	.69
871-6125	70F566A1	5.6	41	.492	637	.94	.69
871-6130	70F826A1	8.2	37	.744	518	1.15	.84
871-6135	70F105A1	10.0	36	1.560	277	1.15	.84
871-6140	70F185A1	18.0	52	2.280	229	1.15	.84
871-6145	70F275A1	27.0	49	2.640	213	1.15	.84
871-6150	70F475A1	47.0	44	3.360	188	1.15	.84
871-6155	70F685A1	68.0	42	4.200	169	1.15	.84
871-6160	70F104A1	100.0	25	7.680	139	1.25	.92
871-6165	70F224A1	220.0	46	11.500	114	1.25	.92
871-6170	70F334A1	330.0	41	13.900	103	1.25	.92
871-6175	70F474A1	470.0	35	16.300	95	1.25	.92
871-6180	70F684A1	680.0	37	19.800	87	1.32	.96
871-6185	70F103A1	1000.0	30	24.000	79	1.32	.96
871-6190	70F223A1	2200.0	40	45.600	57	1.36	1.00
871-6195	70F253A1	2500.0	48	45.600	57	1.36	1.00
871-6200	70F473A1	4700.0	49	64.800	48	1.48	1.08
871-6205	70F102A1	10000.0	41	101.000	38	1.57	1.15
871-6210	70F101AF†	100000.0	48	278.000	29	2.35	1.72

*Phenolic core. †Ferrite core.

Molded RF Chokes

Size: .156 ± .010 diameter; .375 ± .010 length. Leads AWG #22TCW; 1.438 ± .188 length. Meets MIL-C-15305, Grade 1, Class A.

Stock No.	Mfr.'s Type	MS Type	Measured on 260 A Q-Meter: Inductance Microhenries	Min. Q	Testing Frequency	EACH 1-99	EACH 100-249
871-6220	9310-02*	18130-2	.22 ± 20%	50	25.0 MHz	.79	.58
871-6225	9310-06*	18130-4	.47 ± 20%	45	25.0 MHz	.79	.58
871-6230	9310-10*	18130-7	.82 ± 10%	50	25.0 MHz	.79	.58
871-6235	9310-12*	18130-8	1.00 ± 10%	50	25.0 MHz	.79	.58
871-6240	9310-16*	18130-10	1.50 ± 10%	33	7.9 MHz	.79	.58
871-6245	9310-20*	18130-12	2.20 ± 10%	33	7.9 MHz	.79	.58
871-6250	9310-24*	18130-14	3.30 ± 10%	33	7.9 MHz	.79	.58
871-6255	9310-26*	18130-15	3.90 ± 10%	33	7.9 MHz	.79	.58
871-6260	9310-28*	18130-16	4.70 ± 10%	33	7.9 MHz	.79	.58
871-6265	9310-36†	18130-20	10.0 ± 10%	55	7.9 MHz	1.01	.74
871-6270	9310-40†	18130-22	15.0 ± 10%	65	2.5 MHz	1.01	.74
871-6275	9310-44†	18130-24	22.0 ± 10%	75	2.5 MHz	1.01	.74
871-6280	9310-52†	18130-26	33.0 ± 10%	65	2.5 MHz	1.16	.85

*Phenolic core material. †Iron core material.

RF Chokes With Axial Leads

These chokes cover an inductance range from 1 microhenry to 50 millihenries. Either single layer or 3-pi universal winding is used to insure low distributed capacity. Chokes are wound on low-loss molded phenolic or powdered iron core forms and are impregnated with a moisture and fungus-resistant varnish. Leads are 1-1/2" (38.1 mm) long.

Single Layer Windings

Phenolic Core: 3/16" (4.76 mm) diameter × 3/4" (19.05 mm) long. **Tolerance:** ± 10%-*20%.

Stock No.	Mfr.'s Type	Ind. µH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH 1-99	EACH 100-249
871-3482	4602*	1.0	60	.050	2000	.270 (6.80)	.91	.67
871-3485	4604	1.5	58	.093	1800	.270 (6.80)	.91	.67
871-3495	4608	3.9	60	.450	1000	.270 (6.80)	.91	.67
871-3508	4612	10.0	36	1.500	500	.270 (6.80)	.91	.67
Iron Core: 7/32" (5.55 mm) diameter × 7/8" (22.22 mm) long. **Tolerance:** ± 5%.								
871-3524	4622	10.0	69	.110	1500	.290 (7.30)	1.23	.90
871-3526	4624	15.0	62	.170	1000	.290 (7.30)	1.23	.90
871-3530	4626	24.0	65	.340	800	.290 (7.30)	1.23	.90
871-3535	4628	39.0	70	.650	600	.290 (7.30)	1.23	.90
871-3538	4629	55.0	72	1.000	500	.290 (7.30)	1.23	.90
871-3550	4632	100.0	107	3.000	400	.290 (7.30)	1.23	.90

3-Section Windings

Phenolic Core: 3/16" (4.76 mm) diameter × 3/4" (19.05 mm) long. **Tolerance:** ± 5%.

Stock No.	Mfr.'s Type	Ind. mH	Q Min.	Ohms	Max MA	Diameter In. (mm)	EACH 1-99	EACH 100-249
871-3582	4652	1.0	59	19.000	160	.563 (14.30)	3.33	2.44
Iron Core: 7/32" (5.55 mm) × 7/8" (22.22 mm) long. **Tolerance:** ± 5%.								
871-3584	4662	1.0	83	8.600	160	.469 (11.90)	3.33	2.44
874-3586	4664	1.5	82	11.000	160	.469 (11.90)	3.33	2.44
871-3592	4672	10.0	68	50.000	100	.594 (15.00)	3.33	2.44
Ferrite Core: 1/4" (6.35 mm) diameter × 7/8" (22.22 mm) long. **Tolerance** ± 5%.								
871-3992	6302	2.5	106	9.000	160	.469 (11.91)	2.39	1.75
871-3996	6304	5.0	91	14.000	160	.531 (13.48)	2.68	1.96
871-4000	6306	10.0	108	31.000	100	.531 (13.48)	2.76	2.03
871-4004	6308	25.0	102	82.000	65	.531 (13.48)	2.87	2.10
871-4008	6310	50.0	113	127.000	65	.625 (15.87)	2.87	2.10

Molded RF Chokes

Phenolic Core: .095" (2.41 mm) diameter × .25" (6.35 mm) long. **Tolerance:** ± 10%.

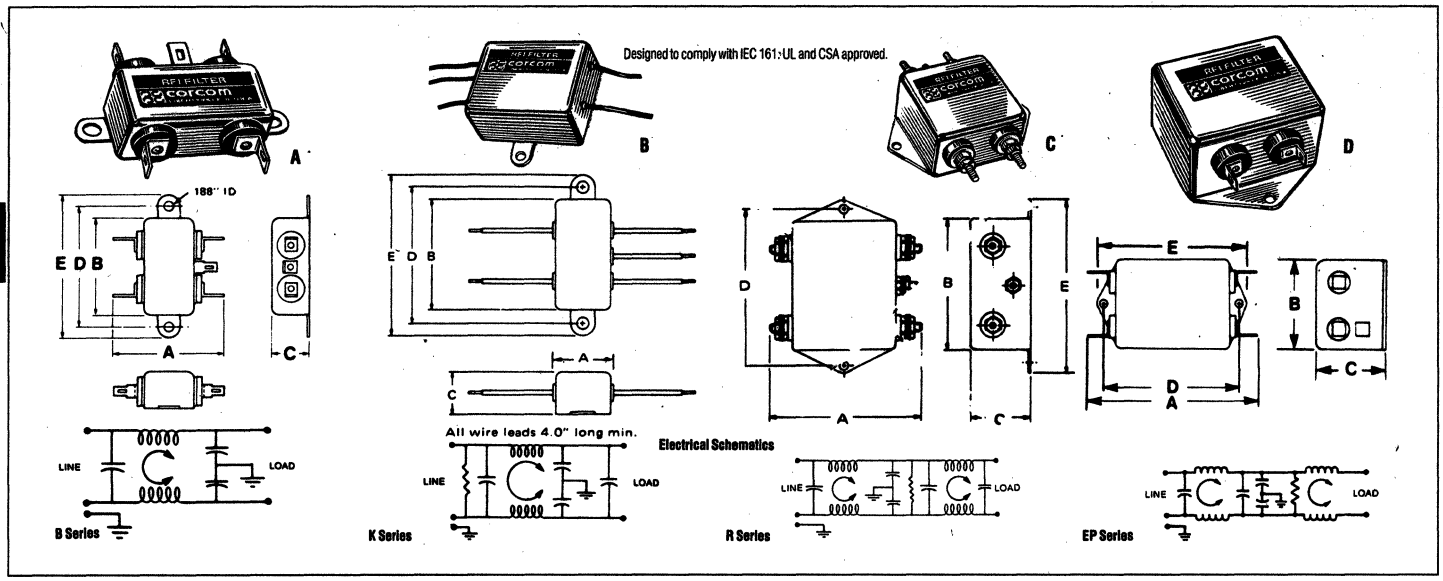
Stock No.	Mfr.'s Type	Ind µH	Q Min.	Ohms	Max. MA	EACH 1-99	EACH 100-249
871-0095	9230-94	.10	40	.07	1100	.89	.65
871-0100	9230-00	.15	38	.10	1100	.89	.65
871-0105	9230-04	.22	33	.14	935	.89	.65
871-0110	9230-10	.39	30	.30	640	.89	.65
871-0115	9230-12	.47	30	.35	590	.89	.65
871-0120	9230-14	.56	30	.50	495	.89	.65
871-0130	9230-20	1.00	25	1.00	350	.89	.65
Iron Core: .095" (2.41 mm) diameter × .25" (6.35 mm) long. **Tolerance:** ± 10%.							
871-0140	9230-32	3.30	45	.85	380	1.30	.95
871-0145	9230-34	3.90	45	1.00	350	1.30	.95
871-0150	9230-36	4.70	45	1.20	320	1.30	.95
871-0155	9230-44	10.00	55	3.70	180	1.46	1.07
871-0160	9230-52	22.00	50	3.30	190	1.49	1.09
Ferrite Core: .095" (2.41 mm) diameter × .25" (6.35 mm) long. **Tolerance:** ± 10%.							
871-0165	9230-56	33.00	45	3.40	187	1.58	1.16
871-0168	9230-58	39.00	45	3.60	180	1.58	1.16
871-0170	9230-60	47.00	50	4.50	165	1.58	1.16
871-0175	9230-64	68.00	50	6.70	135	1.58	1.16
871-0180	9230-68	100.00	30	8.00	125	1.58	1.16
871-0185	9230-70	120.00	30	13.00	97	1.68	1.23
871-0190	9230-76	220.00	30	21.00	73	1.68	1.23
871-0195	9230-84	470.00	30	42.00	50	1.75	1.28
871-0020	9230-92	1000.00	30	72.00	38	1.75	1.28

5500/5600 Series

High saturation flux density ferrite rods (5500) and ferrite bobbin (5600). Chokes are ideal for all EMI/RFI filtering applications. They are also suitable for energy storage inductors in switching power supplies. Covered with shrink tubing and varnish impregnated. Printed Circuit mounting.

Stock No	Mfr.'s Type	LuH* ±10%	Fo Min. MHz	R,dc Max. Ohms	I,dc Max. Amps	EACH 1-99	EACH 100-249
871-7000	5502	10	21.60	.017	9.0	3.17	2.32
871-7005	5512	68	3.60	.034	7.3	4.57	3.35
871-7010	5513	100	2.40	.038	6.8	4.99	3.66
871-7015	5520	100	2.20	.027	10.0	6.22	4.56
871-7020	5606	250	1.60	.173	2.9	6.54	4.79
871-7025	5607	500	1.00	.378	2.0	6.54	4.79
871-7030	5608	1000	.70	.801	1.3	7.01	5.14
871-7035	5622	500	.90	.090	5.0	16.94	12.43
871-7040	5626	100	1.80	.018	14.0	19.86	14.57
871-7045	5631	5000	.19	.714	2.2	21.61	15.85

*Inductance measured @ 1 kHz with 0 Amps D.C. current. Typical inductance change is less than 5% @ maximum rated current. Leads: 1" long. Tinned within 1/8" of body.



B Series Filters

1 to 10 Amps; 115/250 Volts AC; 60 Hz

B Series RFI power line filters are general purpose low cost filters which provide effective line-to-ground RFI filtering in most applications. Max. leakage current (line-to-ground) .5 mA at 115 VAC 60 Hz, 1.0 mA at 250 VAC 50 Hz. Hipot rating (1 minute) line-to-ground, 2250 VDC; line-to-line, 1450 VDC. **Operating Frequency:** 50-60 Hz. **Rated Voltage:** 115/250 VAC.

Stock No.	Mallory/ Corcom	Replacement For						Fig.	Dimensions in Inches (mm)					Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter		A	B	C	D	E		1-24	25-49	50-99	100-499
852-0290	1VB1	APFV111L	1B1R	GA1A-1	1JX5101A	F-85002	600A2	A	2.25(57.1)	1.82(46.1)	0.66(16.7)	2.125(53.98)	2.53(64.2)	1	**10.23**	**8.19**	**6.86**	**5.95**
852-0301	3VB1	APFV311L	3B1R	—	3JX5103A	—	600A5	A	2.61(66.1)	1.82(46.1)	0.78(19.9)	2.125(53.98)	2.53(64.2)	3	**10.61**	**8.49**	**7.12**	**6.18**
852-0303	3VB3	APFV311W	3B3R	GA3A-3	3JX5103C	F-85016	600C5	B	1.32(33.2)	1.82(46.1)	0.78(19.9)	2.125(53.98)	2.53(64.2)	3	**11.51**	**9.21**	**7.73**	**6.70**
852-0311	5VB1	APFV511L	5B1R	GA1A-5	5JX5104A	F-85020	600A5	A	2.61(66.1)	1.82(46.1)	0.78(19.9)	2.125(53.98)	2.53(64.2)	5	**9.81**	**7.84**	**6.58**	**5.71**
852-0313	5VB3	APFV511W	5B3R	—	5JX5104C	—	600C5	B	1.32(33.2)	1.82(46.1)	0.78(19.9)	2.125(53.98)	2.53(64.2)	5	**10.61**	**8.49**	**7.12**	**6.18**
852-0321	10VB1	APFV1011L	10B1R	GA1A-10	10JX5105A	F-85026	600A10	A	2.61(66.1)	1.82(46.1)	1.16(29.4)	2.125(53.98)	2.53(64.2)	10	**11.07**	**8.86**	**7.42**	**6.44**
852-0314	20VB1	APFV2011L	—	—	20JX5106A	—	600A20	A	3.36(85.2)	2.07(52.4)	1.16(29.4)	2.375(60.33)	2.81(71.3)	20	**17.81**	**14.26**	**11.96**	**10.37**

K Series Filters

1 to 20 Amps; 115/250 Volts AC, 50-60 Hz

K Series RFI filters are general purpose filters which provide line-to-line filtering in addition to normal line-to-ground attenuation of RFI. Particularly suited where pulsed, continuous and/or intermittent RF interference is present in your application. Max. leakage current (line-to-ground) .5 mA at 115 VAC 60 Hz, 1.0 mA at 250 VAC 50 Hz. **Hipot Rating (1 minute):** 2250 VDC line-to-ground, 1450 VDC line-to-line. **Operating Frequency:** 50-60 Hz.

Stock No.	Mallory/ Corcom	Replacement For						Fig.	Dimensions in Inches (mm)					Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter		A	B	C	D	E		1-24	25-49	50-99	100-499
852-0322	2VK1	APFV221L	2K1R	GA1B-2	2JX5202A	F-85042	605A2	A	3.10(78.7)	2.07(52.4)	0.91(23.1)	2.375(60.33)	2.81(71.3)	2	**11.94**	**9.54**	**8.01**	**6.94**
852-0324	2VK3	APFV221W	—	—	2JX5202C	—	605C2	B	1.81(45.9)	2.07(52.4)	0.91(23.1)	2.375(60.33)	2.81(71.3)	2	**13.14**	**10.51**	**8.81**	**7.65**
852-0323	3VK1	APFV321L	—	—	3JX5203A	—	605A5	A	3.10(78.7)	2.07(52.4)	1.16(29.4)	2.375(60.33)	2.81(71.3)	3	**14.19**	**11.34**	**9.52**	**8.25**
852-0325	5VK1	APFV521L	5K1R	GA1B-5	5JX5204A	F-85054	605A5	A	3.10(78.7)	2.07(52.4)	1.16(29.4)	2.375(60.33)	2.81(71.3)	5	**12.11**	**9.70**	**8.14**	**7.05**
852-0326	5VK3	APFV521W	—	—	5JX5204C	—	605C5	B	1.81(45.9)	2.07(52.4)	1.16(29.4)	2.375(60.33)	2.81(71.3)	5	**13.94**	**11.16**	**9.36**	**8.11**
852-0330	10VK1	APFV1021L	10K1R	GA1B-10	10JX5205A	F-85060	605A10	A	3.35(85.1)	2.07(52.4)	1.16(29.4)	2.375(60.33)	2.81(71.3)	10	**13.09**	**10.46**	**8.78**	**7.61**
852-0331	20VK1	APFV2021L	—	—	—	—	605A20	A	3.35(85.1)	2.56(65.0)	1.53(38.8)	2.938(74.63)	3.35(85.1)	20	**20.24**	**16.20**	**13.59**	**11.77**
852-0346	20VK6	APF2021S	20K6	GA5B-20	20JX5206A	F-85066	605F20	C	3.46(87.9)	2.56(65.0)	1.53(38.8)	2.938(74.63)	3.35(85.1)	20	**24.33**	**19.46**	**16.32**	**14.14**

R Series Filters

1 to 20 Amps; 115/250 Volts AC; 50-60 Hz

The dual-T filter design of the R Series makes these filters effective with low impedance motor loads. The 1- and 3- Amp versions have an insertion loss as low as 54 dB at 150 kHz. These dual-section filters provide positive RFI control of line-to-line as well as line-to-ground noise. Small in size, designed for computer peripheral and a wide variety of other critical applications. Max. leakage current (line-to-ground) .5 mA at 115 VAC 60 Hz, 1.0 mA at 250 VAC 50 Hz. **Hipot Rating (1 minute):** 2250 VDC line-to-ground, 1450 VDC line-to-line.

Stock No.	Mallory/ Corcom	Replacement For						Fig.	Dimensions in Inches (mm)					Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter		A	B	C	D	E		1-24	25-49	50-99	100-499
852-0351	1VR1	APFV131L	1R1R	HP1-1	1JX5301A	F-85069	620A1	D	3.35(85.1)	1.81(45.9)	1.16(29.4)	2.375(60.33)	2.78(70.6)	1	**19.77**	**15.81**	**13.26**	**11.49**
852-0352	2VR1	APFV231L	2R1R	—	2JX5302A	F-85073	620A2	D	3.35(85.1)	1.81(45.9)	1.16(29.4)	2.375(60.33)	2.78(70.6)	2	**17.87**	**14.30**	**12.00**	**10.39**
852-0353	3VR1	APFV331L	3R1R	HP1-3	3JX5303A	F-85077	620A3	D	3.85(97.7)	2.07(52.4)	1.16(29.4)	2.938(74.63)	3.35(85.1)	3	**19.06**	**15.24**	**12.78**	**11.08**
852-0354	5VR1	APFV531L	—	—	5JX5304A	—	620A5	A	3.85(97.7)	2.07(52.4)	1.16(29.4)	2.938(74.63)	3.35(85.1)	5	**18.06**	**14.44**	**12.11**	**10.49**
852-0360	10VR1	APFV1031L	10R1R	HP1-10	10JX5305A	F-85085	620A10	D	3.85(97.7)	2.07(52.4)	1.16(29.4)	2.938(74.63)	3.35(85.1)	10	**18.93**	**15.14**	**12.70**	**11.01**
852-0366	10R6	APFV1031S	10R6R	HP4-10	10JX5305B	F-85088	620F10	C	3.96(100.6)	2.07(52.4)	1.53(38.8)	2.938(74.63)	3.35(85.1)	10	**22.47**	**17.97**	**15.07**	**13.06**
852-0365	20R6	APFV2031S	—	—	20JX5306A	—	620F20	C	5.34(135.6)	3.37(85.6)	1.53(38.8)	3.750(95.30)	4.20(106.7)	20	**47.19**	**37.74**	**31.66**	**27.44**

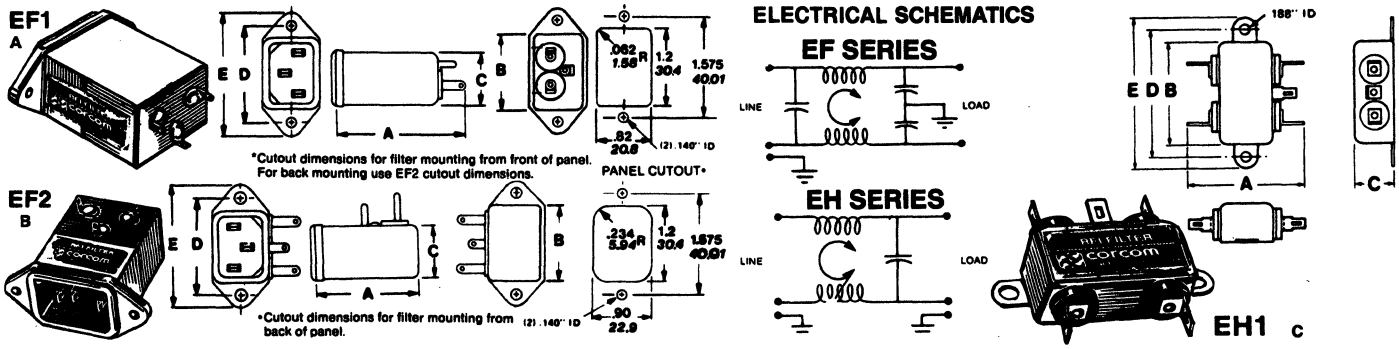
EP Series Filters

3 to 10 Amps; 115/250 Volts AC; 50-60 Hz

EP Series provides high insertion losses for both line-to-ground and line-to-line RFI and are specially designed for noise suppression in switching power supply applications. Max. leakage current (line-to-ground) .25 mA at 115 VAC 60 Hz; .40 mA at 250 VAC 50 Hz. **Hipot Rating (1 minute):** 2250 VDC line-to-ground, 1450 VDC line-to-line.

Stock No.	Mallory/ Corcom	Replacement For						Fig.	Dimensions in Inches (mm)					Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter		A	B	C	D	E		1-24	25-49	50-99	100-499
852-0422	3EP1	—	—	—	—	—	622A3	B	3.85(97.7)	2.07(52.3)	1.78(45.1)	2.938(74.63)	3.35(85.1)	3	**24.39**	**19.50**	**16.36**	**14.18**
852-0423	3EP3	—	—	—	—	—	622C3	D	2.56(65.0)	2.07(52.3)	1.78(45.1)	2.938(74.63)	3.35(85.1)	3	**24.39**	**19.50**	**16.36**	**14.18**
852-0424	6EP3	—	—	—	—	—	622C6	B	5.33(135.3)	2.07(52.3)	2.28(57.9)	5.625(142.88)	6.03(153.2)	6	**36.90**	**29.51**	**24.75**	**21.46**
852-0425	10EP1	—	—	—	—	—	622A10	D	6.62(168.1)	2.07(52.3)	2.78(70.6)	5.625(142.88)	6.03(153.2)	10	**68.57**	**54.87**	**46.08**	**37.95**

Series Filters



EF Series 1 to 6 Amps; 115/250 Volts, 50-60 Hz

EF Series RFI filters are compact, internationally approved line-to-ground units incorporating the special IEC (International Electrotechnical Commission) power line connector. This connector has 4 mm minimum pin spacing and complies with all current and proposed requirements for use with industrial and test equipment in the European market where a detachable power cord is part of the equipment design. **Max. leakage current (line-to-ground):** .25mA @ 115VAC 60 Hz, .40mA @ 250 VAC 50-60 Hz. **Hipot rating (1 minute):** 2250 VDC line-to-ground, 1450 VDC line-to-line. Meets IEC, BSI, VDE and CSA requirements for data processing equipment. Models with the **F suffix** utilize 2″ fastons on the load side in place of the standard solder terminals. Solder Terminals are shown in the drawings above.

Stock No.	Mallory/ Corcom	Replacement For						Fig.	Dimensions—Inches (mm)					Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter		A	B	C	D	E		1-24	25-49	50-99	100-Up
852-0371	1EF1	APF100CEE	—	—	1JX5411A	—	610G1	A	1.97(50.0)	1.16(29.5)	.78(19.8)	1.58(40.1)	1.97(50.0)	1	**9.67**	**7.73**	**6.49**	**5.77**
852-0382	1EF2	APF100CET	—	—	1JX5411B	—	610H1	B	1.55(39.4)	1.16(29.5)	.83(21.1)	1.58(40.1)	1.97(50.0)	1	**9.67**	**7.73**	**6.49**	**5.77**
852-0383	3EF1	APF300CEE	3EF1R	CA-3	3JX5421A	F-85105	610G3	A	1.97(50.0)	1.16(29.5)	.78(19.8)	1.58(40.1)	1.97(50.0)	3	**9.67**	**7.73**	**6.49**	**5.77**
852-0392	3EF2	APF300CET	3EF2R	CB-3	3JX5421B	F-85108	610H3	B	1.55(39.4)	1.16(29.5)	.83(21.1)	1.58(40.1)	1.97(50.0)	3	**9.67**	**7.73**	**6.49**	**5.77**
852-0393	3EF2F	APF300CTF	—	—	3JX5421B	—	610H3	B	1.55(39.4)	1.16(29.5)	.83(21.1)	1.58(40.1)	1.97(50.0)	3	**9.67**	**7.73**	**6.49**	**5.77**
852-0396	6EF1	APF600CEE	6EF1R	CA-6	6JX5431A	F-85106	610G6	A	1.97(50.0)	1.16(29.5)	.78(19.8)	1.58(40.1)	1.97(50.0)	6	**9.67**	**7.73**	**6.49**	**5.77**
852-0400	6EF1F	APF600CEF	—	—	6JX5431A	—	610G6	A	2.16(54.9)	1.16(29.5)	.78(19.8)	1.58(40.1)	1.97(50.0)	6	**9.67**	**7.73**	**6.49**	**5.77**
852-0402	6EF2	APF600CET	6EF2R	CB-6	6JX5431B	F-85109	610H6	B	1.55(39.4)	1.16(29.5)	.83(21.1)	1.58(40.1)	1.97(50.0)	6	**9.67**	**7.73**	**6.49**	**5.77**
852-0406	6EF2F	APF600CTF	—	—	6JX5431B	—	610H6	B	1.55(39.4)	1.16(29.5)	.83(21.1)	1.58(40.1)	1.97(50.0)	6	**9.67**	**7.37**	**6.49**	**5.77**

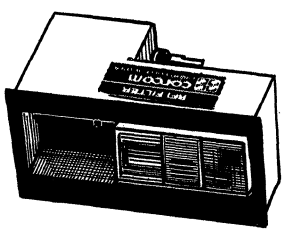
EH Series 6 Amps; 115/250 Volts AC; 50-400 Hz

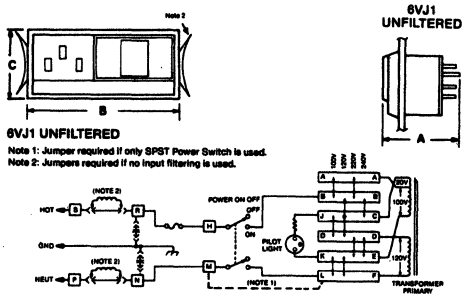
EH Series filters are extremely low leakage devices designed for health care equipment. All models use 2-inch fastons for load side connections. **Max. leakage current (line-to-ground):** 2 microamps @ 115 VAC 60 Hz; 5 microamps @ 250 VAC 50 Hz. **Hipot rating (1 minute):** 2000 VAC line-to-ground, 2150VDC line-to-line. **Operating frequency:** 50-400 Hz.

Stock No.	Mallory/ Corcom	Replacement For						Fig.	Dimensions—Inches (mm)					Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter		A	B	C	D	E		1-24	25-49	50-99	100-Up
852-0421	6EH1	APFMV600L	—	—	—	—	615A6	C	1.98(50.3)	1.75(44.4)	.62(15.7)	2.13(54.1)	2.50(63.5)	6	**9.69**	**7.73**	**6.51**	**5.78**

J Series—Voltage Selecting and Fused Connector

Specify line cord #80-1245 to mate with IEC connector.





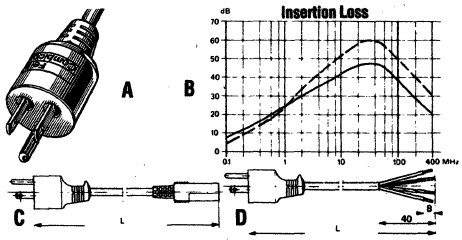
6 Amps; 100-240 Volts AC, 50-400 Hz

J Series Voltage Selecting and Fused Connector is designed for the equipment manufacturer who markets a product worldwide. While incorporating a fuse holder and a standard IEC power line connector, the J Series also features a unique voltage selector card which enables an easy means to change transformer primary connections. Integral fuse holder, line side, accepts .25″ × 1.25″ fuse. Meets UL/IEC requirements per CEE publication 22 Type VI. Connector back terminals suitable for soldering, wire wrapping or crimp-on lugs such as MOLEX #2123. **Max. leakage current (line-to-ground):** @ 250 VAC 50 Hz, 5 microamps (6VJ1); 0.5mA (6J4). **Hipot rating (1 minute):** 2000 VAC (6VJ1) and 2250 VDC (6J4) line-to-ground; 2150 VDC (6VJ1) and 1450 VDC (6J4)line-to-line. Construction meets IEC 161 category—10/70/21. The J1 version is unfiltered while the J4 model houses a built-in filter.

Stock No.	Mallory/ Corcom	Replacement For						Dimensions—Inches (mm)			Max. Line Amp	EACH			
		CDE	Raytheon	SAE	Sprague	Hopkins	Potter	A	B	C		1-24	25-49	50-99	100-Up
852-0410	6VJ1	—	—	—	—	—	7100-0001	1.34(34.10)	2.65(67.31)	1.15(29.21)	6	**12.60**	**10.07**	**8.45**	**7.52**
852-0414	6J4	—	—	—	—	—	7100-0002	1.82(46.22)	2.65(67.31)	1.15(29.21)	6	**23.59**	**18.86**	**15.82**	**14.06**

EMI-Filtered Power Cord: Combicord®

General Description. The Feller Combicord represents a completely new approach to the increasingly important technology concerned with electromagnetic compatibility. The Feller Combicord consists of a shielded detachable cordset incorporating the filter components. It is available as a detachable or permanently wired power cord with NEMA, SCHUKO or SEV line plugs and an IEC 320 female connector on the detachable version. The shielded supply cord is a SVT 3 × 18 AWG on the NEMA version and a HO3VV-F3G on the SCHUKO and SEV version.

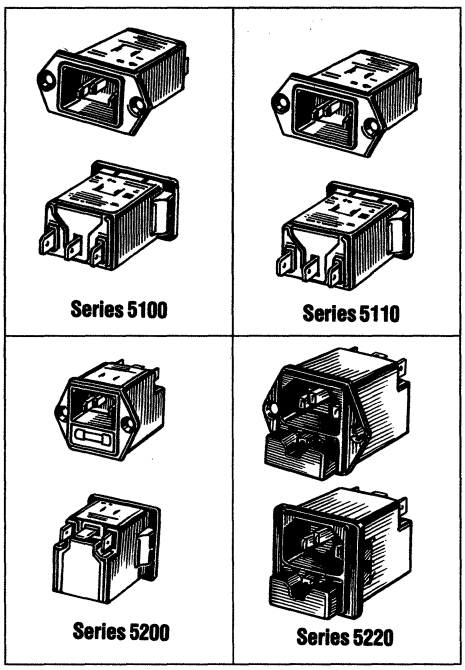


Stock No.*	Mfr.'s Type	Description	Fig.	EACH 1-24	25-49	50-99	100-Up
511-001X	6800-100.60	Power Cord	A, B, D	16.84	16.34	15.20	14.40
511-002X	6800-101.60	Detachable Cordset	A, B, C	21.36	20.72	19.28	18.27

*How to order: replace X in stock number with 1, 2, or 3 (1 = NEMA, 2 = SCHUKO, 3 = SEV).

4

Power Line Filters With AC Inlet



General Description

The new Feller power line filter is based on a modular technology which allows economical production and meets high quality requirements. It consists of a molded filter module which is attached to the appliance inlet and fitted with a rustfree housing. The new filter line includes models for: screw mounting, snap-in mounting for panel thicknesses from 0.8-3.0 mm, and medical applications with low leakage current.

High Performance/Medical

Stock No.	Mfr.'s Type	Rated Current (A) Ta 40°C	Leakage Current @ 250 V/50 Hz	Cx μ	Cy (pF)	L (mH)	R (MΩ)	Wt.	EACH 1-24	25-49	50-99	100-Up
511-X400	5100-1-•3	1	Ω0.5 mA	.047	2200	11.00	—	50g	8.03	6.87	6.11	5.59
511-X402	5100-2-•3	2	Ω0.5 mA	.047	2200	4.00	—	50g	8.03	6.87	6.11	5.59
511-X404	5100-4-•3	4	Ω0.5 mA	.047	2200	1.60	—	50g	8.03	6.87	6.11	5.59
511-X406	5100-6-•3	6	Ω0.5 mA	.047	2200	.80	—	50g	8.03	6.87	6.11	5.59
511-X408	5100-1-•3B*	1	Ω5.0 μA	.047	—	11.00	—	50g	8.58	7.42	6.66	6.14
511-X410	5100-2-•3B*	2	Ω5.0 μA	.047	—	4.00	—	50g	8.58	7.42	6.66	6.14
511-X412	5100-4-•3B*	4	Ω5.0 μA	.047	—	1.60	—	50g	8.58	7.42	6.66	6.14
511-X414	5100-6-•3B*	6	Ω5.0 μA	.047	—	0.80	—	50g	8.58	7.42	6.66	6.14
511-X416	5100-1-•3R**	1	Ω0.5 mA	.047	2200	11.00	1	50g	8.58	7.42	6.66	6.14
511-X418	5100-2-•3R**	2	Ω0.5 mA	.047	2200	4.00	1	50g	8.58	7.42	6.66	6.14
511-X420	5100-4-•3R**	4	Ω0.5 mA	.047	2200	1.60	1	50g	8.58	7.42	6.66	6.14
511-X422	5100-6-•3R**	6	Ω0.5 mA	.047	2200	0.80	1	50g	8.58	7.42	6.66	6.14

NOTE: Add to Stock Number in place of X: 3 for Screw Mount or 4 for Snap-in. *For Medical Applications. **With Discharge Resistor (R).

General Purpose

511-X424	5110-1-•3	1	Ω0.5 mA	.033	2200	4.00	—	35g	7.43	6.27	5.51	4.99
511-X426	5110-3-•3	3	Ω0.5 mA	.033	2200	0.80	—	35g	7.43	6.27	5.51	4.99
511-X428	5110-6-•3	6	Ω0.5 mA	.033	2200	0.30	—	35g	7.43	6.27	5.51	4.99
511-X430	5110-10-•3	10	Ω0.5 mA	.033	2200	0.17	—	35g	7.43	6.27	5.51	4.99
511-X432	5110-1-•3B*	1	Ω5.0 μA	.033	—	4.00	—	35g	7.98	6.82	6.06	5.54
511-X434	5110-3-•3B*	3	Ω5.0 μA	.033	—	0.80	—	35g	7.98	6.82	6.06	5.54
511-X436	5110-6-•3B*	6	Ω5.0 μA	.033	—	0.30	—	35g	7.98	6.82	6.06	5.54
511-X438	5110-10-•3B*	10	Ω5.0 μA	.033	—	0.17	—	35g	7.98	6.82	6.06	5.54

NOTE: Add to Stock Number in place of X: 3 for Screw Mount or 4 for Snap-in. *For Medical Applications.

With Single Fuseholder

511-X450	5200-1-•3	1	Ω0.5 mA	.047	2200	11.00	—	60g	9.27	8.66	8.25	7.78
511-X452	5200-2-•3	2	Ω0.5 mA	.047	2200	4.00	—	60g	9.27	8.66	8.25	7.78
511-X454	5200-4-•3	4	Ω0.5 mA	.047	2200	1.60	—	60g	9.27	8.66	8.25	7.78
511-X456	5200-6-•3	6	Ω0.5 mA	.047	2200	0.80	—	60g	9.27	8.66	8.25	7.78
511-X458	5200-1-•3B*	1	Ω5.0 μA	.047	—	11.00	—	60g	9.91	9.30	8.89	8.42
511-X460	5200-2-•3B*	2	Ω5.0 μA	.047	—	4.00	—	60g	9.91	9.30	8.89	8.42
511-X462	5200-4-•3B*	4	Ω5.0 μA	.047	—	1.60	—	60g	9.91	9.30	8.89	8.42
511-X464	5200-6-•3B*	6	Ω5.0 μA	.047	—	0.80	—	60g	9.91	9.30	8.89	8.42

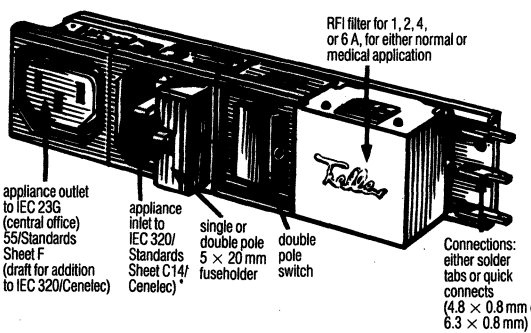
NOTE: Add to Stock Number in place of X: 2 for Screw Mount or 4 for Snap-in. *For Medical Applications.

With Double Fuseholder

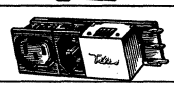
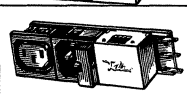
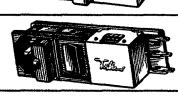
511-X470	5220-1-•3	1	Ω0.5 mA	.047	2200	11.00	—	55g	10.40	9.72	9.25	8.73
511-X472	5220-2-•3	2	Ω0.5 mA	.047	2200	4.00	—	55g	10.40	9.72	9.25	8.73
511-X474	5220-4-•3	4	Ω0.5 mA	.047	2200	1.60	—	55g	10.40	9.72	9.25	8.73
511-X476	5220-6-•3	6	Ω0.5 mA	.047	2200	0.70	—	55g	10.40	9.72	9.25	8.73
511-X478	5220-1-•3B*	1	Ω5.0 μA	.047	—	11.00	—	55g	11.15	10.42	9.92	9.36
511-X480	5220-2-•3B*	2	Ω5.0 μA	.047	—	4.00	—	55g	11.15	10.42	9.92	9.36
511-X482	5220-4-•3B*	4	Ω5.0 μA	.047	—	1.60	—	55g	11.15	10.42	9.92	9.36
511-X484	5220-6-•3B*	6	Ω5.0 μA	.047	—	0.70	—	55g	11.15	10.42	9.92	9.36

NOTE: Add to Stock Number in place of X: 2 for Screw Mount or 4 for Snap-in. *For Medical Applications.

RFI Power Line Filters: FELCOM®



General Description. Felcom (Feller Combination Module) is a combination of efficient individual components. These components are mounted on a printed circuit board which provides the mechanical and electrical connection as well as the connection to the appliance itself. The conductive base of the combination, or printed circuit board, is covered to prevent inadvertent contact. This cover also bears the combination's ratings and schematics. Felcom is available as a snap-in version for six different panel thicknesses. You will only have one component to mount in your equipment. The wiring is already done for you. Felcom...cuts costs, saves time, and is available in any combination.

Stock No.	Mfr.'s Type	Design	Description	EACH 1-24	25-49	100-Up
509-4000	5411-2-253/1.5		Including: Appliance plug connector Fuseholder	26.51	21.86	21.21
509-4010	5411-6-253/1.5		Power Line Filter	26.51	21.86	21.21
509-4100	5421-2-253/1.5		Including: Appliance plug connector Appliance outlet	28.72	23.68	22.97
509-4110	5421-6-253/1.5		Power Line Filter	28.72	23.68	22.97
509-4200	5423-2-253/1.5		Including: Appliance plug connector Fuseholder Appliance outlet	32.03	26.41	25.62
509-4210	5423-6-253/1.5		Power Line Filter	32.03	26.41	25.62
509-4300	5424-2-253/1.5		Including: Appliance plug connector Fuseholder; Switch	35.34	29.14	28.28
509-4310	5424-6-253/1.5		Power Line Filter	35.34	29.14	28.28
509-4400	5431-2-253/1.5		Including: Appliance plug connector Switch Appliance outlet	35.34	29.14	28.28
509-4410	5431-6-253/1.5		Power Line Filter	35.34	29.14	28.28
509-4500	5432-2-253/1.5		Including: Appliance plug connector Fuseholder; Switch Appliance outlet	38.66	31.87	30.93
509-4510	5432-6-253/1.5		Power Line Filter	38.66	31.87	30.93

NOTE: Additional configurations and options available as special order items with 10 piece minimum.

Requires No External Power, Batteries or Electricity

H5010 Headset With Noise-Shielded Microphone. A push-to-talk switch is located on the microphone shield. Recommended for noise levels to 125 dB. MSHA Approval Number 9B-67.
535-0240. Model H5010 ..... **EACH 295.00**

H5030 Headset With Acoustic Boom. Boom allows hand-free operations. The symmetrical design allows the headset to be worn with boom on either side of head. Recommended for noise levels to 100 dB. MSHA Approval Number 9B-67.
535-0185. Model H5030 ..... **EACH 230.00**

H5090 Headset With Acoustic Boom. Single ear version of model H5030. Recommended for noise levels to 80 dB.
535-0400. Model H5090 ..... **EACH 150.00**

H5020 Headset With Noise-Shielded Microphone. Behind-the-head version of model H5010. Has soft, adjustable overhead strap that fits under safety cap. Recommended for noise levels to 125 dB. MSHA Approval Number 9B-67.
535-6000. Model H5020 ..... **EACH 285.00**

H5040 Headset With Acoustic Boom. Behind-the-head version of model H5030. Has soft, adjustable over-head strap that fits under safety cap. Recommended for noise levels to 100 dB. MSHA Approval Number 9B-67.
535-0380. Model H5040 ..... **EACH 230.00**

OVER-THE-HEAD MODELS

H5010

H5030

H5090

BEHIND-THE-HEAD MODELS

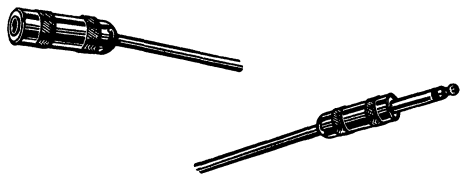
H5020

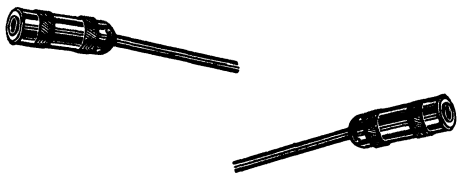
H5040

5

Accessories

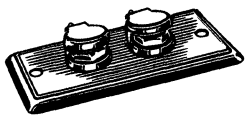
Extension Cords. Two conductor cords with phone plug and phone jacks. Extension cords are used to extend distance from jumper cord, jack plate or junction box. May be coupled for longer length. Number after dash indicates cord length.
535-0012. C51-12 ..... **EACH 39.00**
535-6005. C51-25 ..... **EACH 49.00**
535-0074. C51-50 ..... **EACH 74.00**
535-0075. C51-100 ..... **EACH 121.00**





Jumper Cords. All that is needed to complete a two-man VOICE POWERED System. It is a two conductor cord with 2 phone jacks to plug into each headset. For longer systems, extension cords may be added. Number after dash indicates cord length.
535-0059. C52-12 ..... **EACH 39.00**
535-6010. C52-25 ..... **EACH 49.00**
535-0064. C52-50 ..... **EACH 74.00**
535-0065. C52-100 ..... **EACH 121.00**

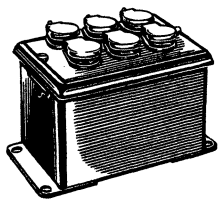
Adapter Cord Assembly. Jack to accept headset plug and terminates in two vinyl insulated clips. Overall length 12 inches.
535-5401. Model C5401 ..... **EACH 32.00**



Jack Plate. Two outlets with C-11 jacks. Receives plug from headset or extension cord. Two outlet faceplate has weatherproof covers and fits standard electrical box. Can be used for permanent, multiple station installations. Electrical box not included.
535-0040. Model M5002 ..... **EACH 28.00**

Six Plug Junction Box. Heavy duty metal box has weatherproof covers and takes up to six plugs from headsets or extension cords.
535-6015. Model M5006 ..... **EACH 126.00**

Amplifier/Belt Station. For use with Models H5030, H5040 and H5090 headsets, The amplifier increases the volume of transmission from the user's headset by up to 30 dB. Includes an adjustable talk level and a Push-To-Amplify switch. Completely portable (comes with self-contained 9 V battery). Adapter cord assembly included.
535-6110. Model M5410 ..... **EACH 325.00**

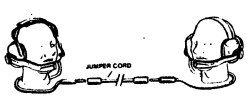


Voice Powered Communication Kit

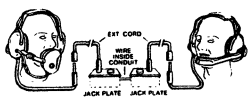
Ready-to-use, easy-to-store, two-man Communication System. Complete with carrying case, kit includes two H5040 headsets, two C5401 Adapter Cords and a C52-50 Jumper Cord. Ideal for use in pulling and pairing wires, continuity checks (ringing out wires), calibrating instrument readings, etc.
535Q6025. Six Piece Kit K5501 ..... **EACH 495.00**

Carrying Case. Headset carrying case (case only) available as a separate item.
535-6020. Model 9143P-26 ..... **EACH 30.00**

Typical Applications

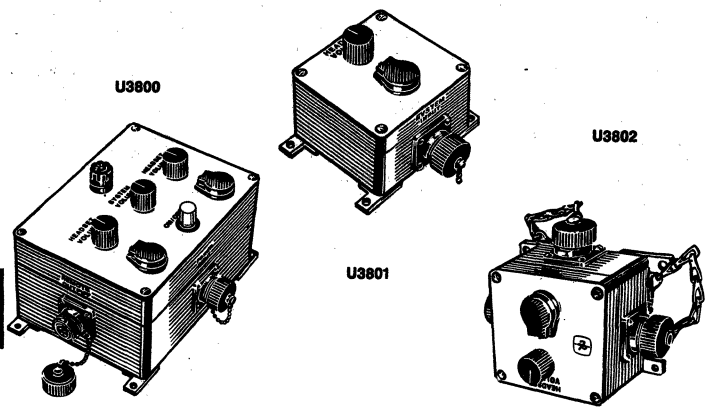


1. Two-Man System. Jumper cord, when used between any two VOICE POWERED Headsets, makes a complete communication system. Extension cords may be added to increase length.



2. Multiple-Station Installation. Using any number, jack plates may be wired with two-conductor, unshielded cable to form a network of fixed stations. Headsets or extension cords plug into these jack plates to complete the system.

Series 3800 Stations



U3800 Master Station
Automatically adjusts to 12 VDC or 24 VDC power source. System On/Off, volume controls, power input, remote outputs, 2 headset jacks. All weather-tight in heavy gauge polycarbonate housing. Less than 300 milliamps current draw.
535Q6030. Model U3800 ..... EACH 495.00

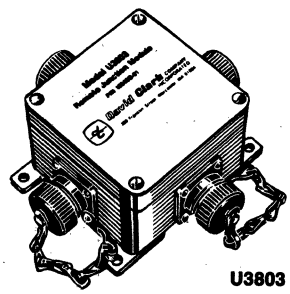
U3801 Remote Headset Station
Receives power from U3800 via C38—jumper cord or other Remote Headset Station. Has headset jack with listen volume control. Same housing and weather-tight design as Master Station.
535Q6035. Model U3801 ..... EACH 162.00

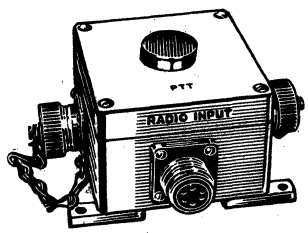
U3802 Remote Headset Station
Same features as U3801 but has two outputs for connecting jumper cords from additional Remote Headset Stations.
535Q6040. Model U3802 ..... EACH 215.00

Series 3800 Modules

U3803 Remote Junction Module
Passive Module with one input and three outputs for connecting jumper cord to additional Remote Headset Stations.
535Q6045. Model U3803 ..... EACH 194.00

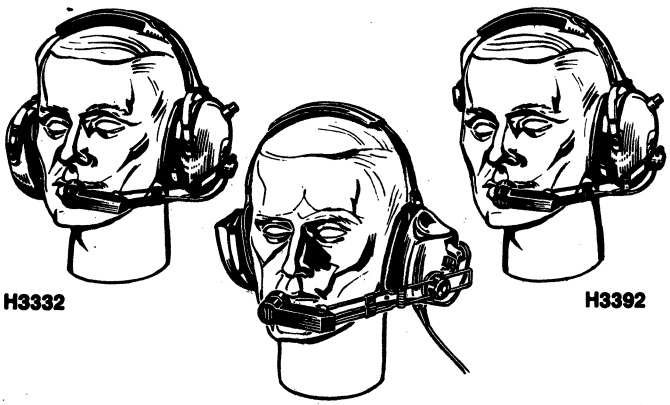
U3810 Radio Interface Module
Provides interface between mobile radio and intercom system. Has radio push-to-talk button and outputs for remote push-to-talk, plus connectors for Master Station and Mobile Radio.
535Q6050. Model U3810 ..... EACH 240.00


U3803



U3810

Series 3800 Noise Attenuating Headsets



H3332 Headset/Microphone
Over-the-head style with boom mounting noise canceling microphone, On/Off microphone switch, five foot (extended) coil cord. Maximum noise attenuation for hearing protection and clear, isolated reception. For noise levels to 125 dB.
535-6080. Model H3332 ..... EACH 267.00

H3342 Headset/Microphone
Behind-the-head style may be worn with safety hat or helmet. Maximum noise attenuation for hearing protection, and clear, isolated reception. Boom mounted noise canceling microphone with On/Off switch, five foot (extended) coil cord. For noise levels to 125 dB.
535-6085. Model H3342 ..... EACH 267.00

H3392 Headset/Microphone
Single ear version of H3332 with boom mounted noise canceling microphone, On/Off microphone switch, five foot (extended) coil cord. Not to be used in noise level above 85 dB.
535-6090. Model H3392 ..... EACH 236.00

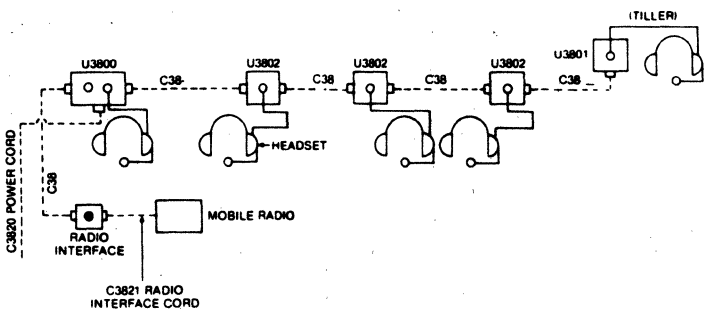
Series 3800 Cords

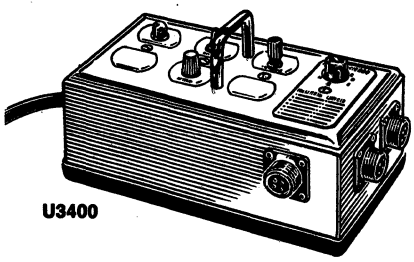
C38-12, -25, -50, -75, -100 Jumper Cords.
Four conductor shielded with MS Screw On (pin) connectors. Connects Master Station and Modules. Number after dash indicates cord length in feet.
535-6100. Model C38-12 ..... EACH 89.00
535-6055. Model C38-25 ..... EACH 102.00
535-6060. Model C38-50 ..... EACH 142.00
535-6065. Model C38-75 ..... EACH 173.00
535-6095. Model C38-100 ..... EACH 205.00

C3820 Power Cord
20 ft., two conductor shielded cord connects U3800 to power source.
535-6070. Model C3820 ..... EACH 60.00

C3821 Radio Interface Cord
Connects U3810 radio interface module to mobile radio. 25 ft., six conductor cord with six pin connector.
535-6075. Model C3821 ..... EACH 86.00

Typical 3800 Applications



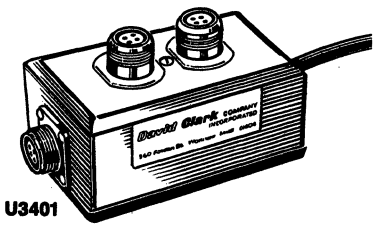


U3400

Series 3400

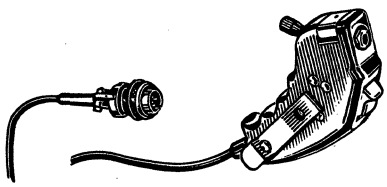
This System operates on standard 110 VAC current and can easily be converted to 220 VAC. Up to 32 Headsets may be connected at one time using belt stations and remote junction modules. Four conductor shielded cables provide shielding from electrical and radio frequency interference.

U3400 Master Station. The heart of the Series U3400 Communication System. It contains the power supply, amplifier and impedance selector in a single, sturdy metal box. There are four output connectors, 12 ft. grounded power cord, roll bar/carry handle, master volume control, and system On/Off switch. Belt Stations connected to four outputs form a four-man communication system. See Application No. 1 below. Remote Junction Modules connected to these outputs may further expand the system. See Application No. 2 below. **SPECIFICATIONS. Input:** 110-125 VAC. 60-50 Hz. **Output:** 24 VDC. **Max. Current:** 1/2 Amp. **Dimensions:** 4 3/4 × 9 1/2 × 4 3/4″.
535Q7000. Model U3400 ..... **EACH 580.00**



U3401

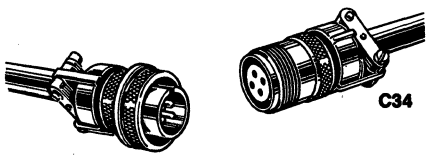
U3401 Remote Junction Module. Used for additional Belt Station connections. Will provide three Belt Station connections or two Belt Station connections plus another Remote Junction Module or extension cord. Your system arrangement will accommodate a maximum of 32 headsets. See Application No. 2 below.
535Q7005. Model U3401 ..... **EACH 195.00**



U3410
V3412

U3410 Belt Station. Serves as a preamplifier and interfaces between Headset and system. EVERY HEADSET MUST BE PLUGGED INTO A BELT STATION. Belt Station then connects to a Master Station or Remote Junction Module, either directly or via extension cords. Unit features headset jack, individual earphone volume controls, push-to-talk or lock microphone button, belt clip, 12 ft. cord with connector.
535Q7010. Model U3410 ..... **EACH 184.00**

V3412 Vox Belt Station. May be used in place of U3410 Belt Station. No buttons to press for hands-free operation. Voice activated start/stop transmission. Has Vox sensitivity control, headset jack, listening volume control, Vox override push to talk button, belt clip and 12 ft. cord. Use with all headsets shown here.
535Q7015. Model V3412 ..... **EACH 265.00**



C34

C34 Extension Cords. With screw-on-type connectors. Four conductor oil resistant cords are used to connect all components: Master Station, Remote Junction Modules and Belt Stations. Number after dash indicates length in feet.
535-7020. C34-12 ..... **EACH 92.00**
535-7025. C34-25 ..... **EACH 110.00**
535-7030. C34-50 ..... **EACH 142.00**
535-7035. C34-100 ..... **EACH 205.00**

Noise Attenuating Headsets For Use With Series 3400

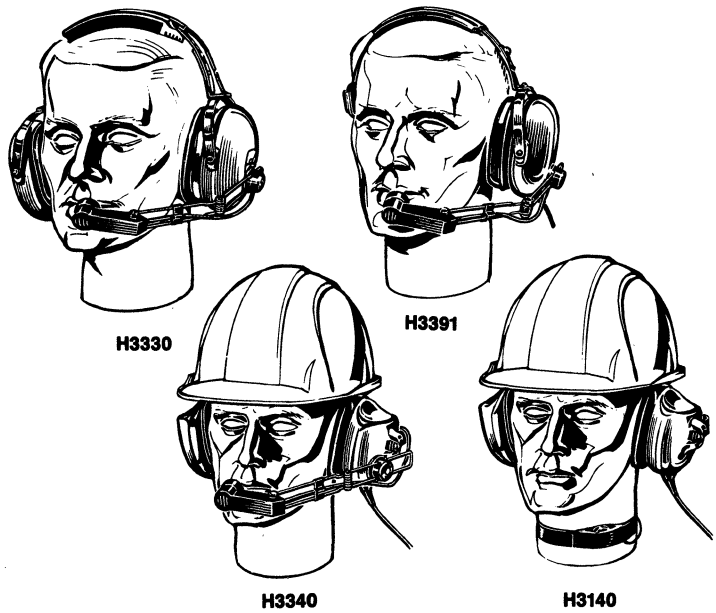
H3330 Headset/Microphone. Over-the-head style with boom mounted noise canceling microphone. For Noise levels to 125 dB.
535-7040. Model H3330 ..... **EACH 220.00**

H3340 Headset/Microphone. A behind-the-head version of H3330 for use with safety cap. For noise levels to 125 dB.
535-7045. Model H3340 ..... **EACH 220.00**

H3391 Headset/Microphone. Single ear version with boom mounted noise canceling microphone. Not to be used in noise levels above 85 dB.
535-7050. Model H3391 ..... **EACH 189.00**

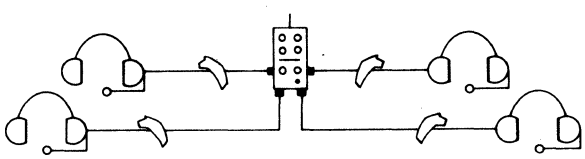
H3140 Headset/Throat Microphone. Designed to be worn behind the head to accommodate safety cap. Removeable electric mike held in place by soft adjustable neck strap.
535-7055. Model H3140 ..... **EACH 258.00**

Belt Station required for each headset. All headsets shown are interchangeable throughout system.

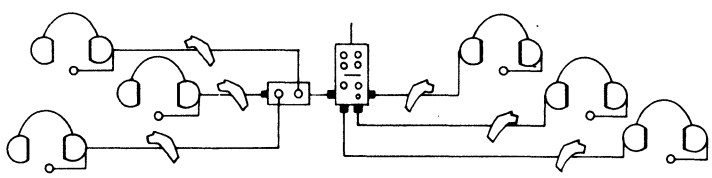


H3330
H3391
H3340
H3140

Typical Series 3400 Applications



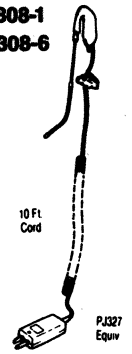
1. Two to Four Headsets



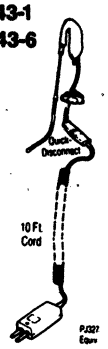
2. Five to Six Headsets

Starset II Series

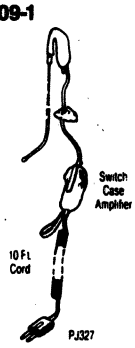
HS0308-1
HS0308-6

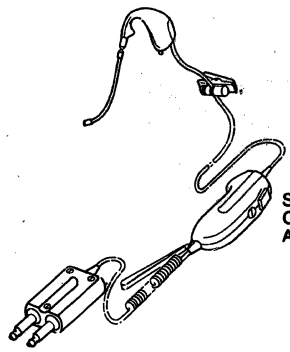


HS0343-1
HS0343-6

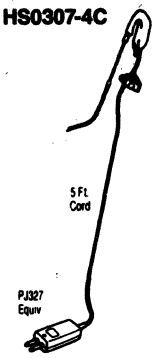


HS0309-1





HS0307-4C

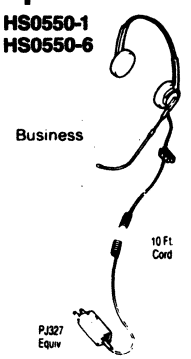


All models are equipped with SoundGuard® except Models HS0307-4C and HS0556-4C which have a varistor for user protection. All models are equipped with volume control except Models HS0307-4C and HS0555-4C. All StarSet II models include an eartip kit and eyeglass adapter except models with a "C" suffix.

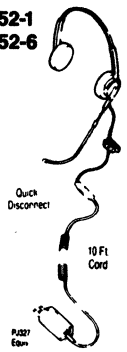
Stock No.	Mfr.'s Type	Description	Cord Length	EACH			
				1-9	10-24	25-99	100-Up
888-6361	HS0308-1	StarSet II Operator	10′	145.00	123.08	106.67	93.02
888-6386	HS0308-6	Operator Hi-Gain	10′	164.00	138.46	120.00	104.65
888-6360	HS0343-1	StarSet II Operator with Quick Disconnect	10′	142.00	120.00	104.00	90.70
888-6563	HS0343-6	StarSet II Operator with Quick Disconnect, Hi-Gain	10′	160.00	135.38	117.33	102.33
888-9105	HS0309-1	Supervisor with Switch Case Amplifier	10′	191.00	161.54	140.00	122.09
888-9250	HS0307-4C	Straight Cord: No Volume Control	5′	147.00	124.62	108.00	94.19

Supra Series

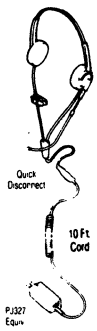
HS0550-1
HS0550-6



HS0552-1
HS0552-6

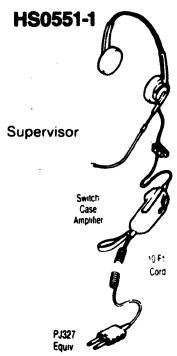


HS0556-1

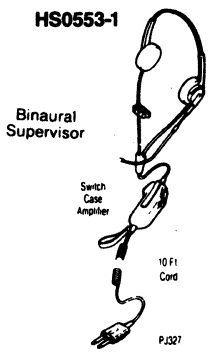


HS0555-4C

HS0551-1



HS0553-1



Stock No.	Mfr.'s Type	Description	Cord Length	EACH			
				1-9	10-24	25-99	100-Up
888-6550	HS0550-1	Supra Operator	10′	151.00	127.69	110.67	96.51
888-6556	HS0550-6	Supra Hi-Gain	10′	169.00	143.08	124.00	108.14
888-6552	HS0552-1	Operator with Quick Disconnect	10′	147.00	124.62	108.00	94.19
888-6526	HS0552-6	Hi-Gain with Quick Disconnect	10′	165.00	140.00	121.33	105.81
888-6610	HS0556-1	Binaural Operator with Quick Disconnect	10′	169.00	143.08	124.00	108.14
888-9210	HS0555-4C	Straight Cord; No Volume Control	5′	151.00	127.69	110.67	96.51
888-6551	HS0551-1	Supra Supervisor	10′	195.00	164.62	142.67	124.42
888-9107	HS0553-1	Binaural Supervisor	10′	260.00	220.00	190.67	166.28

FAA Controller Headsets

MODEL HSO-310-1. The StarSetII Model features a 10 gram, contoured capsule which provides maximum comfort during extended usage. Priority Sound Guard system, incorporating multiple ICs, protects against abrupt loud sound levels. Unlike simple signal limiting circuitry, unique compression amplifier maintains acceptable levels without signal distortion. The non-metallic clothing clip provides an easy, safe attachment to clothing. The reliable three-position volume control permits rapid adjustment for difficult-to-hear or excessively loud calls. This model uses a 10-foot coil cord.
888-9108. 1-9 ..... EACH 216.00 10-24 ..... EACH 183.08
25-99 ..... EACH 158.67 100 ..... EACH 138.72

MODEL HSO-310-2. Same as the HSO-310-1, but with a 15-foot coil cord.
888-9109. 1-9 ..... EACH 222.00 10-24 ..... EACH 187.69
25-99 ..... EACH 162.67 100 ..... EACH 141.86

MODEL HSO-310-3. Same as the HSO-310-1, but with 25-foot coil cord.
888-9110. 1-9 ..... EACH 247.00 10-24 ..... EACH 209.23
25-99 ..... EACH 181.33 100 ..... EACH 158.14

MODEL HSO-311-1. Same as HSO-310-1 but without the Soundguard system or volume control. Uses a 10-foot coil cord.
888-9111. 1-9 ..... EACH 198.00 10-24 ..... EACH 167.69
25-99 ..... EACH 145.33 100 ..... EACH 126.75

MODEL HSO-311-2. Same as HSO-311-1, but has a 15-foot coil cord.
888-9112. 1-9 ..... EACH 204.00 10-24 ..... EACH 172.31
25-99 ..... EACH 149.33 100 ..... EACH 130.23

MODEL HSO-311-3. Same as the HSO-311-1, but has a 25-foot coil cord.
888-9113. 1-9 ..... EACH 229.00 10-24 ..... EACH 193.85
25-99 ..... EACH 168.00 100 ..... EACH 146.51

MODEL HSO-510-1. The monaural Supra model features an on-the-ear cushion headband. It contains the same standard features of the HSO-310 models including a three-position volume control and the Soundguard receiver compression circuit. It has a 10-foot coil cord.
888-9114. 1-9 ..... EACH 216.00 10-24 ..... EACH 183.08
25-99 ..... EACH 158.67 100 ..... EACH 138.72

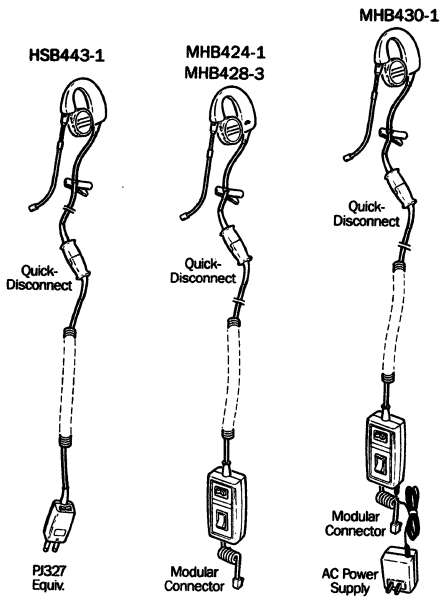
MODEL HSO-510-2. Same as the HSO-510-1, but has a 15-foot coil cord.
888-9115. 1-9 ..... EACH 222.00 10-24 ..... EACH 187.69
25-99 ..... EACH 162.67 100 ..... EACH 141.86

MODEL HSO-510-3. Same as the HSO-510-1, but has a 25-foot cord.
888-9116. 1-9 ..... EACH 247.00 10-24 ..... EACH 209.23
25-99 ..... EACH 181.33 100 ..... EACH 158.14

MODEL HSO-512-1. The Binaural Supra features two on-the-ear cushion receivers as well as the standard features of the HSO-510 models. Has a 10-foot coil cord.
888-9117. 1-9 ..... EACH 278.00 10-24 ..... EACH 235.39
25-99 ..... EACH 204.00 100 ..... EACH 177.91

MODEL HSO-512-2. Same as the HSO-512-1, but with a 15-foot coil cord.
888-9118. 1-9 ..... EACH 284.00 10-24 ..... EACH 240.00
25-99 ..... EACH 208.00 100 ..... EACH 181.40

MODEL HSO-512-3. Same as the HSO-512-1, but with a 25-foot coil cord.
888-9119. 1-9 ..... EACH 309.00 10-24 ..... EACH 261.54
25-99 ..... EACH 226.67 100 ..... EACH 197.67



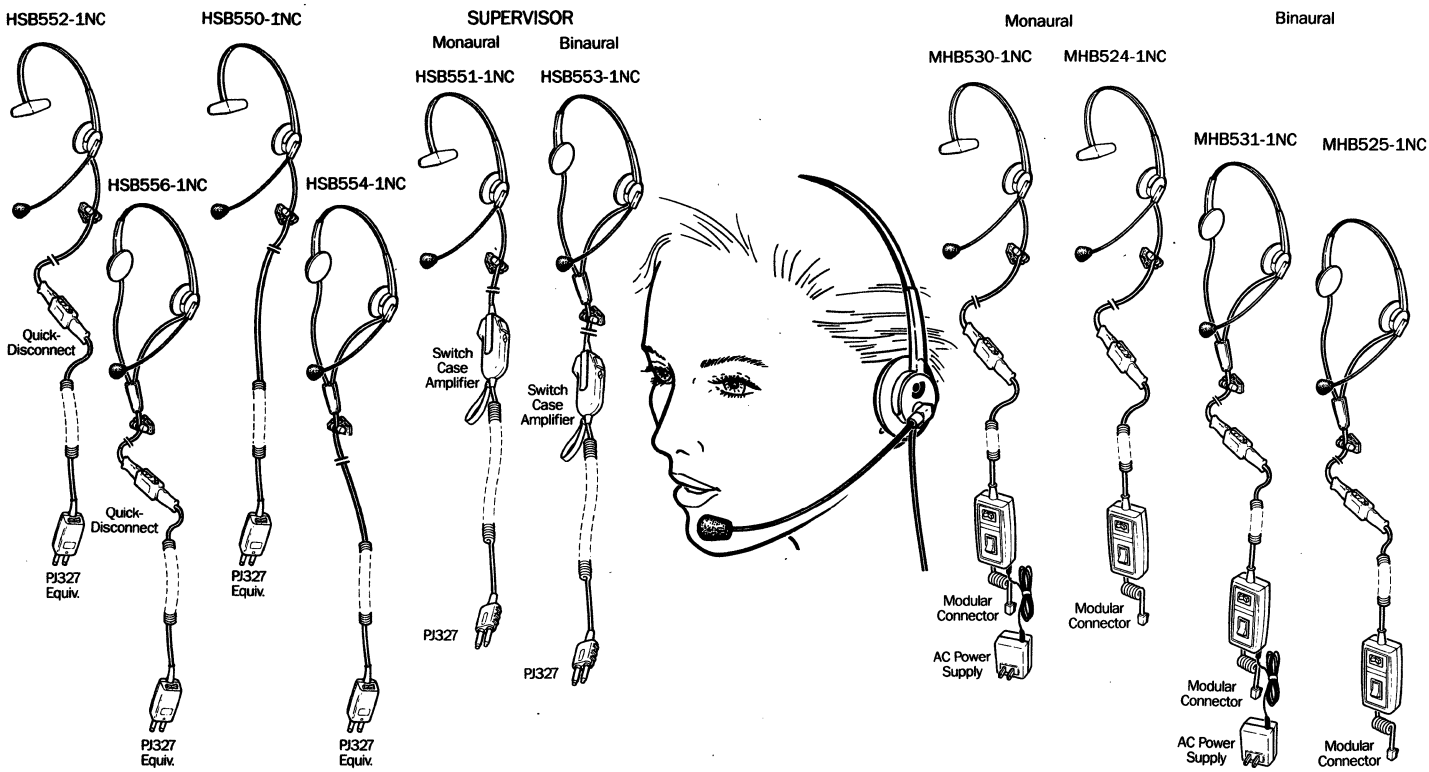
Mirage Headsets

Hands-free comfort of a headset, without an eartip or a headband. Mirage headsets feature an ultralight, compact capsule with miniature receiver that rests gently on the outer ear, quick disconnect, replaceable voice tube, and volume control. Available in both PJ327 connector and user-installable connection. User-installable headsets come with an adapter that will work with your phone system. All have 10 foot coil cord.

5

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-99	100-Up
888-1101	HSB443-1	PJ327 plug, voice switching, black	160.00	135.38	125.71	102.33
888-1102	MHB424-1	User-installable for non-electronic phones, modular, black	156.00	132.31	122.85	100.00
888-1103	MHB430-1	Modular connection, electronic phones, AC power supply, black	189.00	160.00	148.57	120.93
888-1104	MHB428-3	Modular for AT&T Sys 25, 75/85 and Merlin phones, black	189.00	160.00	148.57	120.93

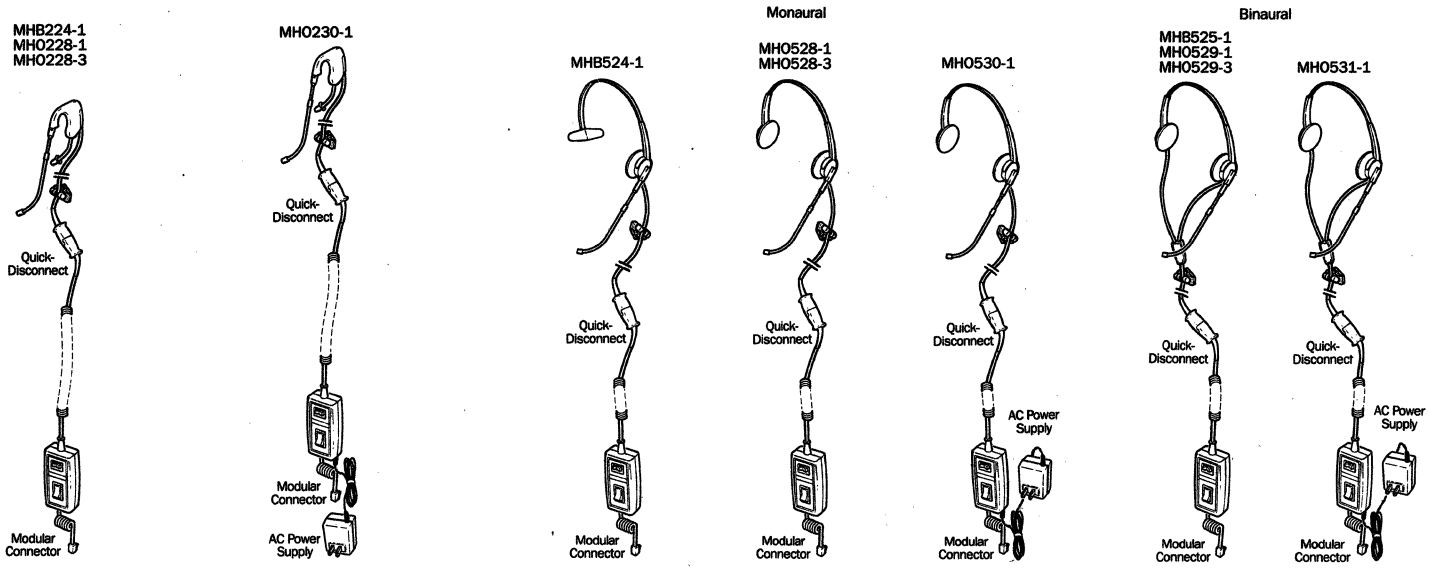
Supra NC Noise Cancelling Headsets



Plantronic's new Supra NC Headset is designed for people in an active or noisy environment. The Supra NC features a unidirectional noise cancelling microphone that effectively reduces unwanted background noise. The Supra NC is available in both PJ327 plug prong and user-installable modular connection. These over-the-head models are available in monaural and binaural headsets. User-installable headsets come with an adapter that will work with your phone system. All have quick disconnect, in-line mute switch and 10 foot coil cord, except *. All in gloss black color.

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-99	100-Up
888-1105	HSB552-INC	Monaural single ear foam cushion, PJ327 connector, volume control	167.00	141.54	131.43	106.98
888-1106	HSB556-INC	Binaural dual ear foam cushions, PJ327 connector, volume control	189.00	160.00	148.57	120.93
888-1109	HSB550-INC*	Monaural single ear foam cushion, PJ327 connector, volume control	171.00	144.62	134.28	109.30
888-1110	HSB554-INC*	Binaural dual ear foam cushions, PJ327 connector, volume control	280.00	236.92	220.00	179.07
888-1111	HSB551-INC	Monaural single ear cushion supervisor, PJ327 connector, volume control	215.00	181.53	168.57	137.21
888-1112	HSB553-INC	Binaural dual ear cushion supervisor, PJ327 connector, volume control	280.00	236.92	220.00	179.07
888-1107	MHB524-INC	Modular, monaural for non-electronic phones, volume control	164.00	138.46	128.57	104.65
888-1108	MHB525-INC	Modular, binaural for non-electronic phones, volume control	181.00	153.85	142.86	116.28
888-1113	MHB530-INC	Modular, monaural Starmate E-Plus for electronic phones, volume control	196.00	166.15	154.29	125.58
888-1114	MHB531-INC	Modular, binaural Starmate E-Plus for electronic phones, volume control	213.00	180.00	167.14	136.05

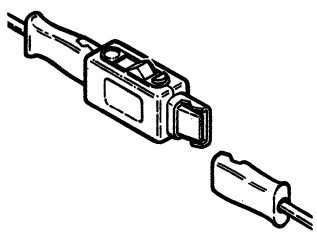
Starmate Customer-Installable Headset

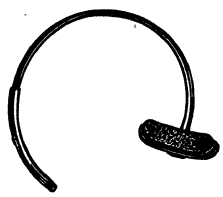


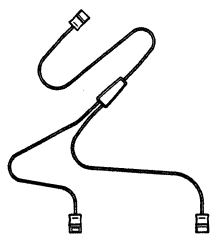
Plantronics Starmate Series Headsets allow "hands-free" convenience in either behind the ear style (Starset II) or over-the-ear style (Supra). All have quick-disconnect on 10 foot coil cord. All Starmate E-plus models come with an AC power supply. Starmate E models MHO228-3, MHO528-3, and MHO529-3 are compatible with AT&T Systems 25, 75/85, and Merlin telephones. All models feature volume control, modular connection and replaceable voice tube.

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-99	100-Up
888-6350	MHB224-1	3/4 Headband, Starset II, Black, for Non-Electronic Phones	138.00	116.92	101.33	88.37
888-6524	MHB524-1	3/4 Headband, Supra, Black, for Non-Electronic Phones	144.00	121.54	105.33	91.86
888-6525	MHB525-1	Supra Binaural, Black, for Non-Electronic Phones	161.00	136.92	118.67	103.49
888-9140	MHO228-1	Starset II for Most Electronic Phones	171.00	144.62	125.33	109.30
888-9139	MHO228-3	Starset II for AT&T 25, 75/85 and Merlin Phones	171.00	144.62	125.33	109.30
888-9180	MHO230-1	Starset II Starmate E-Plus for Most Electronic Phones	171.00	144.62	125.33	109.30
888-9185	MHO530-1	Supra Monaural E-Plus for Most Electronic Phones	176.00	149.23	129.33	112.79
888-9138	MHO528-1	Supra Monaural for Most Electronic Phones	176.00	149.23	129.33	112.79
888-9137	MHO528-3	Supra Monaural for AT&T 25, 75/85 and Merlin Phones	176.00	149.23	129.33	112.79
888-9136	MHO529-1	Supra Binaural for Most Electronic Phones	193.00	163.08	141.33	123.26
888-9135	MHO529-3	Supra Binaural for AT&T 25, 75/85 and Merlin Phones	193.00	163.08	141.33	123.26
888-9190	MHO531-1	Supra Binaural E-Plus for Most Electronic Phones	193.00	163.08	141.33	123.26

Accessories





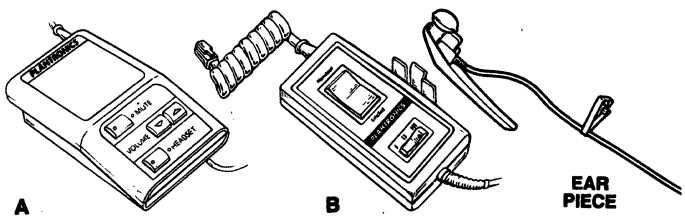


Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-Up
888-0008	09288-01	Starset II Earpieces, Size 1	1.10	.92	.78
888-0009	09288-02	Starset II Earpieces, Size 2	1.10	.92	.78
888-0010	09288-03	Starset II Earpieces, Size 3	1.10	.92	.78
888-0011	09288-04	Starset II Earpieces, Size 4	1.10	.92	.78
888-0012	09288-05	Starset II Earpieces, Size 5	1.10	.92	.78
888-0013	09288-06	Starset II Earpieces, Size 6	1.10	.92	.78
888-0014	06448-00	Starset II Eartip Kit (6 sizes)	7.50	6.25	5.35
888-0015	09391-01	MS50 Eartips, Size 1	1.10	.92	.78
888-0016	09391-02	MS50 Eartips, Size 2	1.10	.92	.78
888-0017	09391-03	MS50 Eartips, Size 3	1.10	.92	.78
888-0018	09391-04	MS50 Eartips, Size 4	1.10	.92	.78
888-0019	09391-05	MS50 Eartips, Size 5	1.10	.92	.78
888-0020	09391-06	MS50 Eartips, Size 6	1.10	.92	.78
888-0021	05088-00	MS50 Eartip Kit (6 sizes)	7.50	6.25	5.35
888-0001	09580-01	Starset II Dual Eartips, Size 1	6.00	5.00	4.28
888-0002	09580-02	Starset II Dual Eartips, Size 2	6.00	5.00	4.28
888-0003	09580-03	Starset II Dual Eartips, Size 3	6.00	5.00	4.28
888-0004	09580-04	Starset II Dual Eartips, Size 4	6.00	5.00	4.28
888-0005	09580-05	Starset II Dual Eartips, Size 5	6.00	5.00	4.28
888-0006	09580-06	Starset II Dual Eartips, Size 6	6.00	5.00	4.28
888-0007	15729-02*	Supra Foam Ear Cushion Pair/Nutmeg	2.80	2.33	2.00
888-0050	15279-03*	Supra Foam Ear Cushion Pair/Black	2.80	2.33	2.00

*Per pair

Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-Up
888-0022	07165-00	Starset I Eartip Kit (6 sizes)	7.50	6.25	5.35
888-0023	17593-01	Starset II/Supra Voice Tube	7.00	5.83	5.00
888-0024	18093-01	Starset I Voice Tube	7.00	5.83	5.00
888-0027	10757-00	Starset II Background Noise Suppressor	3.00	2.50	2.14
888-0028	07169-00	Eyeglass Clips	1.80	1.50	1.28
888-0030	18119-02	User Guide	1.75	1.75	1.75
888-0031	17604-02	Vinyl Storage Pouch (SSII)	2.00	1.67	1.43
888-0032	17599-02	Cloth Storage Pouch (Supra)	3.00	2.50	2.14
888-0042	23061-01	Quick-Disconnect In-Line Mute, Supra, Black	13.00	10.00	8.57
888-0043	23061-02	Quick-Disconnect In-Line Mute, Supra, Nutmeg	13.00	10.00	8.57
888-0044	23061-03	Quick-Disconnect In-Line Mute, Starset II, Black	13.00	10.00	8.57
888-0045	23061-04	Quick-Disconnect In-Line Mute, Starset II, Sandwhite	13.00	10.00	8.57
888-0040	17590-01	Supra 3/4 Headband/Nutmeg	10.00	7.69	6.67
888-0052	21138-01	Supra 3/4 Headband/Black	10.00	7.69	6.67
888-6002	21846-01	Extension Cord SSII/Sandwhite	22.00	18.33	15.71
888-6004	21846-02	Extension Cord Supra/Nutmeg	22.00	18.33	15.71
888-6000	21846-03	Extension Cord Supra/Black	22.00	18.33	15.71
888-6005	21846-04	Extension Cord SSII/Black	22.00	18.33	15.71
888-6006	21847-01	Y-Connector SSII/Sandwhite	30.00	25.00	21.43
888-6003	21847-02	Y-Connector Supra/Nutmeg	30.00	25.00	21.43
888-6007	21847-03	Y-Connector Supra/Black	30.00	25.00	21.43
888-6008	21847-04	Y-Connector SSII/Black	30.00	25.00	21.43

OmniSet™



Plantronics Products Can Help You Communicate Better

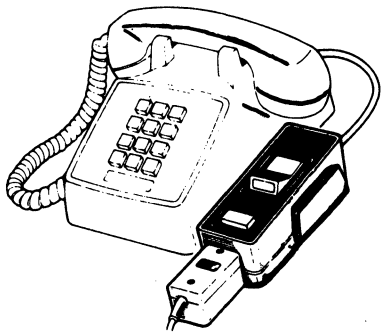
- **It's like a telephone receiver.**
- **It's like a headset.**
- **It's OmniSet.**

Model MH0760-1 (Fig. A): For electronic telephones. Features variable volume control and mute button to turn off microphone for private aside conversations. Battery operated—Batteries included.
888-1002. MH0760-1 ..... EACH 198.00

Model MH0724-1 (Fig. B): For standard telephones. Features 5 position volume control.
888-1001. MH0724-1 ..... EACH 161.00

JackSet® Adapter

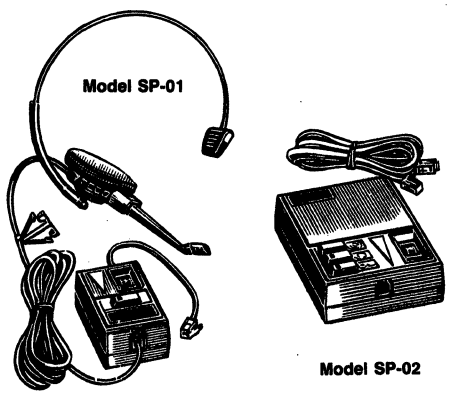
- **Adaptable to most phones**
- **Color compatible**
- **Easy to operate**
- **Convenient cradle clip for storage**



The JackSet Adapter provides a versatile, inexpensive and easy-to-install interface between telephone headsets and a wide variety of telephones. The adaptability of the JackSet eliminates the need to replace a customer's present jack-in base. The JackSet is designed to be free-standing, mounted to either side of the phone or to furniture. Switching from handset operation to the StarSet is accomplished by simply rocking the transfer switch on the JackSet. To restore handset operation, reverse the procedure. To flash the operator, momentarily press the recall button. A handy headset storage cradle clip is located at the side of the JackSet.

888-6300. Type JSO 180-1. For Standard Telephones. **1-4 ..... EACH 97.00**
5-9 ..... EACH 88.33 **10-Up ..... EACH 75.71**

888-6341. Type JSO 180-3. For Met Set Horizon Systems. **1-4 ..... EACH 99.00**
5-9 ..... EACH 91.66 **10-Up ..... EACH 78.57**



SP™ Modular Headset for Standard Telephones

Model SP-01. The SP Modular Headset makes time on the telephone in your office or home a lot easier. It frees both hands so you can write, type, or perform household chores while talking on the phone. SP™ headsets are made by the world's largest supplier of modular headsets for standard telephones. Each headset is user-installable and works with traditional style touch-tone or rotary desk telephones with modular hand-sets. These phones normally have "bell" rather than electronic tone ringers. All headsets feature single, lightweight earpad, adjustable headband and boom-mounted microphone. SP™ gives you superior comfort and performance at low cost.
888-9260. Model SP-01 ..... EACH 64.95

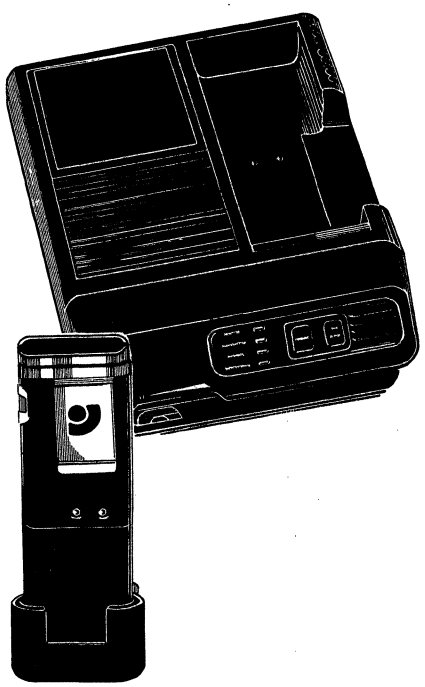
Model SP-02. Similar to Model SP-01, above, except designed for use with electronic telephones.
888-9261. Model SP-02 ..... EACH 79.95

Model SP-03. For all electronic telephones, single or multi-line. Headset/handset switch and mute/hold switch.
888-9263. Model SP-03 ..... EACH 89.95

Model SP-04. Headset with dial pad. Telephone headset. Last number redial, mute/hold. Operates with tone or pulse service. Plugs directly into single line modular phone outlet.
888-9264. Model SP-04 ..... EACH 99.95

Phone Beams and Accessories

- **Remote microphone means hands-free communication and greater mobility**
- **Echo-free**
- **Status indicator lights**
- **On-hook dialing**
- **Mute privacy button**
- **Convenient volume control**
- **Built-in battery charger**



Plantronics has just invented a whole new way of communicating. It's called PhoneBeam™ Echoless Infrared Speakerphone—a revolutionary new device that allows us to talk to one another in a clearer, more natural way. This is because PhoneBeam has solved the "echo" effect by incorporating advanced infrared technology into a remote microphone. The microphone can be worn conveniently in a coat or shirt pocket, allowing the user to move freely around the office.

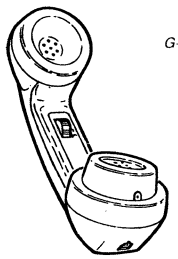
Stock No.	Mfr.'s Type	Termination	EACH			
			1-9	10-24	25-99	100-Up
888-9101	IR-101-01	Amphenol	375.00	338.46	293.33	255.81
888-9102	IR-101-02	Modular	375.00	338.46	293.33	255.81
888-9103	IR-101-03	Solder Lug	375.00	338.46	293.33	255.81
888-9104	IR-101-04	Northern Telecom	375.00	338.46	293.33	255.81

PhoneBeam Accessories

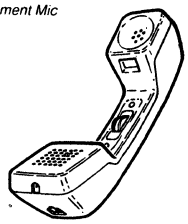
Stock No.	Mfr.'s Type	Description	EACH
888-9120	IR-1/16901-01	Battery Pack	30.00
888-9121	IR-2/16893-02	Cable Adapter—Amphenol to Spade Lug	42.00
888-9122	IR-3/17326-02	Remote Microphone Unit with Battery Pack	142.00
888-9123	IR-4/16361-01	AC/DC Converter	20.00
888-9125	IR-6/17467-02	Cable Adapter/Northern Telecom	53.00
888-9126	IR-7/18467-01	Cable Adapter/50 Pin to Modular	29.00
888-9254	IR-8/17565-01	Base Unit	280.00

Noise Censor Series

NoiseCensor "NC - 1" G-Style Repacement Mic



Amplified (G-Style) Handset w/NoiseCensor



Amplified (K-Style) Handset w NoiseCensor

Noise censor is a family of noise-cancelling products designed for telephones that are located in noisy or hard-to-hear areas. Available for standard and electronic phones, amplified and unamplified, and in both "G" and "K" styles. The NC-1 is a noise-cancelling microphone replacement for carbon mics in "G" style handsets. All have modular connection.

Stock No.	Mfr.'s Type	Style	Color	EACH
888-9980	W6-500M-NC-1*	G	Ash	58.00
888-9981	W6-500M-NC-1*	G	Black	58.00
888-9982	W6-500M-NC-1*	G	Beige	58.00
888-9983	W6-500M-NC-1*	G	Ivory	58.00
888-9984	W6-KM-NC-2*	K	Ash	60.00
888-9985	W6-KM-NC-2*	K	Black	60.00
888-9986	W6-KM-NC-2*	K	Ivory	60.00
888-9987	W3-500M-NC-1	G	Ash	40.00
888-9988	W3-500M-NC-1	G	Black	40.00
888-9989	W3-500M-NC-1	G	Beige	40.00
888-9990	W3-KM-NC-2	K	Ash	44.00
888-9991	W3-KM-NC-2	K	Black	44.00
888-9992	NC-1-44	—	Ash	31.00
888-9993	NC-1-00	—	Black	31.00
888-9994	NC-1-13	—	Beige	31.00
888-9995	NC-1-09	—	Ivory	31.00

*Amplified Handset

Security Handsets

For the secure communications community. Feel confident knowing your conversation is protect against unwanted pickup with security handsets from Walker.

- **WG10 Series approved by Defense Intelligence Agency**
- **Intended solely for specially engineered telephone lines**
- **Tamper-proof construction**
- **Push-to-talk operation**
- **Available in a variety of colors**
- **Optional push-to-talk and push-to-listen operation available**
- **One year warranty**
- **Excellent for secure communications within the defense contractors and military communications**
- **Contact your nearest Allied location for details.**

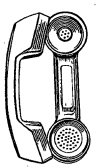
WK10 style available on special request. Hard-wired 6 foot cord, except * which is hard-wired 12 foot. Spade lug termination. Specify color when ordering by replacing the "X" in the stock number with the code number for the color using the following table: Black-1, Green-2, Red-3, White-4, Beige-5, Ivory-6.

Stock No.	Mfr.'s Type	Description	Available Colors	EACH
888-010X	WG10B	1-Button, Push-to-Talk, Push-to-Listen	1-5	65.00
888-020X	WG10F	1-Button, Push-to-Talk	1-5	65.00
888-030X	WG10FL*	1-Button, Push-to-Talk	1-6	65.00
888-040X	WG10A	2-Button, Push-to-Talk, Push-to-Listen	1-5	65.00

Handsets in Two Popular Styles

- **K-Type for key system phones**
- **Built-in 4/cond. mod. jack**
- **Carbon transmitter**
- **Use exist. mod. cord**

Stock No.	Mfr.'s Type	Color	EACH
888-9958	W3-K-CM	Brown	17.00
888-9959	W3-K-CM	Ash	17.00
888-9960	W3-K-CM	White	17.00
888-9961	W3-K-CM	Ivory	17.00
888-9962	W3-K-CM	Beige	17.00
888-9963	W3-K-CM	Black	17.00

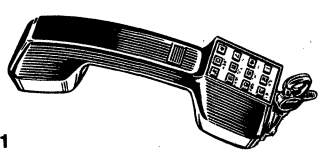


W3-K-CM

"500" Type Handsets
For replacing conventional handsets.

888-9907	W3-500CM	Brown	19.00
888-9908	W3-500CM	Ash	19.00
888-9909	W3-500CM	Beige	19.00
888-9910	W3-500CM	Black	19.00
888-9974	W3-500CM	Ivory	19.00
888-9975	W3-500CM	White	19.00

Line Test Handset



WTS-201

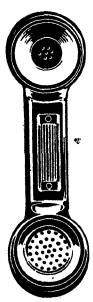
Features key pad, tone-pulse switch, talk-monitor switch, polarity indicator, ringer, built-in 4/cond. mod. jack, cord with alligator clips.
888-9901. Model WTS-201 .....**EACH 145.00**

500 or K-Type Push-to-Talk Handsets

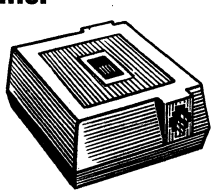
- **Fingertip Control Touchswitch**
- **Clear-line ET-NE electret transmitter**
- **Built-in 4/cond. mod. jack**
- **Use exist. mod. cord**

PTT500

Stock No.	Mfr.'s Type	Color	EACH
888-9902	PTT500TEM	Brown	19.00
888-9903	PTT500TEM	Ash	19.00
888-9904	PTT500TEM	White	19.00
888-9905	PTT500TEM	Beige	19.00
888-9906	PTT500TEM	Black	19.00
888-9970	PTT500TEM	Ivory	19.00
K-Type Style			
888-9928	PTT-K-TEM	Brown	19.00
888-9929	PTT-K-TEM	Ash	19.00
888-9930	PTT-K-TEM	White	19.00
888-9931	PTT-K-TEM	Ivory	19.00
888-9932	PTT-K-TEM	Beige	19.00
888-9933	PTT-K-TEM	Black	19.00



W10 Receiver Amplifier



For fine-tuned hearing this compact phone-side companion contains a unique amplifier to boost receiver volume three times. Installs to any desk-type phone with a modular handset cord. Plugs into any phone including single or multiline electronic models. Comes with power supply module, 4" modular connection cord and fingertip volume control. **Color:** Ash.
888-9926. Model W10 .....**EACH 29.00**
Model W10BP. Same as W10, but battery-powered.
888-9927. Model W10BP.....**EACH 35.00**

Amplified Receiver Handsets— 500 Type

W6-500M

- **Rotary volume control**
- **Clear-line ET-NE electret transmitter**
- **Built-in 4/cond. mod. jack**
- **Use exist. mod. cord**

Stock No.	Mfr.'s Type	Color	EACH
888-9964	W6-500M	Brown	46.00
888-9965	W6-500M	Ash	46.00
888-9966	W6-500M	White	46.00
888-9967	W6-500M	Beige	46.00
888-9968	W6-500M	Ivory	46.00
888-9969	W6-500M	Black	46.00

W6-K-M

K-Type Amplified Receiver Handsets

- **Rotary volume control**
- **Clear-line ET-NE electret transmitter**
- **Built-in 4/cond. mod. jack**
- **Use exist. mod. cord**

Stock No.	Mfr.'s Type	Color	EACH
888-9940	W6-K-M	Brown	42.00
888-9941	W6-K-M	Ash	42.00
888-9942	W6-K-M	White	42.00
888-9943	W6-K-M	Ivory	42.00
888-9944	W6-K-M	Beige	42.00
888-9945	W6-K-M	Black	42.00

Headsets

A

B

C

D

E

F

G

H

Stock No.	Mfr.'s Type	Fig.	Description	EACH
969-3100	610-1	A	Dual-Sided, Magnetic Mono	12.50
969-3000	510-1	B	Dual-Sided, 600 Ohms, Dynamic Mono	14.50
969-2100	500-1	C	Dual-Sided, 130 Ohms, Dynamic Mono	50.75
969-2030	PH-11	D	Single-Sided, Monaural	71.50
969-0400	PH-7	E	Dual-Sided,Monaural	105.00

Stock No.	Mfr.'s Type	Fig.	Description	EACH
969-2040	HFR-91	F	Under-the-Chin Style, Monaural	23.00
969-0300	PH-78	G	Single Muff, 50 Ohm Carbon Mic	120.00
969-0200	PH-75	G	Single Muff, 150 Ohm Noise Cancelling Dynamic Microphones	120.00
969-0600	PH-45	H	Dual Muff, Dynamic Microphone	131.25

5

FMR-25 Wireless Microphone System

FMR-25 system includes Model HT-100/10 handheld mic/transmitter, Model FMR-25 single antenna receiver, Model WT-25 beltpack transmitter with attached condenser lapel microphone. The FMR-25 is rugged, compact and rack mountable. System is AC/DC so it can be remotely powered by a DC power pack. Model HT-100/10 features power switch, mic mute switch, internal compander switch and battery condition light. WT-25 beltpack transmitter has wired-in microphone with mic mute. FMR-25 receiver features multiple system operation, single antenna with 500 feet system range. 4 stock frequencies available (171.905, 171.045, 170.245, 169.505) 9 volt battery required on HT100/10. Specify frequency when ordering.

969Q5000. Model FMR-25 System ..... **EACH 600.00**

Professional Microphones

J

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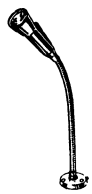
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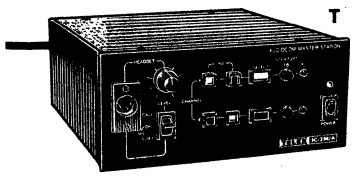
Stock No.	Mfr.'s Type	Fig.	Description	Frequency Response (Hz)	EACH
969-1040	TD-11	J	Dynamic Cardioid (Unidirectional)	50-16000	163.00
969-1045	TD-13	K	Dynamic Cordioid (Unidirectional)	50-16000	168.00
969-1050	TD-14	L	Dynamic Omnidirectional	50-15000	90.00
969-1055	TE-10	M	Condenser Cardioid (Unidirectional)	30-20000	135.00
969-1065	752	N	Dynamic Cardioid Desk-Top	60-10000	160.00
969-1070	NC450D	O	Dynamic Low-Impedance, Noise-Cancelling	100-8000	54.00

Stock No.	Mfr.'s Type	Fig.	Description	Frequency Response (Hz)	EACH
969-1075	350D	P	Dynamic Low-Impedance	100-8000	42.00
969-1080	SR785L/NO	R	Dynamic Gooseneck	100-10000	70.00
969-1120	LM-300	S	Lapel Microphone System Consists of WLM-60 Miniature Cardioid Mic, and PS-10 In-Line Power Supply	—	220.00
—	—	—	—	—	—

Intercom Systems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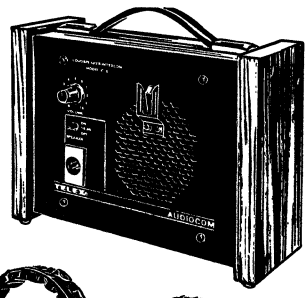
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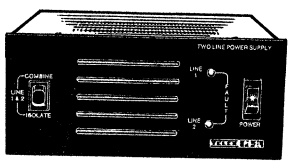
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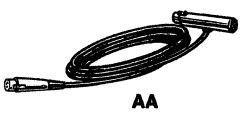

AA

T IC-2MAX Master Station. A two channel master station with full duplex audio system for simultaneous talk and receive functions. Interrupt feedback button allows live broadcast cueing during on-air program monitoring. Includes 20 KHz light signaling and built-in power supply.

969-1105. Model IC-2MAX ..... **EACH 665.00**

U IC-S/LS Single-Channel Portable Speaker Station. 2 Watt speakers for paging or 2-way communication. Hooks up with microphone, handsets, or headsets. Features include volume control, automatic mute, and selection switch for On, Off, or dB attenuation. Comes with male connectors (XLR-4M) and microphone hanging bracket, and both male and female intercom line connectors (XLR-3 type) for "daisy chaining". Operates on power from intercom system line or separate power supply.

969-4040. Model IC-S/LS ..... **EACH 350.00**

V PS-2L. Audiocom Power Supply. Two line power supply powers up to 100 belt-pack headset stations per line, enabling isolated or "party line" communications. Includes short circuit and overload LED for each line.

969-1110. Model PS-2L ..... **EACH 335.00**

W PH-1 Headset. Single-sided. Dynamic, monaural earphone — foam-filled, polyurethane covering. Dynamic microphone attached to adjustable ball joint boom. Coil cord, female (XLR-4 type) plug.

969-1015. Model PH-1 ..... **EACH 120.00**

X PH-2 Headset. Dual muff. Circummuaral foam ear cushions. Dynamic monaural earphones, dynamic microphone on ball joint boom. Coil cord, female (XLR-4 type) plug.

969-1020. Model PH-2 ..... **EACH 147.00**

Y PH-4 Headset. Lightweight, dual-sided. Monaural dynamic earphones. Condensor microphone on pliable boom. Straight cord, female (XLR-4 type) plug.

969-1025. Model PH-4 ..... **EACH 150.00**

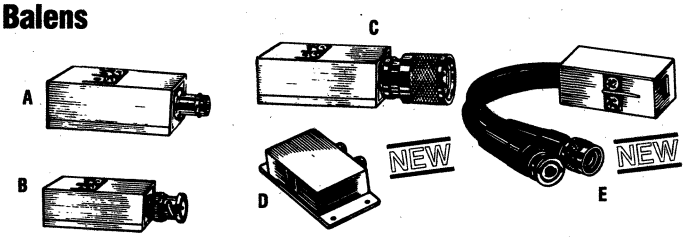
Z HD-3A Headset. High noise attenuating dual muff dynamic headset.

969-1115. Model HD-3A ..... **EACH 157.00**

AA ME-25 Cable. For intercom connections between portable and flush mount stations. 25′ (7.6m), black. Male and female (XLR-3 type) connectors.

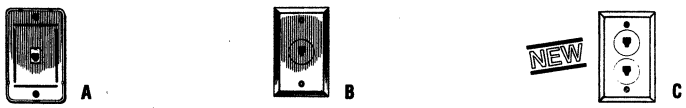
969-1030. Model ME-25 ..... **EACH 42.00**

Balens



Stock No.	Mfr.'s Type	Description	Fig.	EACH 1-9	10-24	25-99
510-3000	30-9402	BNC female to twisted pair/RJ-11	A	13.90	12.50	11.10
510-3005	30-9400	BNC male to twisted pair/RJ-11	B	13.90	12.50	11.10
510-3010	30-9406	Twin-ax male to twisted pair/RJ-11	C	21.50	19.35	17.20
510-3015	30-9450	BNC male to RJ-11 (No. 2 and 5 active for IBM)	—	15.90	14.30	12.70
510-3020	30-9401	BNC Male to RJ-11	—	13.90	12.50	11.10
510-3025	30-9407	BNC/TNC Male to RJ-11 (Wang Balen)	D	49.90	44.90	39.90
510-3030	30-9409	BNC/TNC Male to twisted pair/RJ-11 (Wang Balen)	E	29.95	26.95	23.95

Wall Phone Plates (Plastic)



Stock No.	Mfr.'s Type	Description	Fig.	EACH 1-9	10-24	25-99
510-3100	32-1224	4 Conductor	A	3.20	2.88	2.56
510-3105	32-1226	6 Conductor	A	4.20	3.78	3.36
For Flush Mounting						
510-3110	32-1204	4 Conductor	B	1.90	1.71	1.52
510-3115	32-1206	6 Conductor	B	2.90	2.61	2.32
510-3120	32-1208	8 Conductor	B	5.40	4.86	4.32
510-3125	32-1214	4 Conductor (dual)	C	3.20	2.88	2.56
510-3130	32-1216	6 Conductor (dual)	C	4.30	3.87	3.44
510-3135	32-1218	8 Conductor (dual)	C	5.50	4.95	4.40

Stainless Steel Wall Plates For D-Subs

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-24	25-99
510-3180	40-9531	Single for 25-contact	2.00	1.80	1.60
510-3185	40-9532	Double for 25-contact	2.20	1.98	1.76

Stainless Steel Wall Plates For Coaxial Connectors

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-24	25-99
510-3210	27-9088	Single 3/4" hole	2.20	1.98	1.76
510-3215	27-8478	Single 1/2" hole	2.20	1.98	1.76
510-3200	27-9089	Dual 3/4" hole	2.20	1.98	1.76
510-3205	27-8479	Dual 1/2" hole	2.20	1.98	1.76

Modular Plug Crimping Tools

Strips the wire and crimps the wire to plug. For round or flat cable.

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-24
510-7746	24-7746	For 4 or 6 conductor line cords	17.50	15.75
510-7748	24-7748	For 8 conductor line cords	22.90	20.60
510-7749	24-7749	For 4 conductor mini-handset plugs	23.90	21.50

Modular Telephone Plugs

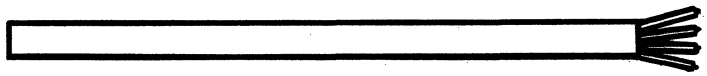
For Terminating Line Cords (not for handset cords)

Stock No.	Mfr.'s Type	Description	EACH 1-99	100-499	500-999
510-3050	32-1954	4 contact (RJ-11/4)	0.30	0.27	0.24
510-3052	32-1984	4 contact (RJ-11/4) color coded*	0.50	0.45	0.40
510-3055	32-1956	6 contact (RJ-25)	0.34	0.31	0.28
510-3060	32-1958	8 contact (RJ-45)	0.66	0.59	0.52
Mini Handset Modular Plug (not for line cords)					
510-3065	32-1964	4 contact mini handset	0.32	0.29	0.26

* For flat or round wire

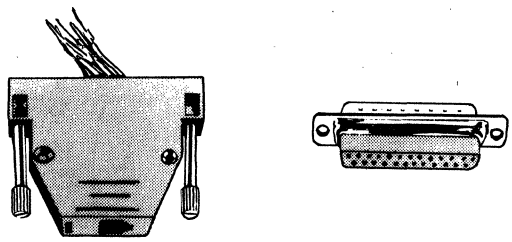
Flat, Silver-Color Telephone Wire

NEW



Stock No.	Mfr.'s Type	Description	PER 1000' SPOOL 1-4	5-9	10-Up
510-3075	65-TF224M	4 conductor, 28 AWG	88.00	79.20	70.40
510-3080	65-TF226M	6 conductor, 28 AWG	160.00	144.00	128.00
510-3085	65-TF228M	8 conductor, 28 AWG	250.00	225.00	200.00

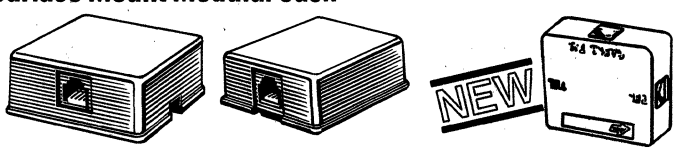
25-Contact D-Sub to Modular Jack Adapter



RS-232 Plug to Modular Jacks

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-24	25-99
510-3150	40-9574M	4 Contact Jack	5.10	4.59	4.08
510-3155	40-9576M	6 Contact Jack	6.50	5.85	5.20
510-3160	40-9578M	8 Contact Jack	6.90	6.21	5.52
RS-232 Socket To Modular Jacks					
510-3165	40-9574F	4 Contact Jack	5.10	4.59	4.08
510-3170	40-9576F	6 Contact Jack	6.50	5.85	5.20
510-3175	40-9578F	8 Contact Jack	6.90	6.21	5.52

Surface Mount Modular Jack

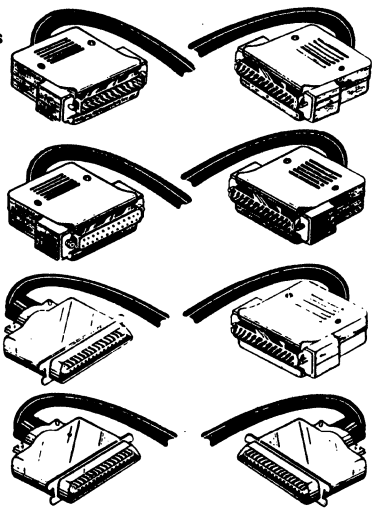


Removable Snap On Cover; Screw Terminal for easy Wiring

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-24	25-99
510-3250	32-2034	4 Contacts	2.10	1.89	1.78
510-3255	32-2036	6 Contacts	3.10	2.79	2.48
510-3257	32-2038	8 Contacts	4.20	3.78	3.36
RJ 31X Surface Jack					
510-3260	32-2058	8 Contact Jack with shorting bar	4.10	3.69	3.28
Surface Mount Jack					
510-3265	32-2094	4 Contact T-jack for inline splices tap off for cable TV	6.60	5.94	5.28

Computer Hook-Up Cables

Meet or exceed original manufacturer's specifications



25 Pin Male to 25 Pin Male

Stock No.	Mfr.'s Type	Length	EACH 1-4	EACH 5-9
510-9901	30-9506	6′	15.00	13.50
510-9902	30-9510MM	10′	21.00	18.90
510-9903	30-9525MM	25′	35.00	31.50

25 Pin Male to 25 Pin Female

510-9904	30-9506MF	6′	15.00	13.50
510-9905	30-9510MF	10′	21.00	18.90
510-9906	30-9525MF	25′	35.00	31.50

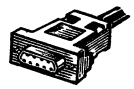
25 Pin Male to 36 Pin Centronics Male

510-9907	30-9506MC	6′	16.00	14.40
510-9908	30-9510MC	10′	21.00	18.90
510-9909	30-9525MC	25′	35.00	31.50

36-Pin Centronics Male to 36 Pin Centronics Male

510-9910	30-9506CC	6′	19.90	17.90
510-9911	30-9510CC	10′	25.00	22.50
510-9912	30-9525CC	25′	45.00	40.50

9-Pin to 9-Pin — 6′ Length

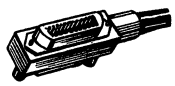


Stock No.	Mfr.'s Type	Description	EACH 1-4	EACH 5-9
510-9935	30-9506-99	Male to Female	12.00	10.80
510-9936	30-9506-88	Male to Male	12.00	10.80

25-Pin Male to 9-Pin Female

Stock No.	Mfr.'s Type	Length	EACH 1-4	EACH 5-9
510-9937	30-9506-29	6′	10.00	9.00
510-9938	30-9510-29	10′	14.00	12.60

IEEE-488 Interface Bus Cable



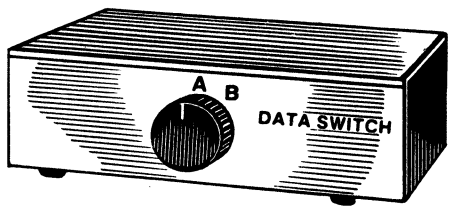
Stock No.	Mfr.'s Type	Length	EACH 1-4	EACH 5-9
510-9940	30-9504-48	4′	80.00	72.00

5

Multiport Data Switches

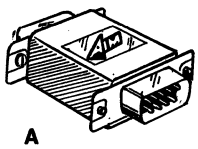
- **Fully Shielded Metal Case**
- **Current Capacity 2 Amps**
- **7×5×2″**

Data switches give you the flexibility to expand your system's capabilities. For computer port expansion or to share peripheral devices.



Stock No.	Mfr.'s Type	In and Out	Switch Position	Pin Configuration	EACH 1-4	EACH 5-Up
510-9945	30-9575-2	RS-232	2 (1 in 2 out)	RS-232 9 pin female	37.90	34.10
510-9913	30-9585-2	RS-232	2 (1 in 2 out)	RS-232 25 pin female	37.90	34.10
510-9914	30-9585-4	RS-232	4 (1 in 4 out)	Pin 1 com; Switch 25	59.90	53.90
510-9915	30-9585-6	RS-232	X-Switch	Switches AaBb to AbBa (25)	75.00	67.50
510-9947	30-9588-2	Twin-Ax	2 (1 in 2 out)	Twin-Ax all female	75.00	67.50
510-9946	30-9590-2	RJ-11	2 (1 in 2 out)	4 and 6 conductor teleplug	37.90	34.10
510-9916	30-9595-2	Cent	2 (1 in 2 out)	Centronics 36-pin female	43.00	38.70
510-9917	30-9595-4	Cent	4 (1 in 4 out)	Switches 36 signals	66.00	59.40
510-9918	30-9595-6	Cent	X-Switch	Switches AaBb to AbBa	98.00	88.20
510-9950	30-9586-2	BNC	2 (1 in 2 out)	BNC all female	37.90	34.10
510-9951	30-9596-2	BNC/TNC	2 (1 in 2 out)	Wang BNC/TNC each input output is a set of BNC/TNC	55.00	49.50

Gender Adapters and Surge Protectors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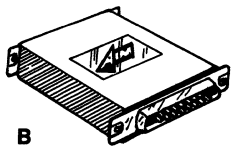
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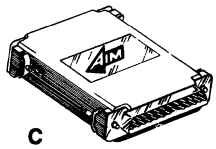
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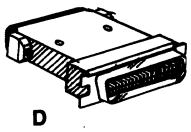
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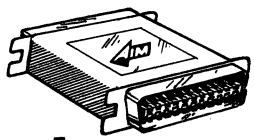
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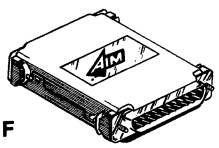
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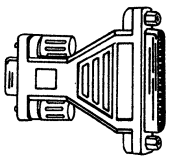
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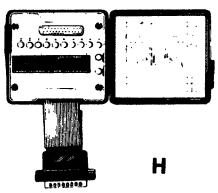
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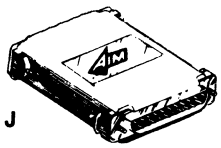

J

9-Pin Gender Adapter — Fig. A

Stock No.	Mfr.'s Type	Gender	EACH 1-9	EACH 10-24
510-9919	30-9507	Male to male	7.00	6.30
510-9920	30-9508	Female to female	7.00	6.30

15-Pin Gender Adapter — Fig. B

510-9921	30-9517	Male to male	9.00	8.10
510-9922	30-9518	Female to female	9.00	8.10

25-Pin Gender Adapter — Fig. C

510-9923	30-9500	Male to male	7.70	6.93
510-9924	30-9501	Female to female	7.70	6.93
510-9925	30-9505	Male to female	9.00	8.10

25-36 Adapter — Fig. D
DB25 Male to 36 Pin Centronic Male

Stock No.	Mfr.'s Type	EACH 1-9	EACH 10-24
510-9930	30-9519	14.00	12.60

Centronics — Fig. E
36 Pin Female to Female Adapter

510-9929	30-9509	15.00	13.50

Surge Protector — Fig. F
Female to Male G1 to 2, 3, and 7

510-9928	30-9504	16.00	14.40

9-25 Pin Gender Adapter — Fig. G
9-Pin Female to 25-Pin Male

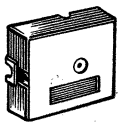
510-9955	30-9516	10.00	9.00

RS-232 Breakout Box — Pocket Size — Fig. H
- **24 Switches**
- **20 Jumpers included**
- **10 interface signal powered LEDs**

510-9956	30-9549	69.90	62.90

Deluxe Surge Protector — Fig. J
Female to Male G1 to 2 through 8 and 20

510-9957	30-9514	28.00	25.20



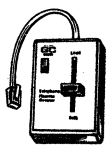
Surface Jack Modular Converter

Converts standard or "hardwired" installations to modular. Screw terminals for easy installation. Modular cover fastens to existing connecting block.
796-9600. Model 30-9600 ..... **EACH 2.49**

Electronic Extension Ringer

This weatherproof ringer is ideal for outdoors. Sound can be heard for great distances. Volume control, built-in modular jack.
796-9820. Model 30-9820 ..... **EACH 24.99**

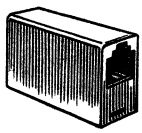
5



Telephone Hearing Booster

Amplified caller's voice; ideal for the hearing-impaired. Adjustable volume control. Designed for fully-modular telephones. Snaps into place between handset and base, no tools required. Comes with Velcro mounting strips.
796-6001. Model 30-6001 ..... **EACH 21.69**

Dual In-Line Coupler



Allows two modular cords to be connected together to lengthen the cord. Simply plug into each end.
796-9678. Model 30-9678 ..... **EACH 1.00**

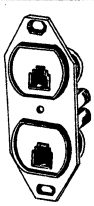
Modular Handset Coil Cords

Coiled cord with modular plugs at both ends. Available in 6, 12 or 25 foot lengths and 9 color selections. Cords fit between handset and phone base.

Stock No.	Mfr.'s Type	Length	Color	EACH
796-9564	30-9564	6 ft.	Chocolate Brown	2.99
796-9565	30-9565	6 ft.	Almond	2.99
796-9519	30-9519	12 ft.	Black	4.54
796-9520	30-9520	12 ft.	White	3.79
796-9521	30-9521	12 ft.	Beige	3.79
796-9524	30-9524	12 ft.	Chocolate Brown	3.79
796-9525	30-9525	12 ft.	Almond	3.79
796-9526	30-9526	12 ft.	Ash	3.79
796-9529	39-9529	25 ft.	Black	4.99
796-9530	30-9530	25 ft.	White	4.99
796-9531	30-9531	25 ft.	Beige	4.99
796-9534	30-9534	25 ft.	Chocolate Brown	4.99
796-9535	30-9535	25 ft.	Almond	4.99
796-9536	39-9536	25 ft.	Ash	4.99
796-9538	30-9538	25 ft.	Ivory	4.99

Twisstop™

Prevents handset cords from becoming twisted and tangled by allowing the handset to rotate freely. Compatible with all modular handset cords. Swivel rotary action spins the cord around to its original position, without decreasing sound quality.
796-9310. Type 90-9310 ..... **EACH 6.23**



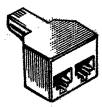
Dual Floor Jack

The floor jack contains duplex jacks and a center tapped mounting hole. Two modular jacks permit use of two telephones at the same location, one telephone and an answering machine or other related equipment. Spring loaded protective doors cover jacks.

796-9711. Type 30-9711-BU. 4-conductor ivory ..... **EACH 2.35**

Tele-Check Modular Line Tester

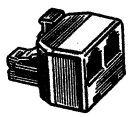
Analyzes modular phone line problems. Tester inserts into modular jack or in receptacle which holds line wire in network interface panel. Provides visual indication of the type and location of the phone line problem. Eliminates costly unneeded telephone service calls.
796-9450. Type 30-9450 ..... **EACH 5.99**



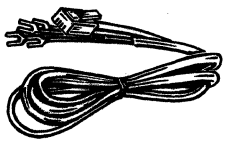
Modular "T" Adaptor

"T" adaptor enables two modular plugs to be used in a single modular jack.
796-9654. Model 30-9654 ..... **EACH 2.49**

Two-Line Adapter



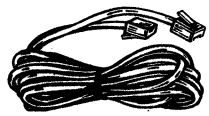
Converts a two-line system into two single line outlets.
796-9655. Model 30-9655 ..... **EACH 3.96**



Modular Telephone Replacement Cord

Use for converting "hard-wired" telephones to modular, or as a replacement/extension. Spade terminals one end; modular plug other end. Silver.
796-9540. Model 30-9540. 6 ft. ..... **EACH 2.99**
796-9542. Model 30-9542. 25 ft. ..... **EACH 4.29**

Modular Plug-To-Plug Extension Cord



Use to extend length of cord between telephone and wall jack or as an extension cord.

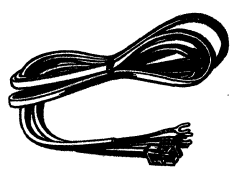
Stock No.	Mfr.'s Type	Length	Color	EACH
796-9502	30-9502	15 ft.	White	2.99
796-9503	30-9503	25 ft.	White	3.99
796-9513	30-9513	15 ft.	Ivory	2.99
796-9514	30-9514	25 ft.	Ivory	3.99
796-9515	39-9515	15 ft.	Silver	2.99
796-9516	39-9516	25 ft.	Silver	3.99

Modular Plug-To-Modular Jack Extension Cord

Extension cord with modular plug and jack on each end. Cord offers the convenience of adding 25-foot extension to existing telephone system. Modular plug at one end snaps into wall receptacle while modular jack at the other accepts line cord from existing telephone.
796-9506. Model 30-9506 ..... **EACH 4.99**

Modular Plug-To-Twin Modular Jacks Extension Cord

The 25-foot modular telephone cord has a modular plug on one end and a modular duplex jack on the other end. The modular plug snaps into wall receptacles. The duplex modular jack accepts the cords from a telephone and answering machine, or other auxiliary device, at the same time.
796-9508. Model 30-9508 ..... **EACH 5.69**

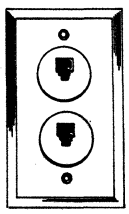


Modular Telephone Replacement Cord

Use for converting "hard-wired" telephones to modular, or as a replacement/extension. Spade terminals one end; modular plug other end.

796-9544. Model 30-9544. 6 ft. ivory ..... **EACH 3.49**
796-9545. Model 30-9545. 25 ft. ivory ..... **EACH 4.99**

Dual Flush Jack



Can be flush mounted in wall to eliminate external wires. Two modular jacks permit use of two telephones at same location or one telephone and answering machine or other related equipment. Two solderless jacks can be connected independently or in series, utilizing one or two lines.

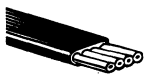
796-9703. Type 30-9703. 4-Conductor ivory ..... **EACH 3.99**
796-9710. Type 30-9710. 6-Conductor ivory ..... **EACH 5.89**

Solid Telephone Hook-Up Wire

Beige-jacketed hook-up wire with color-coded wires within. †22-gauge, 4 conductor. *22-gauge, 6 conductor. ‡24-gauge, 4 conductor. **24-gauge, 6 conductor.

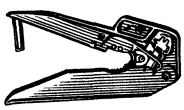
796-9901. Type 30-9901. (100′)† ..... EACH 11.89
796-9905. Type 30-9905. (500′ knockout carton)† ..... EACH 33.24
796-9902. Type 30-9902. (25′)† ..... EACH 3.89
796-9953. Type 30-9953. (1000′ pull-out box)† ..... EACH 63.71
796-9959. Type 30-9959. (1000′)† ..... EACH 64.99
796-9960. Type 30-9960. (5000′ Spool)† ..... EACH 318.65
796-9970. Type 30-9970. (500′)* ..... EACH 57.42
796-9971. Type 30-9971. (1000′)* ..... EACH 109.97
796-9957. Type 30-9957. (500′ knockout box)‡ ..... EACH 26.30
796-9952. Type 30-9952. (1000′ pull-out box)‡ ..... EACH 47.49
796-9980. Type 30-9980. (5000′ Spool)‡ ..... EACH 222.74
796-9958. Type 30-9958. (1000′ knockout carton)‡ ..... EACH 47.49
796-9976. Type 30-9976. (1000′ knockout carton)** ..... EACH 64.95
796-9972. Type 30-9972. (3000′ Spool)† ..... EACH 313.04
796-9982. Type 30-9982. (4000′ Spool)** ..... EACH 222.74

Stranded Flat Modular Line Cord



26-gauge Silver or Ivory-jacketed line cord with color-coded wires. Use with telephone modular plugs. †4 conductor. **6 conductor. *8 conductor.

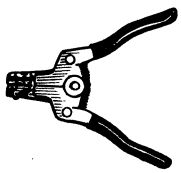
796-9935. Type 30-9935. 500′ knockout ivory** ..... EACH 51.32
796-9907. Type 30-9907. 50′ silver† ..... EACH 6.29
796-9920. Type 30-9920. 50′ ivory† ..... EACH 6.29
796-9908. Type 30-9908. 100′ silver† ..... EACH 11.99
796-9922. Type 30-9922. 100′ ivory† ..... EACH 11.99
796-9906. Type 30-9906. 500′ silver† ..... EACH 40.40
796-9924. Type 30-9924. 500′ ivory† ..... EACH 40.40
796-9962. Type 30-9962. 1000′ silver† ..... EACH 78.56
796-9963. Type 30-9963. 1000′ ivory† ..... EACH 78.56
796-9932. Type 30-9932. 100′ Hank silver** ..... EACH 15.69
796-9933. Type 30-9933. 100′ Hank ivory** ..... EACH 15.69
796-9934. Type 30-9934. 500′ Knockout silver** ..... EACH 55.74
796-9965. Type 30-9965. 1000′ spool silver** ..... EACH 108.08
796-9966. Type 30-9966. 1000′ spool ivory** ..... EACH 108.08
796-9945. Type 30-9945. 500′ spool silver* ..... EACH 94.28
796-9940. Type 30-9940. 1000′ spool silver* ..... EACH 177.18



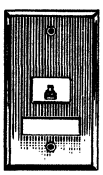
Modular Crimp Tool

Makes it easy to install modular plugs on 4-conductor modular line cord. Has built-in wire stripper.
796-9950. Type 30-9951 ..... EACH 18.29

Automatic Telephone Wire Stripper



Four cutting surfaces handle stripping on both flat line cord or round station wire. For round station wire, a two-step strip first pulls outer jacket off, then strips small conductor wires. For flat line cord, the outer jacket is stripped to exact lengths for assembling modular plugs. An adjustable stop controls stripping length. Other features include built-in cutter; automatic delayed action to prevent crushing inner wires.
796-9925. Type 30-9925 ..... EACH 24.79



Flush Wall Jack

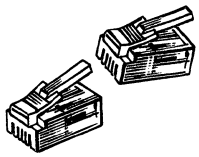
Modular flush wall jack assembly allows flush-mounted connection of plug-ended modular line cords. Ideal for initial installation or conversion from existing wall receptacles. Jacks can be connected in parallel use with 4- and 6-wire systems.
796-9700. Model 30-9700. 6 wire—ivory ..... EACH 3.59
796-9707. Model 30-9707. 4 wire—ivory ..... EACH 2.99

Combination Telephone/Coax Wallplate

Specially designed wallplate allows hookup of both modular telephone wire and coax cable from one location. (4-conductor)
796-9732. Model 30-9732. Ivory ..... EACH 6.89

Outdoor Modular Surface Jack

Designed specifically for outdoor all-weather use. The housing is constructed of rust-proof aluminum and stainless steel. Spring-loaded gasketed cap assures moisture-resistant seal. Extra heavy-duty. Screw terminals for quick installation.
796-9730. Type 30-9730 ..... EACH 16.99



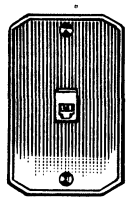
Modular Plugs

Use with flat-line cord for making replacement cables or extension cords. Use modular crimp tool #30-9951, below.

Package of 10
796-9910. Type 30-9910. 4 cond. ..... PER PKG. 3.09
796-9914. Type 30-9914. 6 cond. ..... PER PKG. 4.99

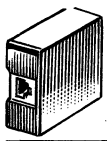
Package of 100
796-9911. Type 30-9911. 4 cond. ..... PER PKG. 34.39
796-9915. Type 30-9915. 6 cond. ..... PER PKG. 49.49
796-9917. Type 30-9917. 8 cond. ..... PER PKG. 119.50

Quick-Mount Wall Phone Jack



Use when mounting wall-type telephones. Easy-to-hook-up screw-type terminals. Heavy-duty construction. Wall phone snaps into place!
796-9704. Model 30-9704 ..... EACH 4.59

Designed for wall-mounting phones, this unique device offers dual side jacks which will accommodate hook-up of answering machines, auto dialers or extension phones.
796-9705. Model 30-9705 ..... EACH 8.69

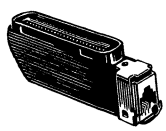


Modular Surface Jack

Surface mounts to baseboard or wall. Screw terminals for easy installation.
796-9604. Model 30-9604. 4 cond. ..... EACH 3.39
796-9607. Model 30-9607. 6 cond. ..... EACH 4.39
796-9660. Model 30-9660. 8 cond. ..... EACH 5.69

Dual Modular Surface Jack

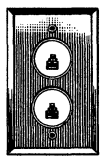
Surface mounts to baseboard or wall. Dual jacks for hook-up of telephone and answering machine, auto dialer. Screw terminals for easy installation.
796-9605. Model 30-9605 ..... EACH 5.59



Multi-Line-To-Modular Jack Adaptor

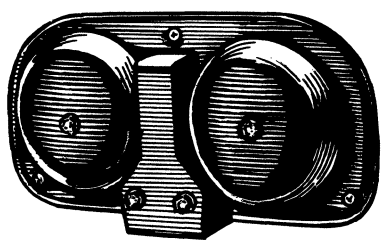
Allows a single-line modular telephone to be connected to an existing 50-pin connector. With this adaptor, installers are able to convert multi-line service, multi-button-equipped telephone stations in minutes.
796-9812. Model 30-9812 ..... EACH 13.99

Modular Duplex Flush Jack

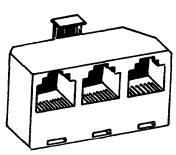


Flush mounted in wall to eliminate external wires. Two modular jacks permit use of two telephones at same location or one telephone and answering machine or other related equipment. Two solderless jacks can be connected independently or in series, utilizing one or two lines.
796-9703. Model 30-9703. 4 cond. ..... EACH 3.99
796-9710. Model 30-9710. 6 cond. ..... EACH 5.89

Outdoor Telephone Bell



The outdoor telephone bell is a loud mechanical bell. Weather resistant molded housing for use indoors or outdoors, ideal for factory, farm, porch or garage or in any noisy environment. This telephone bell is line powered and uses a modular jack for simple installation. FCC registered.
796-9835. 30-9835 ..... EACH 41.95



Modular Triplex Adaptor

Allows three modular plugs to be used in a single modular jack.

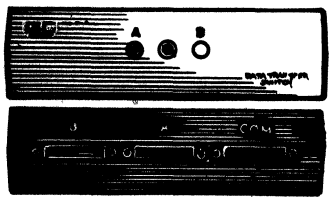
796-9656. Type 30-9656 ..... EACH 2.32

Centronics* Cable Assembly Transfer Switches

Convenient and economical way to access a single printer for more than one Microcomputer. Also, for access to more than one peripheral from one I/O port or access a modem from any of several terminals. Transfer switches save the time of reconnecting cables or the expense of additional printers. 5 year warranty.

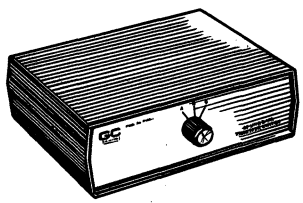
GC Electronics' Data Transfer Switches are assembled using the best materials available to assure completely reliable operation. No external power source is required. Modern beige cabinet blends well with most decors. Five year warranty for all models. Made in U.S.A.

A/B Transfer Switch for Nine-Line Systems



Type 43-600. Switches pins 2 through 8 and 20; pin number 1 is common. Satisfies most systems switching needs and is less costly than units designed to switch all lines. One RS-232 25-pin female connector for input to two RS-232 female output connectors.
796-4000. Type 43-600 .....**EACH 67.06**

A/B Transfer Switch for 25-Line Systems

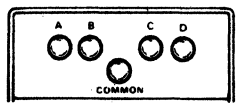


Type 43-610. Switches pins 2 through 24 (pin number 1 is universally common). As all lines are switched, this unit is universally compatible with all RS-232-C industry standard systems. One RS-232 25-pin female connector to two RS-232 female output connectors.
796-4001. Type 43-610 .....**EACH 107.00**

A/B Parallel Transfer Switch for 36-Line Centronic-type Systems
Type 43-608. All 36 lines are switched. One female 36-pin connector for input or output to two 36-pin female connectors. Use with IBM** and IBM-look-alikes to Epson-type parallel printers, etc.
796-4003. Type 43-608 .....**EACH 125.00**

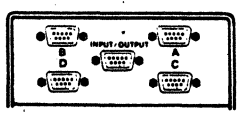
Type Aa/Bb X-Switch Universal, Serial or Parallel.
Permits two separate PCs to share two different peripherals. Either computer may be switched between two peripherals. Four 25-pin "D" connectors on back of unit. All 25-lines are switched to permit use with nearly any system. Completely data transparent in both directions. Five year warranty.
796-4015. Model 43-615 .....**EACH 89.96**

Mini-DIN 8 A/B/C/D



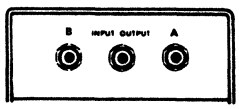
One mini-din 8-pin I/O female up to four mini-din 8 conductor jacks. Used for some Apple® computer systems.
796-2075. Type 45-2075 .....**EACH 47.88**

DB-9 A/B/C/D Switch



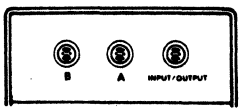
One female DB-9 I/O connector to four female DB-9 connectors.
796-2034. Type 45-2034 .....**EACH 41.99**

BNC A/B Switch



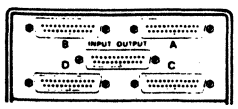
One BNC female to two BNC females
796-2109. Type 45-2109 .....**EACH 30.97**

Twinaxial A/B Switch



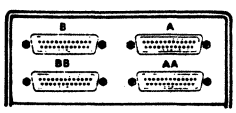
One twinaxial female connector to two female twinaxial connectors.
796-2107. Type 45-2117 .....**EACH 43.99**

RS-232 A/B/C/D Switch



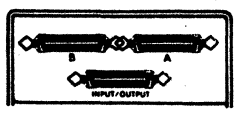
One I/O DB-25 female to four DB-25 females
796-2004. Type 45-2004 .....**EACH 56.94**

RS-232 X-Switch



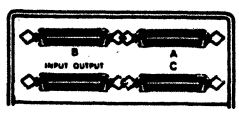
Two I/O DB-25 female connectors to two peripheral DB-25 connectors. Permits either PC to use either of two peripherals.
796-2007. Type 45-2007 .....**EACH 56.94**

Centronics A/B Switch



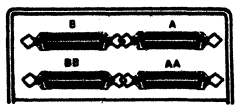
One I/O 36-pin Centronics-style female connector to two 36-pin Centronics females.
796-2020. Type 45-2020 .....**EACH 56.94**

Centronics A/B/C Switch



Like above, but permits use of three peripherals with one computer (or vice versa).
796-2023. Type 45-2023 .....**EACH 44.00**

Centronics X-Switch



Two I/O 36-pin Centronics connectors to two Centronics connectors for parallel peripherals.
796-2027. Type 45-2027 .....**EACH 59.94**

RJ-45 A/B/C/D Switch

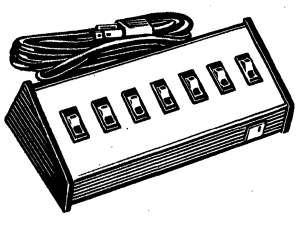
For switching voice and/or data communications lines that are terminated with 8-pin RJ-45 style TELCO connectors. One I/O female to four RJ-45 females.
796-2059. Type 45-2059 .....**EACH 47.88**

RJ-11 A/B/C/D Switch

One I/O 4-conductor RJ-11 TELCO jack to four RJ-11 jacks. For switching telephone or data equipment using standard four-conductor telephone style TELCO connectors.
796-2063. Type 45-2063 .....**EACH 45.99**

*Centronics is a registered trademark of Centronics Data Computer Corp.
**IBM is a registered trademark of International Business Machines Corp.
® Apple is a registered trademark of Apple Computer, Inc.

Desktop Power Console with Surge and RFI/EMI Protection



Type 3280. Seven AC outlet, six outlets independently controlled. Seventh outlet is always "ON." Master switch allows user to power down six outlets except the constant "ON." UL listed components used throughout. **SPECIFICATIONS. Maximum Power Capacity:** 15 Amps @ 110-120 VAC. **Maximum Pulse Power Capacity:** 100 Amps @ IMS. **Peak Current Surge Rating:** 6500 Amps. **Peak Power Dissipation:** @ 1 mS 7000 Watts (70 Joules). **Spike Clamping Initiate:** 184 Volts. **RFI Attenuation:** 8.5 db @ 150 KHz, 46 db @ 20 MHz.
796-4005. Type 3280 .....**EACH 67.97**

TV & VCR GlitchGrabber PLUS

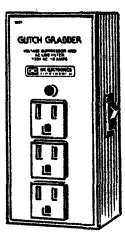
The Glitchgrabber Plus® will protect a TV and/or VCR from damaging voltage surges that are typically present on all 110-120 V AC power utility lines. It will also guard against similar surges on the antenna input. This unit is recommended for use with TVs, VCRs and FM receivers.

Voltage surges are generated by electrical devices such as refrigerators, air conditioners, and electric lights. Lightning strikes, even at considerable distances, often generate numerous surges. This product will sense these surges and destroy them as quickly as they arrive. **NOTE:** This device is not a lightning arrestor which affords grounding protection against direct lightning strikes but does not protect against surges. Glitchgrabber Plus must not be used in lieu of lightning grounding devices.
796-3705. Type 3705 .....**EACH 50.78**

TELCO GlitchGrabber PLUS

The Telco Glitchgrabber Plus® will protect a facsimile machine or a modem from damaging voltage surges that are typically present on all 110-120 V AC power utility lines. It will also guard against similar surges on incoming telephone lines.

Voltage surges are generated by electrical devices such as air conditioners, copy machines, heating systems and electric lights. Lightning strikes, even at considerable distances, often generate numerous surges. This product will sense these surges and destroy them immediately, thereby protecting delicate circuitry.
796-3718. Type 3718 .....**EACH 53.50**



GlitchGrabber AC Line Filter and Surge Arrestor Ground Indicator

Type 3307. For computer security systems in protection against line surges and spikes, plus heavy filtering for eliminating of "Hash" (RFI). Process systems from memory loss, registration of data, data drop-ins or drop-outs. **SPECIFICATIONS. Maximum Pulse Power Capacity:** 100 Amps @ 1 mS. **Peak Current Surge Rating:** 19500 Amps. **Peak Power Dissipation:** @ 1 mS, 21,000 Watts (210 Joules). **Maximum Clamping Voltage:** 340V at 100 Amps. **Clamping Response Time:** 340V at 100 Amps. **RFI Noise Attenuation:** 10 db @ 150 KHz, 50 db @ 20 KHz. **Ground Confirm:** Neon lamp indicate property ground outlet.
796-4007. Type 3307 .....**EACH 59.96**

Economy Surge Protector

Type 3301. Simple MOV surge protector, reduce risk of damage to computer and peripherals from surges and spikes.
796-4008. Type 3301 .....**EACH 3.95**

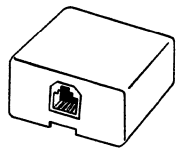
Modular Telephone Hardware (AT&T Licensed)

Paladin introduces a comprehensive spectrum of modular telephone hardware designed to make the connection between telephone equipment and outside lines easier. All products are manufactured under the license of AT&T in full compliance with FCC requirements, and are 100% tested for uniform reliable high quality.

Connects with Paladin for all of your modular telephone hardware needs. You'll get an incredibly wide selection, and dependable performance in every product you select...all at a more affordable price!

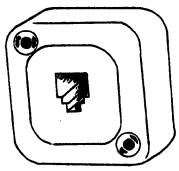
- **Housings are ABS and Polycarbonate**
- **Versatile antique white blends well in any installation**
- **Leadwire are 7-strand, 26 ga. AWG**
- **Polypropylene insulation**
- **Wire colors are standard red, green, black, yellow**
- **Spring wire material is 0.018" diameter phosphorous bronze alloy**
- **Spring wire features hard gold plating over nickel for optimum electrical contact**
- **Insulation resistance is 500 Megaohm**
- **Dielectric strength is 1000 VAC RMS, 60 Hz**
- **Contact resistance is 20 milliohms**
- **1:1.2 AMP current rating**
- **17 pound pull-out strength**
- **4.4 pound crimping strength**

Surface Mount Modular Jack



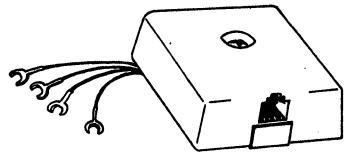
4-contact modular jack for surface mounting. Top cover can be removed and snapped on easily. Screw terminals are provided for station wiring. PA 9634-4 contact.
889-9634. PA 9634.....**EACH 2.37**

Modular Jack



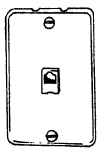
Designed for surface mounting on walls or baseboards where external wire is necessary.
889-9617. PA 9617.....**EACH 2.34**

Modular Jack Cover



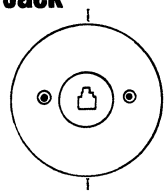
Converts an existing 42A connecting block to accept modular plug-ended line cord.
889-9615. PA 9615.....**EACH 1.50**

Modular Wall Phone Plate



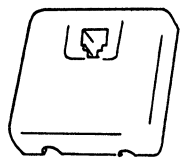
For use with wall phone sets equipped with modular adapters. 4- and 6-contact models available. Fits over standard junction box.
889-9622. PA 9622.....**EACH 3.17**

Round Wall Jack



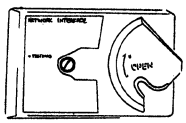
For flush mounting in prewired installation. Mounting bracket included.
889-9620. PA 9620.....**EACH 2.54**

Surface Jack



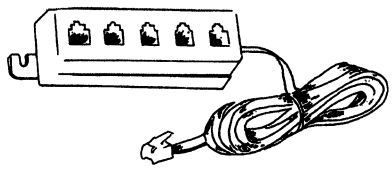
Solderless quick-connect terminals allow wire connection without screws.
889-9621. PA 9621.....**EACH 2.24**

Network Interface Jack with Cover



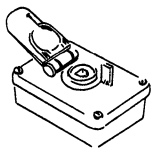
This jack is installed between the leased telephone service and customer-owned premise wiring. Consists of a rotating dust cover and line terminating unit.
889-9638. PA 9638.....**EACH 6.85**

One to Five Adapter



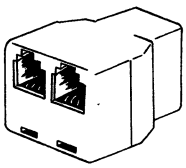
889-9627. PA 9627.....**EACH 8.70**

Plastic Outdoor Jack



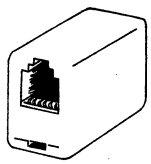
Complete with plastic case and gasket that are weather proof.
889-9640. PA 9640.....**EACH 7.04**

Three-Way Coupler



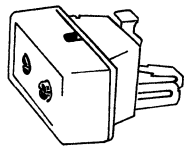
This coupler converts a single line connection into two single-line outlets.
889-9614. PA 9614.....**EACH 2.64**

Modular Cord Coupler



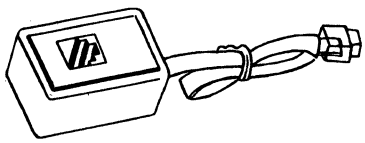
Connects two male-ended modular cords to extend cord length.
889-9612. PA 9612.....**EACH 1.70**

Retro-fit Adapter



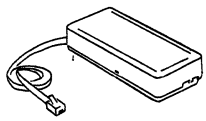
Upgrade non-modular spade- or ring-ended telephone line cord for use with modular jacks.
889-9613. PA 9613.....**EACH 2.17**

Noise Filter



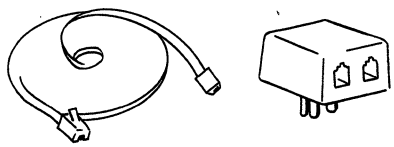
889-9642. PA 9642.....**EACH 8.30**

Wire Junction Box (With Extension Wire)



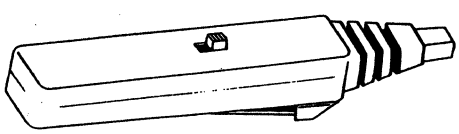
889-9626. PA 9626.....**EACH 5.77**

Lightening Protector



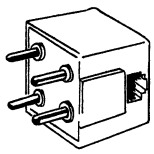
889-9643. PA 9643.....**EACH 11.24**

Two Line Tester



889-9641. PA 9641.....**EACH 13.60**

4 Prong to Modular Adapter

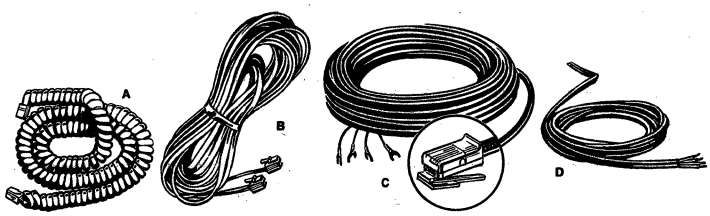


889-9610. PA 9610.....**EACH EACH 2.14**

Modular Jack

889-9636. PA 9636.....**EACH 1.67**

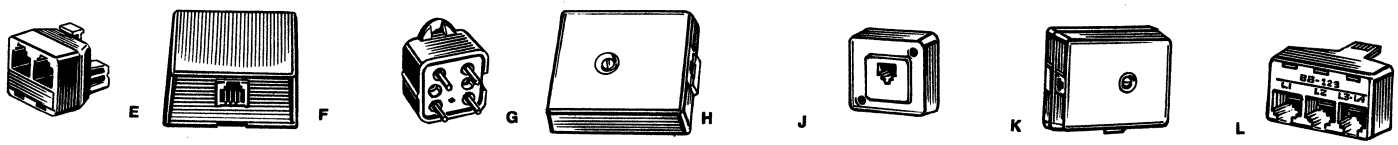
Wires



A Handset Cord. 18′ silver-satin coiled cord for replacement or extension use.
910-9012. Type 279-395 ..... **EACH 5.95**
B Modular-Modular Line Cord. 25′ extension replaces shorter cords. Both ends terminate with modular plugs.
910-7026. Type 279-356 ..... **EACH 6.15**
C 25′ Converter/Extension Cord. Modular end fits modular jacks. Other end has spade lugs.
910-7034. Type 279-364 ..... **EACH 6.15**
D 50′ 4 Conductor Modular Telephone Cable. Silver-satin flexible flat cord.
910-7035. Type 278-365 ..... **EACH 5.49**

Jacks and Plugs

5

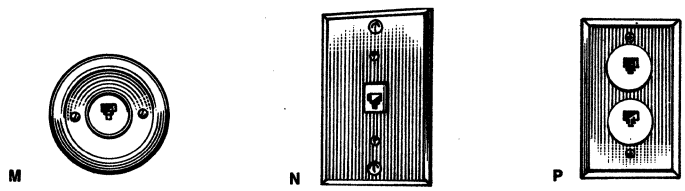


E Duplex Jack. Connects 2 phones, phone and amp or answerer from one jack.
910-7027. Type 279-357 ..... **EACH 4.95**
F 6-Wire Surface Mount Jack. For use as RJ25C 3-line jack and with many electronic PABX telephone systems.
910-9013. Type 279-420 ..... **EACH 4.49**
G Plug. Mates with any standard 4-prong jack.
910-7036. Type 279-366 ..... **EACH 1.49**
H Quick-Connect Jack. Convert wall block for modular plug. Spade terminals.
910-7025. Type 279-355 ..... **EACH 2.19**

Modular Jack. As above, with snap-on clips.
910-0206. Type 279-386 ..... **EACH 2.99**
J Surface-Mount Jack.
910-7023. Type 279-353 ..... **EACH 3.95**
K Modular Jack/Wiring Block. RJ-11/14 modular jack with standard wiring block.
910-0203. Type 279-349 ..... **EACH 3.95**
L Two-Line, 3-Way Jack. Adds two single-line connections (RJ-11) to a two-line telephone jack (RJ-14). Allows for connection of single-line phone devices without losing a connection for two-line devices.
910-0212. Type 279-402 ..... **EACH 6.95**

Wall Plates

M Round.
910-0208. Type 279-392 ..... **EACH 3.95**
N Wall Phone Plate. Standard plate or use with modular wall telephones.
910-0207. Type 279-387 ..... **EACH 5.95**
P Dual Modular Phone Wallplate. Use to provide two jacks with same numbers or four separate lines.
910-0204. Type 279-350 ..... **EACH 5.95**



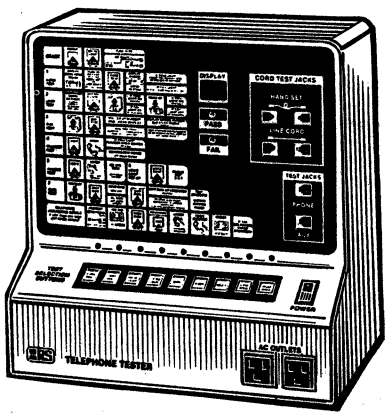
Telephone Line Tester

► **Locates Phone-Line Troubles Instantly!**

Convenient line tester saves you money — no more unnecessary telephone company service calls. Simply plug tester into modular phone jack and it immediately indicates whether your line is operational. Has two LED indicators — one red, one green. Completely safe to use. Phone-line powered.
910-0143. Type 43-101 ..... **EACH 3.49**

Telephone Tester

► **Ideal for Businesses With Telemarketing Departments Or Office Equipment Sales and Service Organizations**
► **Microprocessor-Controlled for Accurate Diagnosis**
► **Tests Both Touch-Tone and Pulse-Dialing Telephones, Cordless Phones and Answering Machines**
► **Easy-to-Follow, Picture-Coded Instructions for Quick and Accurate Step-by-Step Testing**



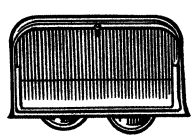
A must for businesses that depend on their phones. Makes it easy to analyze faulty phones and avoid needless outside repairs. Often, a problem is as simple as a defective cord — which can be replaced by anyone. This amazing instrument is designed to check for common problems that occur in most phones and answering devices. Works on all single-line pulse, rotary and Touch-Tone phones, corded or cordless. It can also be used to test 2-line phones simply by adding our optional adapter (279-401). Includes tests for defective plugs, cords, handsets, and loud/soft ringing, plus long/short loop testing. 14 × 13 × 8″. UL listed AC.
910-9011. Type 43-114 ..... **EACH 299.95**

Hands-Free Telephone Headset

► **A must for receptionists, busy executives, anyone who needs to keep their hands free during phone conversations**
► **Works on most any phone with modular handset jack**
► **Quick-disconnect**
ESP Available

DUOFONE 129. Headset with adjustable mike boom frees your hands during phone conversations. Quick-disconnect makes it easy to leave the phone without removing the headset. Amplifier module has volume control. Selectable carbon, electric or dynamic mike settings for use with most types of phones, even office "key" systems. LED battery test indicator. Requires "AA" batteries. Not compatible with some electronic phones, and phones with dial in handset.
910-0172. Type 43-172 ..... **EACH 49.95**

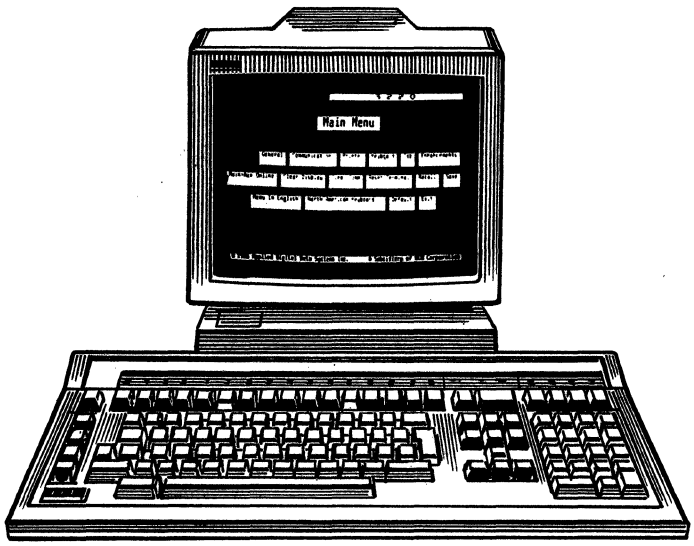
Outdoor Extension Telephone Bell



Outdoor Bell. Handy for porch, patio or garage. Weather-resistance molded housing. Modular jack.

910-9101. Type 43-174 ..... **EACH 29.95**

ADDS-3320



- 14" flat-screen, green CRT etched for reduced glare
- 70 Hz refresh rate—no flicker, stable normal/reverse video
- Selectable 24 lines × 80 or 132 columns
- Split screen capable
- Forms 7 × 11 character with 2 descenders—80 or 132 columns
- 10 × 14—80 columns; 9 × 14—132 columns character cell
- Normal, reverse, blink, underline, bold character highlights
- Select character highlights in any combination (non-stored)
- Cursor selectable as underline/block; blink/steady/suppress
- Double high and double high/wide character presentation
- Screen saver—user selectable
- Smooth 4-speed scroll

Fully compatible with the DEC VT220*, VT100*, VT52* and ANSI x3.64, the ADDS 3320 video display terminal introduces a new standard in DEC compatibility. With 256 bytes of non-volatile memory, local programmability, 7 additional keys, and 22 dynamically-allocated function keys, the 3200 keyboard adds more fingertip useability. Ergonomical, low-profile design with tactile and audible feedback as well as 2-position tilt provide operator comfort. A legend strip is provided for labeling of function keys. Included in 5 character sets are multi-language letters and symbols, line graphics, and special symbols for greater versatility.

Specifications. System/Host: RS-232C serial asynchronous with baud rates from 50 to 19.2 K; X/On-Off and/or DTR handshake; 7 or 8 data bits; odd/even/mark/space/none parity; character mode with full or half duplex and local echo. Female DB-25 connector. **Auxiliary:** Buffered, bidirectional RS-232C serial asynchronous with baud rates from 110 to 19.2 K; X/On-Off or DTR handshake; 7 or 8 data bits; odd/even/mark/space/none parity; copy or passthrough connection. Local screen print. Male DB-25 connector. Auxiliary port can be used to connect a second host (A/B switch). **Voltage:** 100 to 130 VAC, 200 to 250 VAC (jumper selectable). **Line Frequency:** 50/60 Hz. **Power:** 48 watts. **Operating Environment. Temperature:** 10 to 40°C (50 to 105°F). **Relative Humidity:** 0 to 95%, non-condensing. **Altitude:** 2.5 km (8,200 ft.). **Storage Environment. Temperature:** 0 to 50°C (32 to 125°F). **Relative Humidity:** 0 to 95%, non-condensing. **Altitude:** 9.1 km (29,850 ft.). **Dimensions. Monitor/Logic:** 14 × 12.8 × 13.2" (35.89 × 32.82 × 33.84 cm). **Keyboard:** 2 × 21 × 8" (5.12 × 53.85 × 20.51 cm). **Weight. Monitor/Logic:** 25 lbs., 12 oz. (56.77 kg). **Keyboard:** 5 lbs. (11 kg). **Approximate Shipping Weight:** 32 lbs. (70.5 kg). *Trademarks of Digital Equipment Corporation.

892-3220 ..... **EACH 595.00**

5

ADDS-2020

- 14" flat-screen, green CRT etched for reduced glare
- 70 Hz refresh rate—no flicker, stable normal/reverse video
- Selectable 26 lines × 80 or 132 columns
- User selectable screen
- Forms 7 × 11 character with 2 descenders—80 or 132 columns
- 10 × 13—80 columns; 9 × 13—132 columns character cell
- Normal, reverse, blink, underline, bold character highlights
- Select character highlights in any combination (non-stored)
- Cursor selectable as underline/block; blink/steady/suppress
- Double high and double high/wide character presentation
- Top status and bottom label lines
- Smooth 4-speed scroll

Compatible with ADDS Viewpoint A1/A2*; Regent 40*; Hazeltine 1500*; TeleVideo 925*, 920*, and 910*; and Wyse 50*—all with enhancement modes. 96-character ASCII set plus single and double line graphics; normal, reverse, blink, underline, half, and suppress tag/field highlights. Up, down, insert/delete line scroll. 100-key keyboard standard with 44 programmable keys; 16/32 programmable function keys; 28/56 reprogrammable edit keys—88 programmable key modes supported by over 2500 characters of non-volatile memory with setup accessible from keyboard or host. Programmable menu system stores function key labels and help messages; bell volume is also programmable from keyboard or host. Keyboard has US/UK English layout and is low profile with tactile and audible feedback, 2-position tilt, and legend strip.

Specifications. System/Host: RS-232C serial asynchronous with baud rates from 50 to 38.4 K; X/On-Off and/or DTR handshake; 7 or 8 data bits; parity selectable; character, line, and page modes with full or half duplex and local echo. Female DB-25 connector. **Serial Printer Port:** Buffered, bidirectional, RS-232C serial asynchronous with baud rates from 110 to 19.2 K; X/On-Off and/or DTR handshake; 7 or 8 data bits; parity selectable; copy or passthrough connection with local display capability. Female DB-25 connector. **Parallel Printer Port:** Buffered, electrically compatible with Centronics* and IBM PC* parallel printers; shares DB-25 with serial printer port. **Voltage:** 100 to 130 VAC, 200 to 250 VAC (jumper selectable). **Line Frequency:** 50/60 Hz. **Power:** 48 watts. **Operating Environment. Temperature:** 10 to 40°C (50 to 105°F). **Relative Humidity:** 0 to 95%, non-condensing. **Altitude: 2.5 km (8,200 ft.). Storage Environment. Temperature:** 0 to 50°C (32 to 105°F). **Relative Humidity:** 0 to 95%, non-condensing. **Altitude:** 9.1 km (29,850 ft.). **Dimensions. Monitor/Logic:** 14 × 12.8 × 13.2" (35.89 × 32.82 × 33.84 cm). **Keyboard:** 2 × 18.25 × 8" (5.12 × 46.79 × 20.51 cm). **Weight. Monitor/Logic:** 25 lbs., 8 oz. (56.22 kg). **Keyboard:** 4 lbs., 6 oz. (9.65 kg). **Approximate Shipping Weight:** 32 lbs. (70.5 kg).

892-2020 ..... **EACH 595.00**

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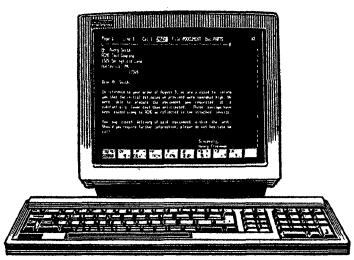


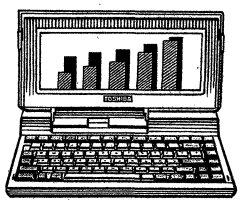
ADDS-1010

You have both brightness and contrast controls, screen saver and smooth scroll. Visual attributes let you display your data more distinctly with normal, reverse, half, blink, underline, and zero formats. 14" flat-screen, green, etched for reduced glare. 24 lines/80 characters. 7 by 9 in 9 by 13 character matrix. 25th status line. Block or underline, blinking, or steady cursor. ADDS Viewpoint/A1, A2, 3A+, Viewpoint/+, Lear Siegler ADM 3A. Separate contrast and brightness controls; parallel printer port; international languages; 120 characters of non-volatile memory. 83 key, separate cursor cluster. Enter key on numeric pad, 6 shiftable to 12 programmable function keys. RS-232C, full or half duplex, 110 to 19,200 baud. IBM PC® compatible parallel port. **Dimensions. Monitor/Logic:** 12.4"H × 12.5"W × 12.5"D (31.5 × 31.75 × 31.75 cm). **Keyboard:** 1.3"H × 18.4"W × 6.0"D (3.30 × 46.74 × 15.24 cm). **Shipping Weight:** 33 lbs.

892-1010 ..... **EACH 395.00**

5

World's Lightest Portable PC!



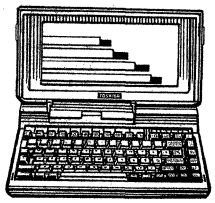
▲T1000

► The smallest, lightest portable PC-6.4 pounds.
► Runs 5 hours on rechargeable NiCad batteries, AC too!
► High-legibility Toshiba supertwist LCD screen.
► Latest technology 720KB 3.5" disk drive.
► Ultra compact & lightweight—compare!
► Seven standard ports for easy, economical expansion
► Exclusive Exceptional Care warranty program.
► Connects to a color monitor, printer, modem, 5.25" drive and more!
► Classic design with convenient center-hinged display.
► With an optional 768KB-EMS memory and you can configure it as a ram disk, allowing faster access to your programs.
► Best of all it's a Toshiba—advanced, reliable and fully supported.

Pick up the T1000 and you'll go far. Presenting Toshiba's most affordable portable. This portable weighs 6.4 lbs. (The price is light, too). Stores in a desk drawer, stows in a book bag. Portable PC power, reasonably priced. IBM® compatibility, Toshiba portability.

592-0001. Type PC-4-PA7027U .....**EACH 999.00**

The Industry Standard Battery-Powered Portable.



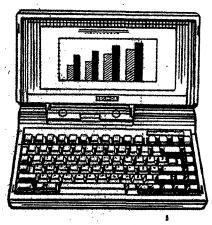
▲T1100PLUS

► Smallest & lightest in its class—under 10 pounds.
► Runs up to 8 hours on rechargeable NiCad batteries, AC too!
► High-legibility Toshiba supertwist LCD screen.
► Latest technology two 720KB 3.5" disk drives.
► Six standard ports for easy, economical expansion.
► Exclusive Exceptional Care warranty program.
► Connects to a color monitor, printer, 5.25" drive and more!
► Classic design with convenient center-hinged display.
► The industry standard in portable PCs
► Options include internal 300/1200 bps modem & IBM-compatible expansion chassis.
► Indispensible in the office, at home and in your travels.

Take care of business anywhere! How to lighten your workload. Smallest & lightest dual disk portable. Toshiba's benchmark portable PC. Runs up to 8 hours on batteries, forever on AC!

592-0002. Type PC-2-PA7042U .....**EACH 2,090.00**

Hard Disk Performance in a Battery-Powered Portable.



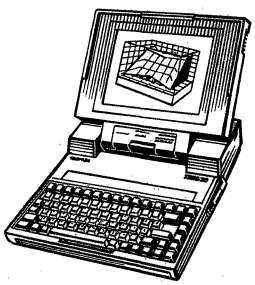
▲T1200

► Smallest & lightest in its class—10.9 pounds.
► Runs up to 7 hours on removable, rechargeable NiCad battery packs, AC too!
► High-legibility Toshiba supertwist LCD screen.
► Latest technology 20 MB hard disk & 720KB 3.5" floppy.
► Seven standard ports for easy, economical expansion.
► Exclusive Exceptional Care warranty program.
► Connects to a color monitor, printer, 5.25" drive and more!
► Classic design with convenient center-hinged display.
► Options include internal 300/1200 bps modem & IBM-compatible expansion chassis.
► Indispensible in the office, at home and in your travels.

At last! A battery-powered portable with built-in hard disk. Bring 20MB of hard disk power right along with you. IBM PC/XT® compatibility, Toshiba probability. Hard disk, easy price. And battery-powered portability! The choice of executives and professionals. Toshiba's finest battery-powered portable.

592-0003. Type PC-5-PA7048U .....**EACH 2,799.00**

The Lightest, Smallest AT-Powered Portable



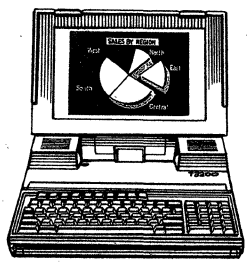
▲T3100e

► Lightest, smallest AT-class portable.
► 80286 processor runs at 12 MHz.
► 1 MB RAM expandable to 5 MB.
► State-of-the-art, high resolution gas plasma display.
► Classic design with convenient center-hinged display.
► Standard interface ports broaden your computer horizons.
► Comprehensive choice of options.
► Exclusive Exceptional Care service program.

Here's AT power, Toshiba style! Desktop capabilities, plus portability! Toshiba's 20MB powerhouse portable. Toshiba's no-compromise portable PC. 12.8 pounds of pure power! Hard disk portable, easy viewing. Toshiba's most feature-rich portable.

592-0004. Type PC9-PA8038U .....**EACH 3,999.00**

No Other "PC AT® " This Complete Could Fit This Ad.



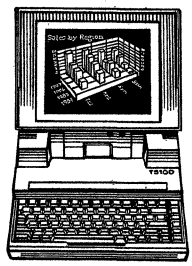
▲T3200

► More capabilities than a desktop PC in a portable PC AT.
► Compact 18.7 lb. package.
► 80286 CPU at 12 MHz; 80287 co-processor socket.
► 40 MB hard disk, 720 KB 3-1/2" diskette.
► Two internal IBM-compatible expansion slots.
► High-resolution gas plasma EGA screen with four gray scales.
► 1 MB RAM expandable to 4 MB.
► 85-key keyboard with separate numeric keypad.
► Built-in EGA RGB monitor, serial, parallel, 5-1/4" external drive, and 101-key enhanced keyboard ports.
► Includes MS-DOS® and Lotus® Metro™ software.
► Exceptional Care service program.

Replace your desktop PC. The portable PC that thinks it's a desktop PC. The power of a desktop PC AT. In a portable. The portable PC you can grow attached to. The only thing that doesn't expand is the size. No other PC AT this complete could fit this ad. The Toshiba T3200.

592-0005. Type PC-6-PA7039U .....**EACH 5,299.00**

Less Wait. Less Weight.



▲T5200

► The ultimate portable 386 PC.
► Desktop power, in a compact 18.7 lb. package that's just 14.6"W × 3.9"H × 15.6"D.
► 80386 CPU at 20 MHz; 80387 co-processor socket.
► 40 MB hard disk, 1.44 MB 3½" diskette drive.
► 2 MB RAM expandable to 8 MB.
► High-resolution gas plasma VGA screen with 16 gray scales.
► 91-key keyboard.
► Built-in VGA capabilities, serial, parallel 5¼ external diskette drive, and 101-key enhanced keyboard ports.
► Includes MS-DOS®.
► Exceptional Care service program.

Presenting the ultimate portable 386 PC. Look what the 386 PC has been reduced to. The muscle of a 386 PC. Without the bulk. Everything you want in a 386 PC. And less. Announcing a small improvement in 386 PCs. Less wait. Less weight. The Toshiba T5200.

592-0006. Type PC10-PA8050U .....**EACH 7,699.00**

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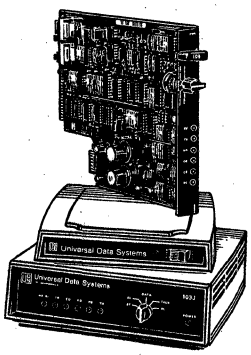
103 Series—300 bps Modems



UDS low speed modems are Bell 103 compatible and provide low-cost asynchronous communications at 0-300 bps over public or private lines. Model 108 diagnostic features which aid in isolating communicating faults to the modem, telephone line or data terminal equipment.

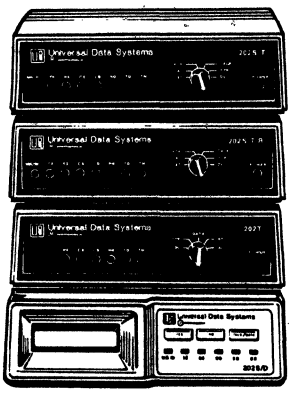
103JLP
Telephone line powered. AC power not required. Low cost.

108
Private line operation over 2-wire or 4-wire telephone facilities. Universal Data Shelf™ compatible.

Features
- ► 0-300 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf™ Compatible
- ► Full Duplex/4-Wire
- ► Full Duplex/2-Wire
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Private Line/4-Wire
- ► Auto Answer
- ► Test Modes and Test Parameters: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Self Test; 4. Test Pattern

Stock No.	Mfr.'s Type	EACH
990-1000	103JLP	165.00
990-1004	108	425.00

201 Series—2400 bps Modems



UDS 201 series modems operate at 2400 bps and are Bell compatible. Integral diagnostic features allow the user to isolate communication faults to the modem, telephone line or data terminal equipment.

201BC/AS
Operates over 2-wire public or 4-wire private lines. Provides synchronous or asynchronous operation.

201C/D
Includes serial synchronous auto dialer which utilizes bisync protocol for DTE/DCE communications.

Sync-Up™ 201C
Combines modem and emulation hardware onto a single expansion card. Cost-effective remote connectivity solution for IBM PC and compatibles. Software support includes BSC and SNA programs.

2140
Integral multi-protocol autodialer. 2400 bps over 2 wire. Supports V.22 *bis* bisync, SDLC.

Features
- ► 0-300 bps
- ► 1200 bps
- ► 2400 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf Compatible
- ► IBM PC Plug-in
- ► Full Duplex/4-Wire
- ► Half Duplex/2-Wire
- ► Synchronous
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Private Line/4-Wire
- ► Auto Answer
- ► Auto Dial
- ► Call Progress Detection
- ► IBM Software Available
- ► Antistreaming
- ► Line Equalization
- ► Fast Poll
- ► Test Modes: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Remote Digital Loopback; 4. Self Test; 5. Transmit Test Pattern; 6. Receive Test Pattern
- ► Full Duplex, 2-Wire
- ► International Dial-up Lines

Stock No.	Mfr.'s Type	EACH
990-1026	201BC/AS	685.00
990-1028	201C/D	735.00
990-1034	Sync-Up™ 201C	625.00
990-3000	2140	735.00

202 Series—1200-1800 bps Modems

The UDS 202 series consists of Bell compatible modems which provide asynchronous communications at 0-1800 bps. All are compatible with the Universal Data Shelf,™ and all include diagnostic features to aid in isolating communication faults to the modem, telephone line or data terminal equipment.

202S/T
Half duplex dial-up or full duplex on unconditioned 4 wire circuits. Satellite delay option. Optional plug-in card for synchronous operation.

202S/T-R
Includes a 5 baud reverse channel or a 75 or 150 baud secondary channel.

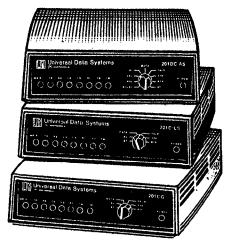
202S/D
Features synchronous and asynchronous operation. Includes a serial auto dialer and call progress monitoring. Modem options are programmable via front panel pushbuttons and LCD display.

202T
0-1800 bps on C2 conditioned private lines. 0-1200 bps on unconditioned private lines. Features antistreaming for use in multipoint networks.

Features
- ► 0-1200 bps
- ► 0-1800 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf Compatible
- ► Full Duplex/4-Wire
- ► Half Duplex/2-Wire
- ► Synchronous
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Private Line/4-Wire
- ► Auto Answer
- ► Auto Dial
- ► Call Progress Detection
- ► Antistreaming
- ► Test Modes: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Self Test; 4. Transmit Test Pattern
- ► Optional plug-in card permits synchronous operation

Stock No.	Mfr.'s Type	EACH
990-1006	202S/T	475.00
990-1008	202S/T-R	575.00
990-1010	202S/D	495.00
990-1012	202T	425.00

212 Series—1200 bps Modems



The 212 series modems operate asynchronously, full duplex at 1200 bps with automatic fall back to 0-300 bps. All models are Bell 212A and 103 compatible, and include automatic answer.

212ALP
Telephone line powered. AC power not required. Low cost.

FasTalk™ 1200E
Includes Mirror II™ communications software for the IBM PC or compatibles. Extended AT command set compatible. Standalone and PC half card models available.

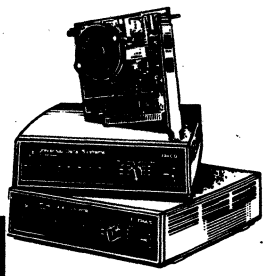
212A/D
Includes storage for 10 numbers and automatic log-on sequences up to 126 characters.

Sync-Up™ 201C/212A
Like Sync-Up 201C, but with combination 201C/212A modem. Asynchronous, full duplex, and AT command set compatible in 212A mode. Synchronous, half duplex in 201C mode.

Features
- ► 0-300 bps
- ► 1200 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf Compatible
- ► IBM PC Plug-in
- ► Full Duplex/2-Wire
- ► Synchronous
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Private Line/4-Wire
- ► Auto Answer
- ► Auto Dial
- ► AT Command Set Compatible
- ► Call Progress Detection
- ► IBM Software Included
- ► Error Control
- ► Test Modes: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Remote Digital Loopback; 4. Self Test

Stock No.	Mfr.'s Type	EACH
990-1014	212ALP	195.00
990-1016	FasTalk™ 1200E	400.00
990-1018	212A/D	475.00
990-1036	Sync-Up™ 201C/212A	840.00

208 Series—4800 bps Modems



The UDS 4800 series includes Bell 208 compatible modems which operate 4800 bps half duplex over 2-wire public or private lines. All models include automatic answer and line equalization, and all except Sync-Up are compatible with the Universal Data Shelf™

208A/B
Additionally operates full duplex over 4-wire private lines. Includes antistreaming to prevent network tie-ups on multipoint networks.

208AB/AS
Transmits asynchronous as well as synchronous data. Also operates full duplex over 4-wire private lines. Includes antistreaming.

208B/D
Includes automatic dialer which utilizes bisync protocol for DTE/DCE communications. Features call progress monitoring for dial tone, busy signal, ring back and answer back tones.

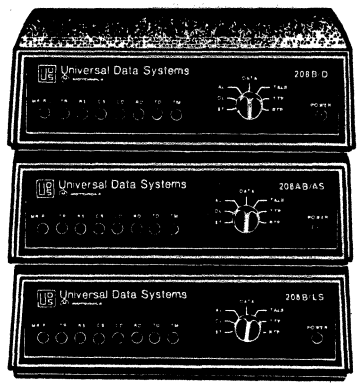
Sync-Up™ 208A/B
Combines modem and emulation hardware onto a single expansion card. Cost-effective remote connectivity solution for IBM PC and compatibles. Software support includes BSC and SNA programs.

Features
- ► 4800 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf Compatible
- ► IBM PC Plug-in
- ► Full Duplex/4-Wire
- ► Half Duplex/2-Wire
- ► Synchronous
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Private Line/4-Wire
- ► Auto Answer
- ► Auto Dial
- ► Call Progress Detection
- ► IBM Software Available
- ► Antistreaming
- ► Line Equalization
- ► Test Modes: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Self Test; 4. Transmit Test Pattern; 5. Receive Test Pattern

Stock No.	Mfr.'s Type	EACH
990-1058	208A/B	1295.00
990-1060	208AB/AS	1350.00
990-1062	208B/D	1495.00
990-1066	Sync-Up™ 208A/B	1140.00

224 Series—2400, 1200, 0-300 bps Modems

The UDS 224 series of modems operate full duplex over 2-wire circuits at 2400 bps with fall back rates of 0-300 and 1200 bps. The units are CCITT V.22 *bis* compatible in the 2400 bps mode and Bell 103 and 212A compatible in the fall back modes.



FasTalk™ 2400 II
Includes Mirror II™ communications software for the IBM PC or compatible computers: AT command set compatible. Standalone and PC half card models available.

224CG
Includes call guard password and/or call-back system to protect against unauthorized connections to computers via PSTN. Optional system allows direct entry with password. Includes MNP error control.

Sync-Up V.22 *bis*
Combines modem and emulation hardware onto a single expansion card. Cost-effective remote connectivity solution for IBM PC and compatibles.

Features
- ► 0-300 bps
- ► 1200 bps
- ► 2400 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf Compatible
- ► IBM PC Plug-in
- ► Full Duplex/2-Wire
- ► Synchronous
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Auto Answer
- ► Auto Dial
- ► AT Command Set Compatible
- ► Call Progress Detection
- ► IBM Software Available
- ► Line Equalization
- ► Error Control
- ► Test Modes: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Remote Digital Loopback; 4. Self Test; 5. Self Test Remote Digital Loopback; 6. Self Test Analog Loopback

Stock No.	Mfr.'s Type	EACH
990-1040	FasTalk™ 2400 II	495.00
990-1048	224CG	795.00
990-1054	Sync-Up™ V.22 *bis*	575.00

9600 Series—4800 to 9600 bps Modems

Features
- ► 4800 bps/9600 bps
- ► Standalone
- ► Rackmountable
- ► Universal Data Shelf Compatible
- ► IBM PC Plug-in
- ► Full Duplex/4-Wire
- ► Half Duplex/2-Wire
- ► Synchronous
- ► Asynchronous
- ► PSTN
- ► Private Line/2-Wire
- ► Private Line/4-Wire
- ► Auto Answer
- ► Auto Dial
- ► Call Progress Detection
- ► IBM Software Available
- ► Antistreaming
- ► Line Equalization
- ► Test Modes: 1. Local Analog Loopback; 2. Local Digital Loopback; 3. Self Test; 4. Transmit Test Pattern; 5. Receive Test Pattern

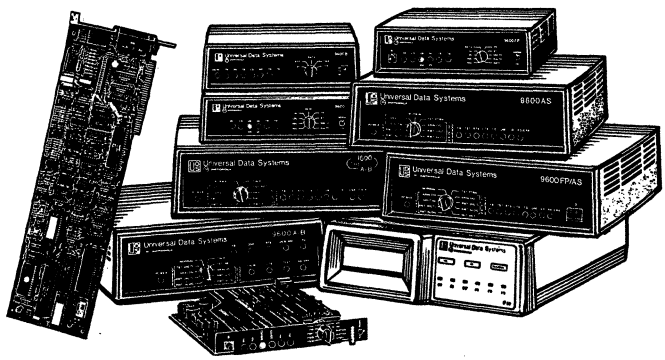
The UDS 9600 series is a broad line of CCITT V.29 compatible modems which operate at 9600 bps and fall back to 7200 or 4800 bps. All models provide fast, accurate synchronous data communications and include extensive diagnostic features. Individual models address special communication requirements with such features as asynchronous operation and trellis coding.

9600
Synchronous operation over 4-wire leased lines. Universal Data Shelf compatible. Antistreaming.

9648T
Asynchronous or synchronous PSTN or private line use. Trellis coded or V.29 compatible at 9600 bps.

9600B/D
Provides the same advantages as the 9600B plus complete autodialing capabilities, including call progress detection.

V.3225
CCITT V.32 and V.22 *bis* compatible with MNP level 5 data compression for communication up to 19,200 bps. Full duplex async or sync.



V.32
CCITT V.32 compatible. LCD packaging facilitates menu-prompted programming at the front panel. Synchronous or asynchronous operation over private or public lines. Includes auto dial, auto answer and call progress detection. AT command set compatible.

Stock No.	Mfr.'s Type	EACH
990-1068	9600	1295.00
999-3002	9648T	1695.00
990-1076	9600B/D	1295.00
990-3004	V.3225	1145.00
990-1084	V.32	995.00

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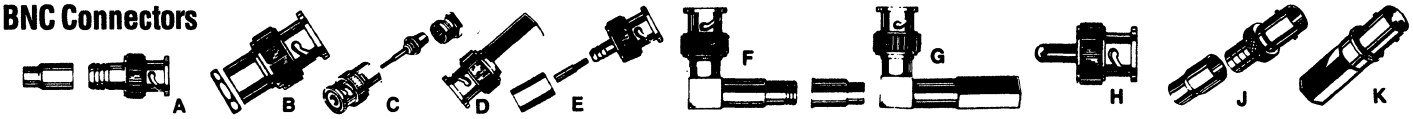
BNC Connectors



Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH 1-24	25-99	100-499
510-9000	27-9000	59, 62	2-pc. Crimp	A	1.90	1.71	1.52
510-9001	27-9001	58	2-pc. Crimp	A	2.00	1.80	1.60
510-9002	27-9002	6	2-pc. Crimp	A	2.00	1.80	1.60
510-9006	27-9006	Belden 8281/Alpha 9807	2-pc. Crimp	A	2.20	1.98	1.76
510-9009	27-9009	59, 62 Teflon	2-pc. Crimp	A	2.00	1.80	1.60
510-9200	27-9200	58A/U*	2-pc. Crimp	A	2.30	2.07	1.84
510-9204	27-9204	58 Teflon*	2-pc. Crimp	A	2.30	2.07	1.84
510-9207	27-9207	58 Thin Net*	2-pc. Crimp	A	2.30	2.07	1.84
510-9020	27-9020	59, 62 (UG260/U)	6-pc. Solder	B	1.80	1.62	1.44
510-9021	27-9021	58 (UG88/U)	6-pc. Solder	B	1.80	1.62	1.44
510-9022	27-9022	58	3-pc. Crimp or Solder	C	2.60	2.34	2.08
510-9023	27-9023	58, 62	3-pc. Crimp or Solder	C	2.60	2.34	2.08
510-9024	27-9024	6	3-pc. Crimp or Solder	C	2.60	2.34	2.08
510-9025	27-9025	59, 62 Teflon	3-pc. Crimp or Solder	C	2.80	2.52	2.24
510-9027	27-9027	Belden 8281/Alpha 9207	3-pc. Crimp or Solder	C	2.80	2.52	2.24
510-9050	27-9050	59, 62	Twist-on plug	D	1.90	1.71	1.52

Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH 1-24	25-99	100-499
510-9051	27-9051	58	Twist-on plug	D	2.00	1.80	1.60
510-9052	27-9052	6	Twist-on plug	D	2.00	1.80	1.60
510-9054	27-9054	59, 62 Teflon	Twist-on plug	D	2.40	2.16	1.92
510-9058	27-9058	Belden 8281/Alpha 9207	Twist-on plug	D	3.20	2.88	2.56
510-9059	27-9059	58 Teflon*	Twist-on plug	D	2.40	2.16	1.92
510-9202	27-9202	58A/U*	Twist-on plug	D	2.30	2.07	1.84
510-9206	27-9206	58 Thin Net	Twist-on plug	D	2.40	2.16	1.92
510-9100	27-9100	59, 62	Commercial-MIL 3 pc.	E	1.70	1.53	1.36
510-9101	27-9101	58	Commercial-MIL 3 pc.	E	1.70	1.53	1.36
510-9102	27-9102	6	Commercial-MIL 3 pc.	E	2.10	1.89	1.68
510-9103	27-9103	59, 62 Teflon	Commercial-MIL 3 pc.	E	2.10	1.89	1.68
510-9104	27-9104	Belden 8281/Alpha 9207	Commercial-MIL 3 pc.	E	2.10	1.89	1.68
510-9105	27-9105	174, 179, 187, 188, 316	Commercial-MIL 3 pc.	E	2.10	1.89	1.68
510-9201	27-9201	58A/U*	Commercial-MIL 3 pc.	E	2.30	2.07	1.92
510-9205	27-9205	58 Teflon*	Commercial-MIL 3 pc.	E	2.20	1.98	1.76
510-9208	27-9208	58 Thin Net*	Commercial-MIL 3 pc.	E	2.20	1.98	1.76

Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH 1-24	25-99	100-499
510-9004	27-9004	59, 62	Crimp Type Right Angle	F	2.70	2.43	2.16
510-9056	27-9056	59, 62	Twist-on Right Angle	G	3.20	2.88	2.56
510-9057	27-9057	59, 62 Teflon	Twist-on Right Angle	G	3.20	2.88	2.56
510-9036	27-9036	58	Twist-on Right Angle	G	3.80	3.42	3.04
510-9037	27-9037	Belden 8281/Alpha 9207	Twist-on Right Angle	G	3.80	3.42	3.04
510-9038	27-9038	6	Twist-on Right Angle	G	3.80	3.42	3.04
510-9007	27-9007	75 Ohm	BNC Terminator	H	3.20	2.88	2.56
510-9008	27-9008	50 Ohm	BNC Terminator	H	3.20	2.88	2.56
510-9093	27-9093	93 Ohm	BNC Terminator	H	3.20	2.88	2.56
510-9003	27-9003	59, 62	2-pc. Crimp Jack	J	2.20	1.98	1.76

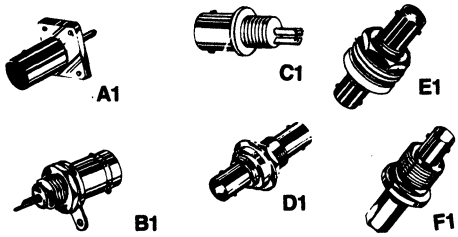
Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH 1-24	25-99	100-499
510-9013	27-9013	6	2-pc. Crimp Jack	J	2.20	1.98	1.76
510-9014	27-9014	58	2-pc. Crimp Jack	J	2.20	1.98	1.76
510-9015	27-9015	59, 62 Teflon	2-pc. Crimp Jack	J	2.20	1.98	1.76
510-9016	27-9016	Belden 8281/Alpha 9207	2-pc. Crimp Jack	J	2.20	1.98	1.76
510-9053	27-9053	59, 62	Twist-on Jack	K	2.40	2.16	1.92
510-9031	27-9031	58	Twist-on Jack	K	3.20	2.88	2.56
510-9032	27-9032	6	Twist-on Jack	K	3.20	2.88	2.56
510-9033	27-9033	59, 62 Teflon	Twist-on Jack	K	3.20	2.88	2.56
510-9034	27-9034	Belden 8281/Alpha 9207	Twist-on Jack	K	3.20	2.88	2.56
—	—	—	—	—	—	—	—

NOTE: These connectors may meet or exceed MIL Standards but are not listed on the "QPL" and are intended for commercial use only. * New Product.

BNC Chassis Mounts

* New Product

Stock No.	Mfr.'s Type	For RG/U Cable	Description	Fig.	EACH 1-24	25-99	100-499
510-8450	27-8450	—	UG-290/U Panel Jack	A1	2.00	1.80	1.60
510-8460	27-8460	—	UG-1094/U 3/8" Diameter	B1	1.20	1.08	0.96
510-8461	27-8461	—	3/8" Diameter Isolated	C1	2.90	2.61	2.32
510-8470	27-8470	—	UG-492 1/2" Diameter Dual	D1	4.00	3.60	3.20
510-8471	27-8471	—	UG-492 Isolated 5/8" Dual*	E1	4.60	4.14	3.68
510-8475	27-8475	58	5/8" Twist-on Chassis Mount	F1	4.00	3.60	3.20
510-8476	27-8476	59, 62	5/8" Twist-on Chassis Mount	F1	4.00	3.60	3.20
510-8477	27-8477	59, 62 Teflon	5/8" Twist-on Chassis Mount	F1	4.00	3.60	3.20



BNC Adapters

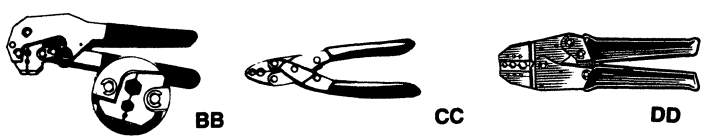
* New Product

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-499
510-7365	25-7365	BNC Female to UHF Female*	4.00	3.60	3.20
510-7420	25-7420	UG-255 BNC Male to UHF Female	2.70	2.43	2.16
510-7430	25-7430	UG-914 BNC Female to Female Splice	2.00	1.80	1.60
510-7500	25-7500	BNC Male to F Female	1.80	1.62	1.44
510-7510	25-7510	BNC Male to RCA Female	1.80	1.62	1.44
510-8100	27-8100	BNC Female to F Male	2.20	1.98	1.76
510-8110	27-8110	BNC Female to RCA Male	2.20	1.98	1.76
510-8120	27-8120	BNC Female to UHF Male	2.60	2.34	2.08
510-8130	27-8130	UG-491 BNC Male to BNC Male	2.90	2.61	2.32
510-8140	27-8140	UG-274 BNC "T" 2 Female, 1 Male	4.40	3.96	3.52
510-8141	27-8141	BNC "T" 3 Female	4.40	3.96	3.52

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-499
510-8142	27-8142	BNC "T" 3 Male	7.00	6.30	5.60
510-8150	27-8150	UG-306 BNC Right Angle Female to Male	4.40	3.96	3.52
510-8250	27-8250	BNC Female to TNC Male*	3.50	3.15	2.80
510-9211	27-9211	BNC Male Dust Cap*	4.50	4.05	3.60
510-3830	29-3830	BNC Male to SMA Male*	9.90	8.91	7.92
510-3835	29-3835	BNC Female to SMA Female*	9.90	8.91	7.92
510-3850	29-3850	BNC Male to SMA Female*	9.90	8.91	7.92
510-3855	29-3855	BNC Female to SMA Male*	9.90	8.91	7.92
510-4150	29-4150	BNC Female to Mini UHF Male*	4.50	4.05	3.60
510-4155	29-4155	BNC Male to Mini UHF Female*	4.50	4.05	3.60
—	—	—	—	—	—

Crimping Tools

* New Product

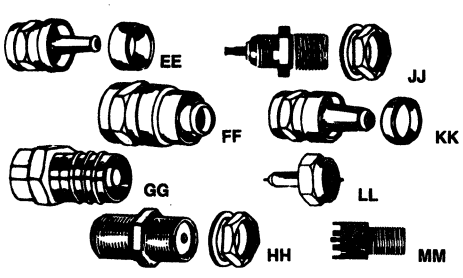


Stock No.	Mfr.'s Type	Description	Fig.	EACH
510-7710	24-7710	For RG-6, RG-59	BB	25.90
510-7711	24-7711P	For RG-8, RG-11, RG-213*	BB	39.90
510-7700	24-7700	For RG-6, RG-59	CC	6.50
510-8786	24-8786P	RG-6, RG-58	DD	39.90
510-8789	24-8789P	RG-58, RG-59, RG-62	DD	39.90
510-8856	24-8856P	RG-6, RG-8, 59, 62*	DD	39.90
510-8857	24-8857P	RG-58, 58A, 174, 179, 185, 188, 316*	DD	39.90
510-8858	24-8858P	RG-58, 58A, 59 Teflon, 62 Teflon*	DD	39.90

"F" Series Connectors

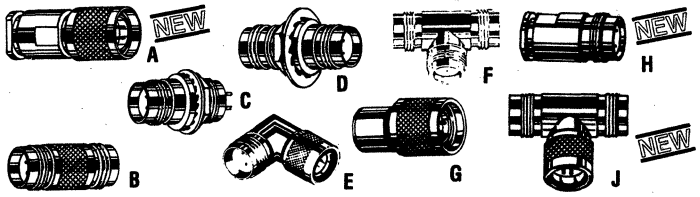
* New Product

Stock No.	Mfr.'s Type	Description	Fig.	EACH 1-24	25-99	100-499	500-Up
510-7010	25-7010 (F-59)	For RG-59 Separate 1/4" Ring (Incl.)	EE	0.18	0.17	0.16	0.14
510-7050	25-7050 (F-59A)	For RG-59 Attached 1/8" Ring	FF	0.19	0.18	0.17	0.15
510-7030	25-7030 (F-59 ALM)	For RG-59 Up to 70% Braid	GG	0.25	0.24	0.22	0.20
510-7100	25-7100 (F-59 T)	1/2" Watt 5% Terminator*	LL	0.34	0.32	0.30	0.27
510-7210	25-7210 (F-81NW)	3/4" Incline Splice	HH	0.34	0.32	0.30	0.27
510-7650	25-7650 (F-61PC)	PC Board Adapter*	MM	0.50	0.47	0.44	0.40
510-7660	25-7660 (F-61AD)	Chassis Mount W/Nut/Washer	JJ	0.44	0.41	0.38	0.34
510-7150	25-7150 (F-56)	For RG-6 Separate 1/4" Ring (Incl.)	KK	0.22	0.21	0.20	0.18
510-7160	25-7160 (F-56A)	For RG-6 Attached 1/4" Ring (Incl.)	FF	0.24	0.23	0.21	0.19
510-7032	25-7032 (F-56 ALM)	For RG-6 Up to 70% Braid	GG	0.28	0.27	0.25	0.23



NOTE: These connectors meet or exceed MIL spec, but are for commercial use only.

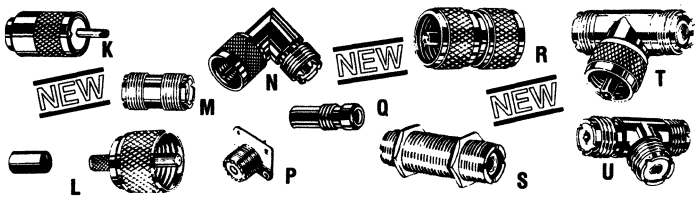
Twin-ax Series



Gold pins on male connectors and gold contact points on female connectors.

Stock No.	Mfr.'s Type	Description	Fig.	EACH 1-24	25-99	100-499
510-9080	27-9080	Male connector for standard cable	A	5.90	5.31	4.72
510-9081	27-9081	Female inline splice	B	5.90	5.31	4.72
510-9082	27-9082	3/4" dia. chassis mount receptacle*	C	8.50	7.65	6.80
510-9083	27-9083	3/4" dia. female feed thru adapter*	D	8.00	7.20	6.40
510-9084	27-9084	Female to male rt. angle adapter	E	8.00	7.20	6.40
510-9085	27-9085	"T" adapter—all female	F	12.00	10.80	9.60
510-9086	27-9086	Terminator—100 ohm	G	12.00	10.80	9.60
510-9087	27-9087	Male connector for teflon cable	A	7.50	6.75	6.00
510-9098	27-9098	Female connector for standard cable	H	7.50	6.75	6.00
510-9099	27-9099	"T" adapter—2 female, 1 male	J	15.00	13.50	12.00

UHF Series—New



Stock No.	Mfr.'s Type	MIL Type	Fig.	Description	EACH 1-24	25-99	100-499
510-7300	25-7300	PL-259	K	For RG/U 8, 11, 213, 214	1.50	1.35	1.20
510-7302	25-7302	Hi-freq. PL-259	K	Teflon insulation for RG/U 8, 11, 213, 214	3.70	3.33	2.96
510-7305	25-7305	Deluxe PL-259	K	Hi-temp insulation for RG/U 8, 11, 213, 214	1.80	1.62	1.44
510-7306	25-7306	—	L	Crimp-on for RG/U 8	3.20	2.88	2.56
510-7307	25-7307	—	L	Crimp-on for RG/U 58	2.00	1.80	1.60
510-7308	25-7308	—	L	Crimp-on for RG/U 59	2.00	1.80	1.60
510-7310	25-7310	UG-175	Q	Reducer for RG58 with PL-259	.36	.33	.29
510-7320	25-7320	UG-176	Q	Reducer for RG59 with PL-259	.36	.33	.29
510-7330	25-7330	PL-258	M	Female-female inline splice	1.50	1.35	1.20
510-7340	25-7340	M-359	N	Right angle female to male	3.70	3.33	2.96
510-7350	25-7350	SO-239	P	Female chassis mount	1.10	.99	.88
510-7351	25-7351	UG-3631U	S	Double female feed-thru	4.80	4.32	3.84
510-7352	25-7352	—	R	Double male	3.20	2.88	2.56
510-7353	25-7353	M-358	T	"T" adapter 2 female, 1 male	5.20	4.68	4.16
510-7354	25-7354	—	U	"T" adapter 3 female	5.20	4.68	4.16

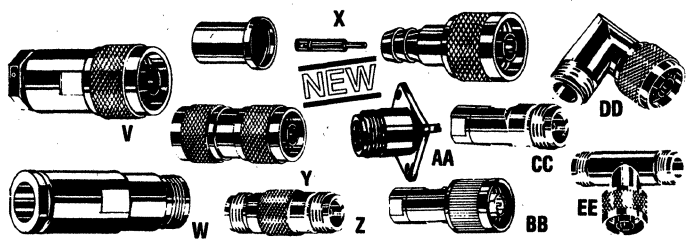
UHF Series Adapters—New

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-499
510-7361	25-7361	UHF female to F female	3.70	3.33	2.96
510-8200	27-8200	UHF female to F male	2.50	2.25	2.00
510-8210	27-8210	UHF female to RCA male	2.50	2.25	2.00
510-4140	29-4140	UHF female to mini UHF male	5.00	4.50	4.00
510-3845	29-3845	UHF male to SMA female	11.00	9.90	8.80
510-7364	25-7364	UHF male to F male	4.40	3.96	3.52
510-7520	25-7520	UHF male to RCA female	2.00	1.80	1.60
510-7550	25-7550	UHF male to F female	2.40	2.16	1.92
510-4145	29-4145	UHF male to mini UHF female	5.00	4.50	4.00
510-3825	29-3825	UHF male to SMA male	11.00	9.90	8.80

SMA Connectors—New

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-24	25-99	100-499
510-3002	29-3000	RR	Standard male for RG/U 58A, 141	6.50	5.85	5.20
510-3001	29-3001	RR	Standard male for RG/U 59, 62, 210	6.50	5.85	5.20
510-3003	29-3003	RR	Standard male for RG/U 174, 188, 316	6.50	5.85	5.20
510-3102	29-3100	SS	Crimp male for RG/U 58A, 141	6.50	5.85	5.20
510-3101	29-3101	SS	Crimp male for RG/U 59, 62, 210	6.50	5.85	5.20
510-3103	29-3103	SS	Crimp male for RG/U 174, 188, 316	6.50	5.85	5.20
510-3500	29-3500	TT	Crimp female for RG/U 58A, 141	6.50	5.85	5.20
510-3501	29-3501	TT	Crimp female for RG/U 59, 62, 210	6.50	5.85	5.20
510-3503	29-3503	TT	Crimp female for RG/U 174, 188, 316	6.50	5.85	5.20
510-3800	29-3800	UU	Double male adapter	6.50	5.85	5.20
510-3805	29-3805	VV	Double female adapter	6.50	5.85	5.20
510-3810	29-3810	WW	"T" adapter—2 female, 1 male	11.00	9.90	8.80
510-3815	29-3815	XX	Dual chassis mount	11.00	9.90	8.80

N Series (Ethernet) Connectors—New

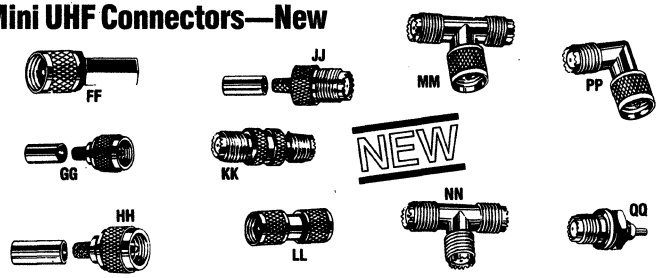


Stock No.	Mfr.'s Type	MIL Type	Fig.	Description	EACH 1-24	25-99	100-499
510-8000	26-8000	UG-21B/U	V	Male for RG/U 8, 11, 213, 214	4.90	4.41	3.92
510-8001	26-8001	—	V	Male for ethernet teflon	5.20	4.68	4.16
510-8002	26-8002	UG-23B/U	W	Female for RG/U 8, 11, 213, 214	5.20	4.68	4.16
510-8005	26-8005	—	X	Male crimp for RG/U 8, 11, 213	2.50	2.25	2.00
510-8009	26-8009	UG-57B/U	Y	Inline splice—plug to plug	5.20	4.68	4.16
510-8010	26-8010	UG-29B/U	Z	Inline splice—jack to jack	4.90	4.41	3.92
510-8011	26-8011	UG-58B/U	AA	Female chassis mount	2.00	1.80	1.60
510-8023	26-8023	—	BB	Male N terminator—50 ohms	7.00	6.30	5.60
510-8024	26-8024	—	CC	Female N terminator—50 ohms	7.00	6.30	5.60
510-8012	26-8012	UG-27/U	DD	Right angle female to male	5.20	4.68	4.16
510-8013	26-8013	UG-107/U	EE	"T" adapter 2 female 1 male	7.40	6.66	5.92

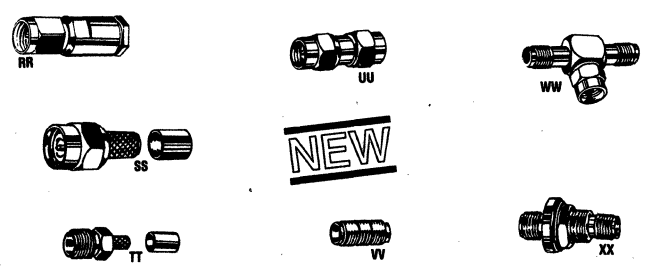
N Series Adapters—New

Stock No.	Mfr.'s Type	MIL Type	Description	EACH 1-24	25-99	100-499
510-8014	26-8014	UG-83/U	N female to UHF male	7.00	6.30	5.60
510-8018	26-8018	UG-606/U	N female to BNC female	7.00	6.30	5.60
510-8017	26-8017	UG-349/U	N female to BNC male	7.00	6.30	5.60
510-8015	26-8015	UG-146/U	N male to UHF female	7.00	6.30	5.60
510-8016	26-8016	UG-201/U	N male to BNC female	7.00	6.30	5.60
510-3840	29-3840	—	N male to SMA female	11.00	9.90	8.80
510-8020	26-8020	—	N male to F female	6.50	5.85	5.20
510-8022	26-8022	—	N right angle double male	6.50	5.85	5.20
510-3820	29-3820	—	N male to SMA male	11.00	9.90	8.80
510-8019	26-8019	—	Crimp center pin and twist-on male	5.50	4.95	4.40

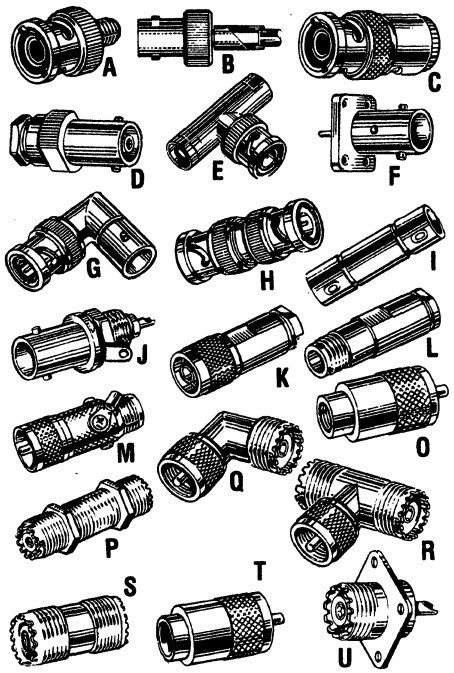
Mini UHF Connectors—New



Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-24	25-99	100-499
510-4000	29-4000	FF	Male twist-on 1 piece construction	2.80	2.52	2.24
510-4010	29-4010	GG	Male—2 piece crimp on for RG58/U	2.80	2.52	2.24
510-4020	29-4020	JJ	Male—3 piece crimp on for RG58/U	2.80	2.52	2.24
510-4030	29-4030	JJ	Female—3 piece crimp on for RG58/U	2.80	2.52	2.24
510-4110	29-4110	KK	Double female adapter	2.90	2.61	2.32
510-4115	29-4115	LL	Double male adapter	4.00	3.60	3.20
510-4120	29-4120	MM	"T" adapter 2 female 1 male	4.40	3.96	3.52
510-4125	29-4125	NN	"T" adapter 3 female	4.40	3.96	3.52
510-4130	29-4130	PP	Right angle adapter female to male	4.40	3.96	3.52
510-4135	29-4135	QQ	Female bulkhead chassis mount	2.80	2.52	2.24



"Crimp" BNC Connectors



Identical to standard solder-type BNC's up to 500 MHz. Connectors may be used with other than 50-ohm cable for non-impedance match. Rated 500 Volts maximum. Impedance, 50 ohms, VSWR, 1.25:1 maximum (Straight Plug and Jack). Cable retention strength equal to cable braid. Center contact is soldered; braid may be soldered or crimped. Delrin dielectric. Connector is brass, center pin is silver plated; other parts nickel-plated. **Note:** These connectors are made to commercial standards — not for MIL use.

Stock No.	Mfr.'s Type	Fig.	Similar To UG Type	Description	Use With RG Type Cable	Length In.	EACH 1-99	100-499	500-999	1000-2499
283-7131	BNC-17-131	A	88E/U	Plug	58, 58A, 58C, 141	31/32	1.26	1.12	1.04	0.92
283-7133	BNC-17-133	B	89C/U	Cable Jack	58, 58A, 58C, 59A/B, 62, 141	15/8	1.95	1.75	1.58	1.42

BNC Bayonet-Coupled Connectors

Rated 500 Volts peak; 500 Volts (RMS) dielectric.

283-7101	BNC-17-101	C	88/U	Plug	55, 58	31/32	1.19	1.06	0.97	0.91
283-7110	BNC-17-110	D	89/U	Jack	55, 58	11/8	1.53	1.44	1.35	1.16
283-7107	BNC-17-107	E	274/U	"T" Adapter	—	19/32	3.15	2.78	2.56	2.42
283-7102	BNC-17-102	F	290/U	Panel Receptacle	—	11/32	1.60	1.38	1.26	1.18
283-7109	BNC-17-109	G	306/U	Angle Adapter	—	1	3.15	2.78	2.56	2.42
283-7106	BNC-17-106	H	491A/U	Adapter	—	15/16	2.10	1.94	1.71	1.54
283-7105	BNC-17-105	I	914/U	Adapter	—	111/32	1.38	1.25	1.09	1.01
283-7104	BNC-17-104	J	1094/U	Bkhd. Adapter	—	11/16	1.08	0.96	0.86	0.77

Type N Coaxial Connectors

Medium size, threaded coupling units may be used in systems up to microwave frequencies. SWR is consistently low. Rated 500 Volts peak. Impedance, 50 ohms. Plated to take constant handling. Connector installation is easy, especially in tight spots.

283-8101	N18-101	K	21B/U	Plug	8, 9, 10	13/4	2.15	1.77	1.63	1.47
283-8102	N18-102	L	23B/U	Jack	8, 9, 10	115/16	2.29	2.11	1.96	1.82

UHF Coaxial Connectors

Low in cost, general-purpose connectors. For applications up to 300 MHz, and where constant impedance match is not necessarily required. Peak Voltage rating, 500 Volts.

283-6178	AC-16-178	M	—	Lightening Arrester	—	21/16	2.78	2.42	2.15	1.84
283-6176	AC-16-176	O	230/U	Plug	55, 59, 62, 71	17/16	1.12	1.00	0.86	0.73
283-6209	AC-16-209	P	363/U	Straight Adapter	—	2	2.00	1.85	1.70	—
283-6187	AC-16-187	Q	646/U	Angle Adapter	—	15/16	2.05	1.69	1.40	1.30
283-6189	AC-16-189	R	M-358	"T" Adapter	—	15/8	2.27	2.08	1.94	1.84
283-6172	AC-16-172	S	PL-258	Straight Adapter	—	11/8	0.92	0.84	0.76	—
283-6170	AC-16-170	T	PL-259	Plug	8, 13, 63, 65	17/65	1.15	0.98	0.89	0.77
283-6190	AC-16-190	U	SO-239	Panel Receptacle	—	11/16	0.73	0.59	0.51	0.45

Banana Plugs and Jacks

All are machined of top-quality materials and carefully inspected. Plugs have sufficient spring tension to assure good holding power and low contact resistance. **Note:** These connectors are made to commercial standards — not for MIL use.

Stock No.	Mfr.'s Type	Fig.	Color	EACH 1-99	100-999	1000-2499	2500-4999
283-0411	FP-041A	A	Red	0.32	0.26	0.21	0.19
283-0412	FP-041B	A	Black	0.32	0.26	0.21	0.19
283-0413	FP-041C	A	Yellow	0.32	0.26	0.21	0.19
283-0414	FP-041D	A	Green	0.32	0.26	0.24	0.21
283-0415	FP-041E	A	Blue	0.32	0.26	0.21	0.19
283-5561	JR-556R	B	Red	0.58	0.53	0.47	0.41
283-5562	JR-556B	B	Black	0.58	0.53	0.47	0.41
283-0423	FP-042C	B	Yellow	0.27	0.23	0.19	0.17
283-0424	FP-042D	B	Green	0.27	0.23	0.19	0.17
283-0425	FP-042E	B	Blue	0.27	0.23	0.19	0.17
283-1181	FJ-118A	D	Red	0.42	0.38	0.33	0.26
283-1182	FJ-118B	D	Black	0.42	0.38	0.33	0.26
283-3511	ST-351A	C	Red	0.28	0.25	0.22	0.19
283-3512	ST-351B	C	Black	0.28	0.25	0.22	0.19
283-3513	ST-351C	C	Yellow	0.28	0.25	0.22	0.19
283-3514	ST-351D	C	Green	0.28	0.25	0.22	0.19

Grabbers

For making rapid and reliable tests on many types of equipment. Molded from rugged thermoplastic for strength and longevity.

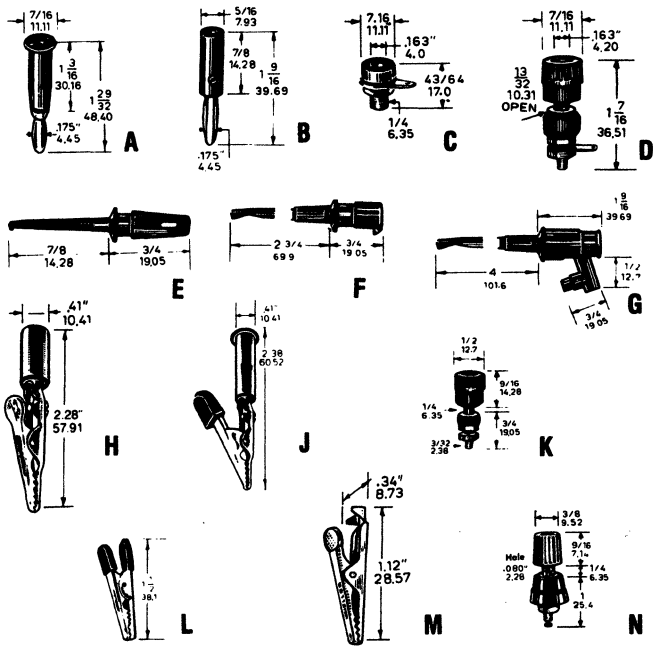
Stock No.	Mfr.'s Type	Fig.	Color	EACH 1-99	100-999	1000-2499	2500-4999
244-8162	R8-16DB	E	Black	0.59	0.42	0.34	0.26
244-8161	R8-16DR	E	Red	0.59	0.42	0.34	0.26
244-1621	R8-16BR	F	Red	1.07	0.94	0.79	0.63
244-1622	R8-16BB	F	Black	1.07	0.94	0.79	0.63
244-1631	R8-16CR	G	Red	1.87	1.57	1.31	1.14
244-1632	R8-16CB	G	Black	1.87	1.57	1.31	1.14

Binding Posts

Stock No.	Mfr.'s Type	Fig.	Color	EACH 1-99	100-999	1000-2499	2500-4999
283-1231	FJ-123A	K	Red	0.42	0.38	0.33	0.26
283-1232	FJ-123B	K	Black	0.42	0.38	0.33	0.26
244-1141	R1-14A	N	Red	1.19	1.00	0.86	0.76
244-1142	R1-14B	N	Black	1.19	1.00	0.86	0.76

Alligator Clips

Stock No.	Mfr.'s Type	Color	Fig.	Size	EACH 1-99	100-999	1000-2499	2500-4999
244-3741	270-374R	Red	J	11/2"	0.14	0.10	0.09	0.08
244-3742	270-374B	Black	J	11/2"	0.14	0.10	0.09	0.08
244-3471	270-347R	Red	M	23/8"	0.19	0.16	0.15	0.14
244-3472	270-347B	Black	M	23/8"	0.19	0.16	0.15	0.14



Insulated-Barrel Alligator Clips (Fig. H)

Made of cadmium-plated steel. Jaws open 5/16".

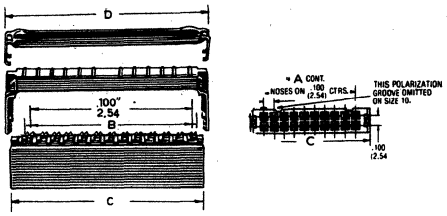
Stock No.	Mfr.'s Type	Barrel Color	Size	EACH 1-99	100-999	1000-2499	2500-4999
244-3751	270-375SR	Red	27/16"	0.20	0.15	0.14	0.13
244-3752	270-375SB	Black	27/16"	0.20	0.15	0.14	0.13

Miniature Clip (Fig. L)

Ideal for testing all types of miniature and subminiature equipment. 3/16" jaw opening. 11/64" O.D. tip when use with insulator.

Stock No.	Mfr.'s Type	Amps	Size	EACH 1-99	100-999	1000-2499	2500-4999
244-3800	270-380S	5	13/32"	0.19	0.17	0.16	0.15

Female Socket Connectors



UL Recognized, CSA Certified. One-half of a mating system consisting of the socket and the mating male header. Rugged, lightweight, glass-reinforced thermoplastic body. 30μ in. gold (in mating area) over 50μ in. nickel contact plating. Dimensionally compatible to MIL-C-83503/7.

Strain Relief

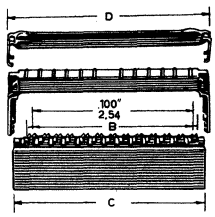
Stock No.	Mfr.'s Type	Number of Contacts	Code	Dimensions (Inches)				EACH		
				A	B	C	D	1-9	10-49	50-99
943-4033	FCC-210-10†	10	10-10	0.40	0.515	0.677	0.69	3.97	3.65	3.36
943-4034	FCC-210-14†	14	10-14	0.60	0.715	0.877	0.89	5.14	4.63	4.16
943-4035	FCC-210-16†	16	10-16	0.70	0.815	0.977	0.99	5.66	5.09	4.59
943-1485	FCC-210-20†	20	10-20	0.90	1.015	1.177	1.19	6.40	5.76	5.18
943-1490	FCC-210-26†	26	10-26	1.20	1.315	1.477	1.49	8.12	7.30	6.58
943-1495	FCC-210-34†	34	10-34	1.60	1.715	1.877	1.89	10.06	9.05	8.15
943-1500	FCC-210-40†	40	10-40	1.90	2.015	2.177	2.19	11.26	10.13	9.12
943-1505	FCC-210-50†	50	10-50	2.40	2.515	2.677	2.69	13.78	12.40	11.16
943-4036	FCC-210-60†	60	10-60	2.90	3.015	3.177	3.19	17.08	15.37	13.84

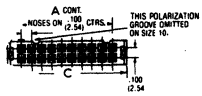
† Also available in QPL version by special order. Mates with Series 301, 391.

Non-Strain — Low Profile

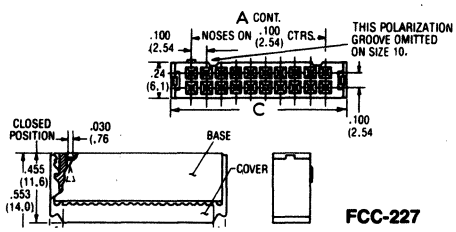
Stock No.	Mfr.'s Type	Number of Contacts	Code	Dimensions (Inches)				EACH		
				A	B	C	D	1-9	10-49	50-99
943-1510	FCC-220-10	10	20-10	0.40	0.515	0.677	0.69	4.06	3.65	3.29
943-4037	FCC-220-14	14	20-14	0.60	0.715	0.877	0.89	5.02	4.52	4.07
943-4038	FCC-220-16	16	20-16	0.70	0.815	0.977	0.99	5.48	4.93	4.44
943-1515	FCC-220-20	20	20-20	0.90	1.015	1.177	1.19	6.18	5.56	5.00
943-1520	FCC-220-26	26	20-26	1.20	1.315	1.477	1.49	7.54	6.79	6.11
943-1525	FCC-220-34	34	20-34	1.60	1.715	1.877	1.89	9.38	8.44	7.60
943-1530	FCC-220-40	40	20-40	1.90	2.015	2.177	2.19	10.68	9.61	8.65
943-4039	FCC-220-50	50	20-50	2.40	2.515	2.677	2.69	13.08	11.77	10.60
943-4040	FCC-220-60	60	20-60	2.90	3.015	3.177	3.19	15.72	14.15	12.73

Mates with Series 301, 391.





Center Polarized Female Socket Connectors



FCC-227

30μ in. gold (in mating area) over 50μ in. nickel base. Rugged, lightweight, glass-reinforced thermoplastic body and cover. Contact the closest sales office for larger quantity pricing.

Center Polarized With Strain Relief

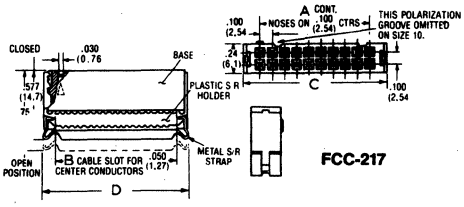
Stock No.	Mfr.'s Type	Number of Contacts	Code	Dimensions (Inches)				EACH	
				A	B	C	D	1-99	100-499
943-4005	FCC-217-10	10	17-10	0.40	0.515	0.677	0.69	3.65	3.36
943-4006	FCC-217-14	14	17-14	0.60	0.715	0.877	0.89	4.84	4.45
943-4007	FCC-217-16	16	17-16	0.70	0.815	0.977	0.99	5.10	4.69
943-4008	FCC-217-20	20	17-20	0.90	1.015	1.177	1.19	5.83	5.37
943-4009	FCC-217-26	26	17-26	1.20	1.315	1.477	1.49	7.40	6.81
943-4010	FCC-217-34	34	17-34	1.60	1.715	1.877	1.89	10.58	9.73
943-4011	FCC-217-40	40	17-40	1.90	2.015	2.177	2.19	12.32	11.33
943-4012	FCC-217-50	50	17-50	2.40	2.515	2.677	2.69	15.28	13.75
943-4013	FCC-217-60	60	17-60	2.90	3.015	3.177	3.19	18.64	16.78

Mates with Series 301, 351, 361, 391.

Center Polarized — Non-Strain

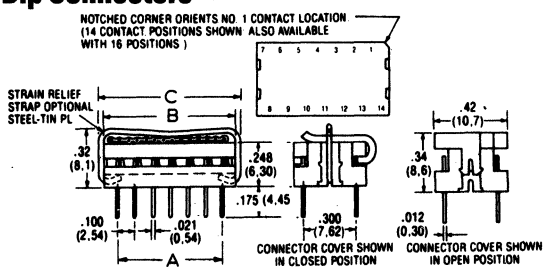
Stock No.	Mfr.'s Type	Number of Contacts	Code	Dimensions (Inches)				EACH	
				A	B	C	D	1-99	100-499
943-4014	FCC-227-10	10	27-10	0.40	0.515	0.677	0.69	3.70	3.33
943-4015	FCC-227-14	14	27-14	0.60	0.715	0.877	0.89	3.80	3.42
943-4016	FCC-227-16	16	27-16	0.70	0.815	0.977	0.99	5.48	4.93
943-4017	FCC-227-20	20	27-20	0.90	1.015	1.177	1.19	6.18	5.56
943-4018	FCC-227-26	26	27-26	1.20	1.315	1.477	1.49	7.54	6.79
943-4019	FCC-227-34	34	27-34	1.60	1.715	1.877	1.89	9.38	8.44
943-4020	FCC-227-40	40	27-40	1.90	2.015	2.177	2.19	10.68	9.61
943-4021	FCC-227-50	50	27-50	2.40	2.515	2.677	2.69	13.08	11.77
943-4022	FCC-227-60	60	27-60	2.90	3.015	3.177	3.19	15.72	14.15

Mates with Series 301, 391.



FCC-217

IDC Dip Connectors



These sturdy but lightweight connectors fit all standard DIP sockets and are compatible to MIL-C-83503. UL and CSA on 130 Series only. FCC-130-10μ in. gold (in mating area) over 50μ in. nickel. FCC-131-100μ in. tin lead plating over phosphor bronze. 131 Series tin-plate for permanent soldering to PC Boards.

Series 130

Stock No.	Mfr.'s Type	Number of Contacts	Code	Dimensions (Inches)			EACH	
				A	B	C	1-99	100-499
943-1535	FCC-130-14	14	30-14	0.60	0.754	0.81	2.97	2.73
943-1540	FCC-130-16	16	30-16	0.70	0.854	0.91	3.18	2.93
943-1556	FCC-130-24	24	30-24	1.10	1.264	1.32	4.92	4.53
943-4000	FCC-130-40	40	30-40	1.90	2.067	2.12	7.94	7.31

Series 131

Stock No.	Mfr.'s Type	Number of Contacts	Code	Dimensions (Inches)			EACH	
				A	B	C	1-99	100-499
943-4001	FCC-131-14	14	31-14	0.60	0.754	0.81	1.74	1.32
943-4002	FCC-131-16	16	31-16	0.70	0.854	0.91	2.06	1.57
943-4003	FCC-131-24	24	31-24	1.10	1.264	1.32	3.80	2.89
943-4004	FCC-131-40	40	31-40	1.90	2.067	2.12	5.02	3.82

Strain Relief Clips

Stock No.	Mfr.'s Type	For	EACH	
			1-9	10-Up
943-1545	FCC-SR-14	14 Pin	0.35	0.32
943-1550	FCC-SR-16	16 Pin	0.35	0.32
943-1555	FCC-SR-24	24 Pin	0.47	0.43
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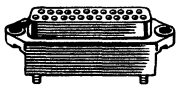
For Series 130, 131.

Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

182-183 Series All Plastic D-Subminiature

D-Subminiature
Female Connector



Male Pin

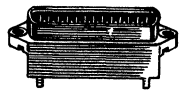
Stock No.	Mfr.'s Type	Number of Contacts	Code	EACH	
				1-99	100-499
943-1455	FCC-182-9	9	80-9	6.69	6.09
943-1458	FCC-182-15	15	80-15	9.56	8.80
943-1460	FCC-182-25	25	80-25	12.36	11.37
943-1465	FCC-182-37	37	80-37	19.95	18.35

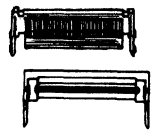
Female Socket

Stock No.	Mfr.'s Type	Number of Contacts	Code	EACH	
				1-99	100-499
943-1470	FCC-183-9	9	81-9	8.22	7.56
943-1472	FCC-183-15	15	81-15	12.06	11.10
943-1475	FCC-183-25	25	81-25	15.20	13.98
943-1480	FCC-183-37	37	81-37	23.98	22.06

Metal Shell D-Subminiature Connectors

D-Subminiature
Male Connector





Male Pin

Stock No.	Mfr.'s Type	Number of Contacts	Code	EACH	
				1-99	100-499
943-1350	FCC-282-9	9	82-9	7.32	6.73
943-1355	FCC-282-15	15	82-15	10.52	9.68
943-1360	FCC-282-25	25	82-25	13.42	12.35
943-1365	FCC-282-37	37	82-37	21.94	20.19

Female Socket

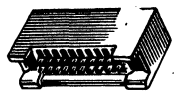
Stock No.	Mfr.'s Type	Number of Contacts	Code	EACH	
				1-99	100-499
943-1370	FCC-283-9	9	83-9	8.24	7.58
943-1375	FCC-283-15	15	83-15	12.06	11.10
943-1380	FCC-283-25	25	83-25	15.20	13.98
943-1385	FCC-283-37	37	83-37	23.98	22.06

6

Card Edge Connectors

These connect to the edge of a PC board .035 to .075" thick with contact pads on .100" centers. The cantilevered contacts are spring tensioned. Each contact is bifurcated to ensure no loss of contact if vibration or connector movement occurs.

Card Edge
Without Ears
FCC-170



170 Series*

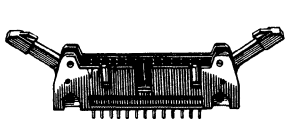
Stock No.	Mfr.'s Type	Number of Contacts	Code	EACH	
				1-99	100-499
943-1415	FCC-170-10	10	70-10	5.16	4.75
943-1435	FCC-170-20	20	70-20	8.92	8.21
943-1440	FCC-170-26	26	70-26	10.02	9.02
943-1445	FCC-170-34	34	70-34	12.48	11.23
943-1450	FCC-170-40	40	70-40	14.46	13.01
943-1433	FCC-170-50	50	70-50	15.78	14.20

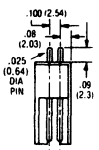
171 Series**

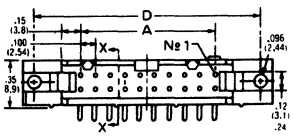
Stock No.	Mfr.'s Type	Number of Contacts	Code	EACH	
				1-99	100-499
943-1434	FCC-171-10	10	71-10	4.30	2.69
943-1420	FCC-171-20	20	71-20	7.18	4.49
943-1425	FCC-171-26	26	71-26	8.06	5.04
943-1430	FCC-171-34	34	71-34	9.96	6.23
943-1432	FCC-171-40	40	71-40	11.64	7.28
943-1452	FCC-171-50	50	71-50	12.70	7.94

* Card edge without ears. ** Card edge with mounting flanges.

Four-Wall Male Header Connectors







UL Recognized. Used for permanent mounting to PC boards. Designed with polarization ribs per MIL-C-83503. 30μ in. gold (in mating area) over 50μ in. nickel base. Contact Allied for larger quantity pricing.

Right Angle Headers — Polarized — Strain Relief Latch

Stock No.	Mfr.'s Type	Code	Dimensions (Inches)				EACH	
			A	B	C	D	1-9	10-49
940-2007	FCC-302-14	3-14	0.60	1.06	1.46	1.30	3.34	3.06
940-2008	FCC-302-20	3-20	0.90	1.36	1.76	1.60	3.92	3.60
940-2009	FCC-302-34	3-34	1.60	2.06	2.46	2.30	5.08	4.68
940-2010	FCC-302-40	3-40	1.90	2.36	2.76	2.60	5.67	5.21
940-2011	FCC-302-60	3-60	2.90	3.36	3.76	3.60	7.98	7.35

Right Angle Headers

Stock No.	Mfr.'s Type	Code	Dimensions (Inches)				EACH	
			A	B	C	D	1-9	10-49
940-2012	FCC-305-10	5-10	0.40	0.86	1.26	1.10	2.75	2.53
940-2013	FCC-305-14	5-14	0.60	1.06	1.46	1.30	2.92	2.68
940-2014	FCC-305-16	5-16	0.70	1.16	1.56	1.40	2.99	2.76
940-2015	FCC-305-26	5-26	1.20	1.66	2.06	1.90	3.75	3.45
940-2016	FCC-305-34	5-34	1.60	2.06	2.46	2.30	4.25	3.91
940-2017	FCC-305-40	5-40	1.90	2.36	2.76	2.60	4.58	4.22
940-2018	FCC-305-50	5-50	2.40	2.86	3.26	3.10	5.17	4.75
940-2019	FCC-305-60	5-60	2.90	3.36	3.76	3.60	6.25	5.75

Straight Headers — Polarized — Strain Relief Latch

Stock No.	Mfr.'s Type	Code	Dimensions (Inches)				EACH	
			A	B	C	D	1-9	10-49
940-2020	FCC-392-10	92-10	0.40	0.86	1.26	1.10	2.75	2.53
940-2021	FCC-392-14	92-14	0.60	1.06	1.46	1.30	3.08	2.84
940-2022	FCC-392-34	92-34	1.60	2.06	2.46	2.30	4.83	4.45
940-2023	FCC-392-40	92-40	1.90	2.36	2.76	2.60	6.34	5.83
940-2024	FCC-392-60	92-60	2.90	3.36	3.76	3.60	7.98	7.35
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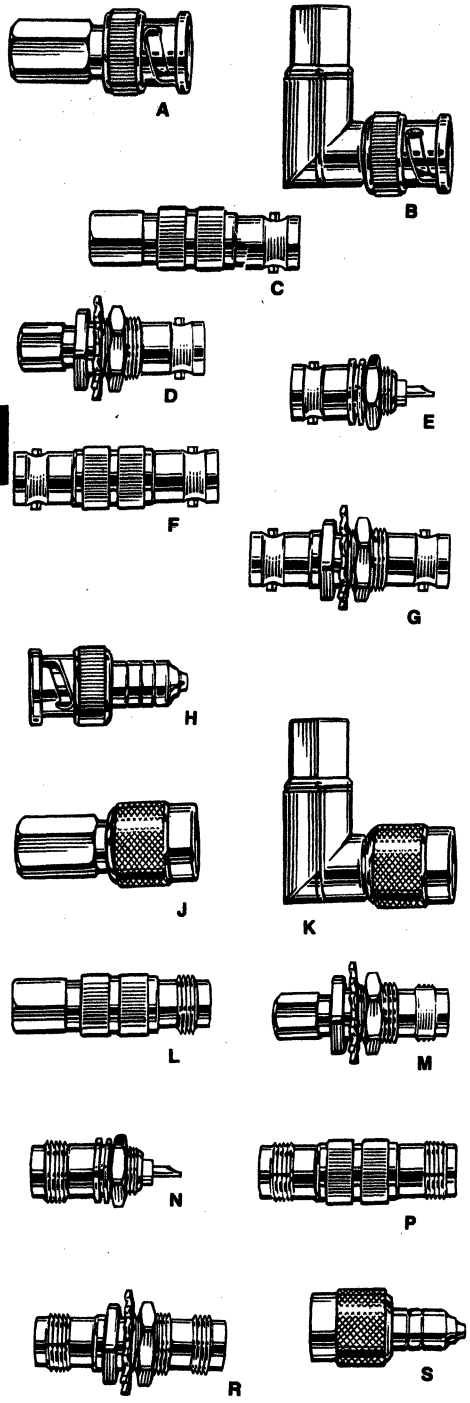
Straight Headers — Polarized — Strain Relief Latch

Stock No.	Mfr.'s Type	Code	Dimensions (Inches)				EACH	
			A	B	C	D	1-9	10-49
940-2025	FCC-395-10	95-10	0.40	0.86	1.26	1.10	2.25	2.07
940-2026	FCC-395-16	95-16	0.70	1.16	1.56	1.40	2.50	2.30
940-2027	FCC-395-20	95-20	0.90	1.36	1.76	1.60	2.83	2.61
940-2028	FCC-395-26	95-26	1.20	1.66	2.06	1.90	3.17	2.91
940-2029	FCC-395-40	95-40	1.90	2.36	2.76	2.60	3.92	3.60
940-2030	FCC-395-50	95-50	2.40	2.86	3.26	3.10	4.67	4.29
940-2031	FCC-395-60	95-60	2.90	3.36	3.76	3.60	5.58	5.14



Coaxial Connectors

Alpha Twist-On Coaxial Cable BNC and TNC Connectors

- ► Reusable, One-Piece Design for Fast and Easy Installation
- ► Captive, Non-Force Fit Center-Contact
- ► High Strength Teflon Insulation
- ► Crimpless Center Contact Design
- ► Self-Centering Conductor Design
- ► No Solder, Heat or Special Assembly Tools Required

Electrical Characteristics

Connector Impedance: 50 Ohms, nominal. **Working Voltage:** 500 V rms at sea level. **Contact Resistance:** Outer contact, 0.2 Milliohms; Center contact, 1.5 Milliohms. **Insulation Resistance:** 5000 Megohms, min. **Dielectric Strength:** 1500 V rms at sea level. **Frequency Range:** TNC, 0-11 GHz; BNC, 0-4 GHz.

Product Description

Pin Contact: High quality, heat-treated beryllium copper (Alloy #25) with gold-over-nickel finish. Exclusive, pre-loaded, crimpless seizing mechanism. **Insulation:** Teflon insulation (M-P-19468) for superior electrical properties. **Outer Body:** Machined brass (QQ-B-626, Alloy 360, 1/2 Hard) with nickel plating. Right-angle connectors are die cast Zamak alloy (QQ-2-363-Comp A) with nickel plating.

BNC—Twist-On Bayonet Connectors

Straight Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Fig.	EACH 1-9	EACH 10-49
943-1001	CMC-1001	RG58	A	4.02	3.70
943-1002	CMC-1002	RG59 & 62	A	4.02	3.70
943-1003	CMC-1003	RG59 & 62 Teflon	A	4.02	3.70
943-1004	CMC-1004	Alpha 9807 Video Cable	A	4.97	4.57

Right Angle Plugs

943-1011	CMC-1011	RG58	B	6.99	6.41
943-1012	CMC-1012	RG59 & 62	B	6.99	6.41
943-1013	CMC-1013	RG59 & 62 Teflon	B	6.99	6.41
943-1014	CMC-1014	Alpha 9807 Video Cable	B	7.43	6.81

Straight Jacks

943-1021	CMC-1021	RG58	C	4.63	4.26
943-1022	CMC-1022	RG59 & 62	C	4.63	4.26
943-1023	CMC-1023	RG59 & 62 Teflon	C	4.63	4.26
943-1024	CMC-1024	Alpha 9807 Video Cable	C	5.42	4.98

Cabled Bulkhead Jacks

943-1031	CMC-1031	RG58	D	6.15	5.66
943-1032	CMC-1032	RG59 & 62	D	6.15	5.66
943-1033	CMC-1033	RG59 & 62 Teflon	D	6.15	5.66
943-1034	CMC-1034	Alpha 9807 Video Cable	D	7.10	6.53

Bulkhead Chassis Receptacles

943-1041	CMC-1041	625—$^{7}/_{16}$D x $1^{1}/_{16}$L	E	2.07	1.90
943-1042	CMC-1042	1094A—$^{3}/_{8}$D x $1^{3}/_{16}$L	E	1.98	1.83
943-1043	CMC-1043	1094—$^{3}/_{8}$D x $1^{1}/_{16}$L	E	1.98	1.83

Adapter

943-1051	CMC-1051	Jack to Jack	F	4.85	4.46

Bulkhead Adapter

943-1052	CMC-1052	Jack to Jack; Chassis Mount	G	7.45	6.85

Terminators

943-1061	CMC-1061	50 Ohm	H	5.98	5.50
943-1062	CMC-1062	75 Ohm	H	5.98	5.50

TNC—Twist-On Bayonet Connectors

Straight Plugs

Stock No.	Mfr.'s Type	For RG/U Cable	Fig.	EACH 1-9	EACH 10-49
943-2001	CMC-2001	RG58	J	5.02	4.61
943-2002	CMC-2002	RG59 & 62	J	5.02	4.61
943-2003	CMC-2003	RG59 & 62 Teflon	J	5.02	4.61
943-2004	CMC-2004	Alpha 9807 Video Cable	J	5.70	5.24

Right Angle Plugs

943-2011	CMC-2011	RG58	K	8.36	7.66
943-2012	CMC-2012	RG59 & 62	K	8.36	7.66
943-2013	CMC-2013	RG59 & 62 Teflon	K	8.36	7.66
943-2014	CMC-2014	Alpha 9807 Video Cable	K	8.99	8.24

Straight Jacks

943-2021	CMC-2021	RG58	L	5.02	4.61
943-2022	CMC-2022	RG59 & 62	L	5.02	4.61
943-2023	CMC-2023	RG59 & 62 Teflon	L	5.02	4.61
943-2024	CMC-2024	Alpha 9807 Video Cable	L	5.70	5.24

Cabled Bulkhead Jacks

943-2031	CMC-2031	RG58	M	7.41	6.49
943-2032	CMC-2032	RG59 & 62	M	7.41	6.79
943-2033	CMC-2033	RG59 & 62 Teflon	M	7.41	6.79
943-2034	CMC-2034	Alpha 9807 Video Cable	M	8.22	7.54

Bulkhead Chassis Receptacles

943-2041	CMC-2041	625—$^{7}/_{16}$D x $1^{1}/_{16}$L	N	2.18	2.00
943-2042	CMC-2042	1094A—$^{3}/_{8}$D x $1^{3}/_{16}$L	N	2.04	1.87
—	—	—	—	—	—

Adapter

943-2051	CMC-2051	Jack to Jack	P	5.35	4.90

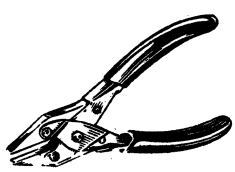
Bulkhead Adapter

943-2052	CMC-2052	Jack to Jack; Chassis Mount	R	8.21	7.52

Terminators

943-2061	CMC-2061	50 Ohm	S	6.08	5.58
943-2062	CMC-2062	75 Ohm	S	6.08	5.58

FCT-30 DIP Hand Tool



Accepts 14- and 16-pin DIP connectors. Ideal for field work or light-duty DIP assembly. Sturdy and durable. Has insulated handle grips. Makes replacement of DIP connectors easy and fast. Economical and easy to use.

943-0002. Model FCT-30. 1-4 .....EACH 52.57
5-up .....EACH 48.17

FCT-81 DIP Kit

Contains all the material required to make DIP jumpers for prototype, rewiring or repair. Contents include 14, 16, and 24-pin DIPS, strain relief clips, cables, and hand tool. Conveniently packaged in a sturdy, clear plastic box. Ideal for field repair work. Kit costs less than items separately.

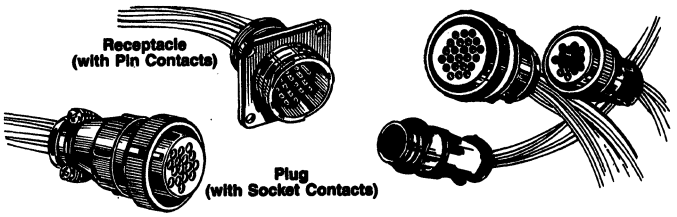
943-0001. Model FCT-81. 1-4 .....EACH 189.95
5-up .....EACH 174.76

FCT-35 Flat Cable Cutter

A handheld cutter enabling the operator to make perfectly square cuts of any style of flat cable. Ensures the success of IDC terminations by providing a clean, square cut every time.

943-0008. Model FCT-35 .....EACH 99.50
5-Up .....EACH 89.55

Standard Sex CPC Connectors



CPC Connectors provide a substantial savings in weight and cost through the use of a plastic shell and a wide variety of pin and socket contacts. The various sizes and densities are supplied unloaded (without contacts). Recognized under the component program of Underwriters Laboratories, Inc. for 250V service (some are recognized for 600V service). UL File No. E28476. CSA Certified File No. LR16455.

Series 1.
Standard density, multimate contacts for normal unsealed operations. **Materials:** 94V-1 rated, heat stabilized, fire resistant, self extinguishing black thermoplastic. (Contacts not included - order as a separate item).

Standard Sex Connectors are plugs with socket contacts, and receptacles with pin contacts.

Standard Sex Plugs (For Socket Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH 1-99	EACH 25-99	EACH 100-Up
512-1100	206060-1	11	4	2.06	1.85	1.64
512-1105	206708-1	13	9	2.08	1.87	1.66
512-1110	206037-1	17	16	2.12	1.91	1.70
512-1120	206837-1	23	24	2.71	2.44	2.17
512-1115	206150-1	23	37	2.39	2.15	1.91

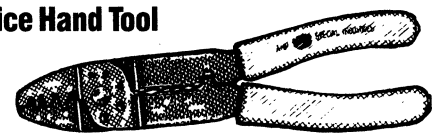
Standard Sex Square Flange Receptacles (For Pin Contacts)

512-1150	206061-1	11	4	1.51	1.36	1.21
512-1155	206705-1	13	9	1.62	1.46	1.30
512-1160	206036-1	17	16	1.68	1.53	1.36
512-1166	206838-1	23	24	2.10	1.89	1.68
512-1165	206151-1	23	37	1.83	1.65	1.47

Standard Sex Free Hanging Receptacles (For Pin Contacts)

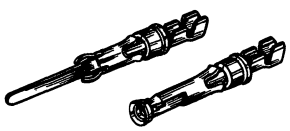
512-1178	206153-1	11	4	1.51	1.36	1.21
512-1180	206705-2	13	9	1.62	1.46	1.30
512-1182	206036-3	17	16	1.68	1.51	1.34
512-1184	206838-2	23	24	2.84	2.56	2.28
512-1186	206151-2	23	37	1.83	1.65	1.47

AMP Service Hand Tool



Crimps most terminals and contacts for 22-10 AWG wires. Features bolt cutter and cushioned handles.
512-9126. 601884-1 ..... **EACH 47.67**

Multi-Mate Pin And Socket Contacts



Phosphor bronze contact body with stainless steel springs. **Wire strip Length:** .156" (3.96 mm). **Pin Diameter:** .062" (1.57 mm).

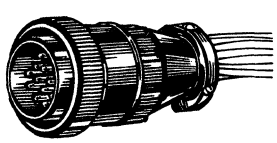
Tin-Plated Brass Body, Stainless Steel Spring

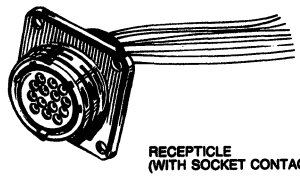
Stock No.	Mfr.'s Type	Style	Wire Size AWG	Wire Insulation Range	PER PKG./100 1-4	PER PKG./100 5-9	PER PKG./100 10-24
512-1200	66107-2	Pin	26-24	.035"-.055"	17.73	15.96	14.19
512-1205	66109-2	Socket	26-24	.035"-.055"	20.86	18.77	16.68
512-1210	66103-2	Pin	24-20	.040"-.080"	17.73	15.96	14.19
512-1215	66105-2	Socket	24-20	.040"-.080"	20.86	18.77	16.68
512-1231	66400-1	Pin	24-20	.080"-.100"	17.73	15.96	14.19
512-1232	66399-1	Socket	24-20	.080"-.100"	20.86	18.77	16.68
512-1233	66099-2	Pin	18-16	.080"-.100"	17.73	15.96	14.19
512-1234	66101-2	Socket	18-16	.080"-.100"	20.86	18.77	16.68
512-1236	66602-1	Pin	18-14	.110"-.150"	17.73	15.96	14.19
512-1237	66601-1	Socket	18-14	.110"-.150"	20.86	18.77	16.68
512-1220	66361-2	Pin	14	.080"-.100"	17.73	15.96	14.19
512-1225	66360-2	Socket	14	.080"-.100"	20.86	18.77	16.68
512-1230	202236-2	Pin	18-16	Solder Type	33.24	29.92	26.60
512-1235	202237-2	Socket	18-16	Solder Type	36.60	32.94	29.26

Gold Flash Over .000050" Nickel On Entire Contact — .000030" Gold In The Electrical Engagement Area

512-1222	66107-4	Pin	26-24	.035"-.055"	26.50	23.85	21.20
512-1223	66109-4	Socket	26-24	.035"-.055"	31.51	28.36	25.21
512-1224	66103-4	Pin	24-20	.040"-.080"	26.50	23.85	21.20
512-1226	66105-4	Socket	24-20	.040"-.080"	31.53	28.38	25.22
512-1227	66602-2	Pin	18-14	.110"-.150"	26.57	23.91	21.26
512-1228	66601-2	Socket	18-14	.110"-.150"	29.70	26.73	23.76
512-1238	66361-4	Pin	14	.080"-.110"	27.32	24.59	21.86
512-1229	66360-4	Socket	14	.080"-.110"	39.43	35.49	31.54

Reverse Sex CPC Connectors


PLUG
(WITH PIN CONTACTS)


RECEPTICLE
(WITH SOCKET CONTACTS)

Reverse Sex Plugs (For Pin Contacts)

Stock No.	Mfr.'s Type	Shell Size	Number of Contacts	EACH 1-99	EACH 25-99	EACH 100-Up
512-1170	206429-1	11	4	1.91	1.72	1.53
512-1172	206044-1	17	14	2.12	1.91	1.69
512-1176	206305-1	23	37	2.39	2.15	1.91

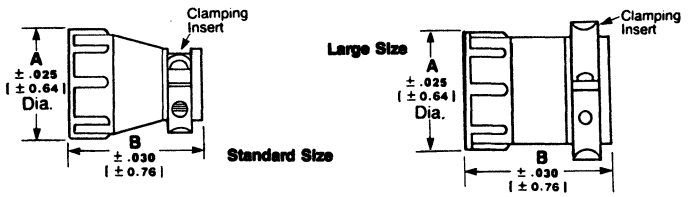
Reverse Sex Square Flanged Receptacles (For Socket Contacts)

512-1171	206430-1	11	4	1.51	1.36	1.21
512-1173	206043-1	17	14	1.68	1.51	1.34
512-1175	206306-1	23	37	1.83	1.65	1.47

Reverse Sex Free Hanging Receptacles (For Socket Contacts)

512-1188	206430-2	11	4	1.51	1.36	1.21
512-1190	206043-3	17	14	1.68	1.51	1.34
512-1192	206306-2	23	37	1.92	1.73	1.54

Cable Clamps

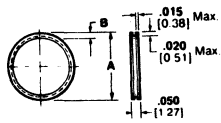


94 V-1 rated, black thermoplastic. Used to prevent transmitting excessive strain on cable or wire to contacts. Can be threaded directly onto plugs or receptacles.

Stock No.	Mfr.'s Type	Shell Size	Dim. A In.	Dim. A (MM)	Dim. B In.	Dim. B (MM)	Cable O.D. Shell In.	Cable O.D. Shell (MM)	EACH 1-99	EACH 100-499	EACH 500-Up
512-1250†	206062-1	11	.825	(20.96)	1.250	(31.75)	.329	(8.33)	2.08	1.87	1.66
512-1255†	206966-1	13	.950	(24.13)	1.400	(36.56)	.453	(11.51)	2.12	2.91	1.70
512-1260†	206070-1	17	1.125	(28.58)	1.400	(36.56)	.453	(11.51)	2.15	1.93	1.71
512-1265†	206138-1	23	1.600	(40.64)	1.555	(39.50)	.703	(17.86)	2.17	1.95	1.73
512-1270‡	206358-1	11	.850	(21.59)	1.450	(36.50)	.453	(11.51)	2.23	2.01	1.79
512-1275‡	207006-1	13	1.131	(28.73)	1.655	(42.04)	.703	(17.86)	2.21	1.99	1.77
512-1280‡	206322-1	17	1.131	(28.73)	1.655	(42.04)	.703	(17.86)	2.32	2.09	1.86
512-1285‡	206512-1	23	1.600	(40.64)	1.655	(42.04)	1.125	(28.58)	2.52	2.27	2.02

Size: † Standard, ‡ Large

Peripheral Seals (For Receptacles Only)



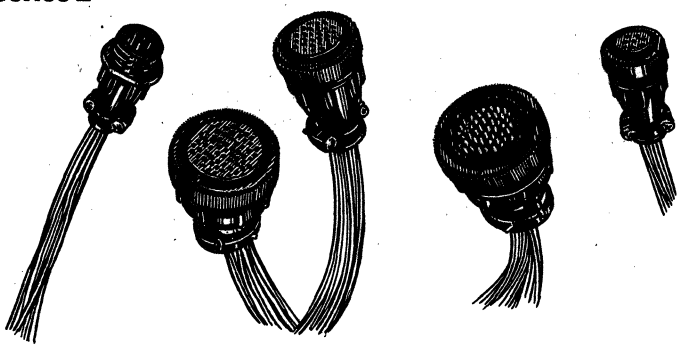
Suggested for sealing connectors to protect from vibration and moisture. White neoprene.

Stock No.	Mfr.'s Type	Shell Size	Dim. A In.	Dim. A (MM)	Dim. B In.	Dim. B (MM)	EACH 1-99	EACH 100-499	EACH 500-Up
512-1290	206403-1	11	.524	(13.31)	.041	(1.04)	.32	.29	.26
512-1292	206403-4	13	.650	(16.51)	.050	(1.27)	.50	.45	.40
512-1294	206403-2	17	.875	(22.23)	.050	(1.27)	.52	.47	.42
512-1296	206403-3	23	1.230	(31.24)	.050	(1.27)	.62	.56	.50

Tools For CPC Connectors

"Cert-Crimp" ratchet hand tool for terminating pins and sockets. Ideal for limited production applications.
90277-1. For 28-20 AWG.
512-9135 ..... **EACH 125.78**
90067-4. For 18-14 AWG.
512-9136 ..... **EACH 378.15**
305183. Contact extraction tool.
512-9140 ..... **EACH 12.50**

Series 2



High density connectors supplied as Class A for normal unsealed applications. These connectors accept Size 20DM (screw machined) and Size 20DF (precision formed) pin and socket contacts with a .040″ (1.02 mm) diameter that are also used in D-Sub Connectors. Contacts can be either crimp or solder cup types and are sold separately. Cable Clamps are the same as for the same size of Series 1. Contacts, crimp tools, and insertion/extraction tools are listed with D-Subs on page 154.

Standard Sex Plugs (For Socket Contacts)

Stock No.	Mfr.'s Type	Shell Size	No. of Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
512-1101	205838-1	11	8	3.72	3.25	2.59
512-1102	206485-1	11	9	3.72	3.25	2.59
512-1103	205839-3	17	28	4.01	3.50	2.82
512-1104	205842-1	23	63	4.79	4.20	3.35

Standard Sex Square Flange Receptacles (For Pin Contacts)

Stock No.	Mfr.'s Type	Shell Size	No. of Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
512-1106	205841-1	11	8	3.15	2.85	2.21
512-1107	206486-1	11	9	3.15	2.85	2.21
512-1108	205840-3	17	28	3.37	3.00	2.36
512-1109	205843-1	23	63	4.14	3.65	2.90

Standard Sex Free Hanging Receptacles (For Pin Contacts)

512-1111	205841-2	11	8	3.15	2.85	2.21
512-1112	206486-2	11	9	3.15	2.85	2.21
512-1113	206152-1	17	28	3.37	3.00	2.36
512-1114	205843-2	23	63	4.79	4.20	3.35

Reverse Sex Plugs (For Pin Contacts)

512-1116	206434-1	11	8	3.72	3.25	2.59
512-1117	206039-1	17	28	4.01	3.50	2.82
512-1118	206437-1	23	57	4.49	3.95	3.14

Reverse Sex Square Flange Receptacles (For Socket Contacts)

512-1121	206433-1	11	8	3.15	2.85	2.21
512-1122	206038-1	17	28	3.37	3.00	2.36
512-1123	206438-1	23	57	3.84	3.35	2.68

Reverse Sex Free Hanging Receptacles (For Socket Contacts)

512-1126	206433-2	11	8	3.15	2.85	2.21
512-1127	206038-2	17	28	3.37	3.00	2.36
512-1128	206438-2	23	57	4.79	4.20	3.35

Keying Plug
Type 206509-1. Keying Plug for Size 20 DM & DF Contacts.
512-1129. 1-99 .....EACH .30 **100-Up**.....EACH .25

Series 3

Power density connectors supplied as class A for normal unsealed applications. The power contacts can carry as much as 35 Amperes of current. Contacts are sold separately. Series 3 uses size 17 and 23 cable clamps.

Standard Sex Plugs (For Socket Contacts)

Stock No.	Mfr.'s Type	Shell Size	No. of Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
512-1130	206037-2	17	3	2.52	2.20	1.78
512-1131	206136-1	23	7	2.73	2.35	1.92

Standard Sex Square Flange Receptacles (For Pin Contacts)

512-1132	206036-2	17	3	2.06	1.85	1.40
512-1133	206137-1	23	7	2.23	1.95	1.58

Standard Sex Free Hanging Receptacles (For Pin Contacts)

512-1134	206207-1	17	3	2.06	1.85	1.40
512-1135	206137-2	23	7	2.23	1.95	1.58

Reverse Sex Plugs (For Pin Contacts)

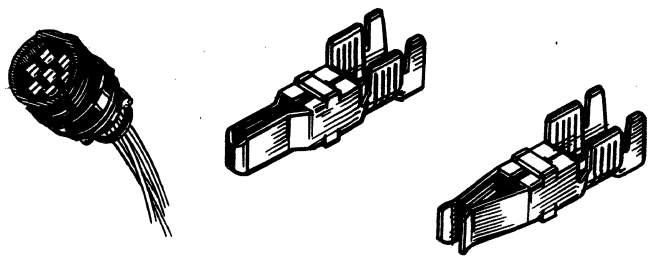
512-1136	206426-1	17	3	2.52	2.20	1.78
512-1137	206226-1	23	7	2.79	2.39	1.96

Reverse Sex Square Flange Receptacles (For Socket Contacts)

512-1138	206425-1	17	3	2.06	1.85	1.40
512-1139	206227-1	23	7	2.23	1.95	1.58

Reverse Sex Free Hanging Receptacles (For Socket Contacts)

512-1140	206425-2	17	3	2.06	1.85	1.40
512-1141	206227-2	23	7	2.63	2.30	1.98

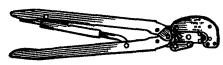


Type XII Contacts for Series 3
Contact Finish: select gold flash over .000030″ nickel on the entire contact with an additional .000030″ gold in the mating area.

Stock No.	Mfr.'s Type	Style	Wire Size AWG	Insulation Dia.-Range	EACH 1-99	EACH 100-999	EACH 1000-4999
512-1142	66261-2	Male	16, 14-12	.135″-.160″	1.26	1.13	.93
512-1143	66740-6	Female	16, 14-12	.135″-.160″	1.44	1.30	1.15
512-1144	66259-2	Male	10, 8	.190″-.220″	1.31	1.17	.96
512-1145	66741-6	Female	10, 8	.190″-.220″	1.76	1.58	1.28

Extraction Tools
Type 91124-1. Economy Extraction Tool.
512-1146.....EACH 15.95
Type 91019-3. Extraction Tool.
512-1147.....EACH 84.95

Certi-Crimp Tools
Type 90382-2. For contacts on 16, 14, 12 AWG wire.
512-1148 .....EACH 558.95
Type 90384-1. For contacts on 10, 8 AWG wire.
512-1149 .....EACH 488.95



Series 4

Combination of standard and power density connectors supplied as class A for normal unsealed applications. Accept size 16 multimate and the power contacts. Combine the signal and coaxial capabilities of Series 1 with the power circuit capabilities of Series 3 connectors. Contacts are sold separately. The tools, contacts, and accessory items used in Series 1 and Series 3 are used in Series 4. No additional items are required.

Standard Sex Plug (For Socket Contacts)

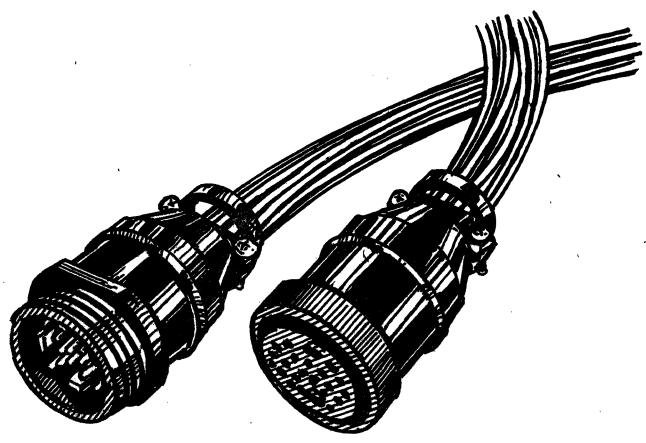
Stock No.	Mfr.'s Type	Shell Size	Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
512-1151	207485-1	23	4 Power, 12 Multimate	2.69	2.35	1.89
512-1152	206612-1	23	2 Power, 20 Multimate	3.21	2.80	2.25

Standard Sex Square Flange Receptacles (For Pin Contacts)

512-1153	207486-1	23	4 Power, 12 Multimate	2.26	1.95	1.60
512-1154	206613-1	23	2 Power, 20 Multimate	2.23	1.92	1.56

Standard Sex Free Hanging Receptacles (For Pin Contacts)

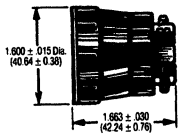
512-1156	207486-2	23	4 Power, 12 Multimate	2.83	2.50	2.00
512-1157	206613-3	23	2 Power, 20 Multimate	2.79	2.45	1.95



Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

CPC Accessories

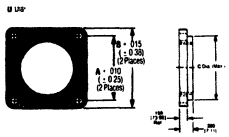
Cable Clamp



Type 207774-1. Self-Centering for size 23.
512-1286. 1-24 ..... **EACH 3.29**
25-99 ..... **EACH 2.96**
100-Up ..... **EACH 2.55**

Panel Mount Flanges (For Plugs Only)

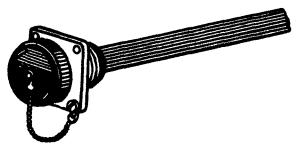
Shell Size	Dimensions—In. (mm)			
	A	B	C	D
11	.844 (21.44)	1.125 (28.58)	.750 (19.05)	.125 (3.18)
13	.969 (24.61)	1.280 (32.51)	.875 (22.22)	.125 (3.18)
17	1.125 (28.58)	1.435 (36.45)	1.110 (28.19)	.150 (3.81)
23	1.438 (36.53)	1.750 (44.45)	1.510 (38.34)	.150 (3.81)



Used when the plug half of the connector is to be panel mounted.

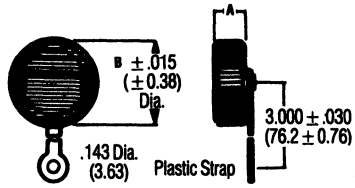
Stock No.	Mfr's. Type	Description	EACH		
			1-24	25-99	100-Up
512-1287	207299-1	For Size 11	1.62	1.46	1.26
512-1288	207299-2	For Size 13	1.45	1.30	1.14
512-1289	207299-3	For Size 17	1.60	1.44	1.28
512-1290	207299-4	For Size 23	1.63	1.47	1.28

Sealing Caps (For Receptacles Only)



Used to protect exposed contacts on unmated receptacles. Black thermoplastic cap with plastic strap or beaded chain.

Shell Size	Dimensions—In. (mm)	
	A	B
11	.360 (9.14)	.927 (23.55)
13	.360 (9.14)	1.055 (26.80)
17	.360 (9.14)	1.295 (32.89)
23	.460 (11.68)	1.728 (43.89)



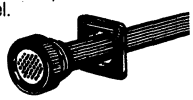
With Plastic Strap

Stock No.	Mfr's. Type	For Series	Size	EACH		
				1-24	25-99	100-Up
512-1240	206903-1	1 & 2	11	1.91	1.72	1.53
512-1241	211870-1	1	13	2.04	1.84	1.64
512-1242	207445-1	1, 2, & 3	17	2.42	2.18	1.94
512-1243	207446-1	1, 3, & 4	23	2.39	2.15	1.91
512-1244	207446-2	2	23	3.13	2.82	2.36
With Beaded Chain						
512-1245	208800-1	1 & 2	11	2.29	2.06	1.91
512-1246	208652-1	1, 2, & 3	17	3.16	2.85	2.66
512-1247	208680-1	1, 3, & 4	23	2.79	2.51	2.37

6

Metal-Shell CPC Connectors

The four series of Metal shell CPC connectors require the same contacts and tools as like series of Circular plastic connectors. As with CPC, contacts are sold separately. Because of the larger size, a different series of cable clamps are offered. **Materials. Insert:** Black thermoplastic. **Shells and Coupling Ring:** Aluminum alloy, zinc-plated. **Retainer Ring:** Stainless steel.



Series 1

See circular plastic connectors for multimate contacts and tools.

Standard Sex Plugs Without Peripheral Seal (For Socket Contacts)

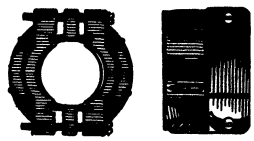
Stock No.	Mfr's. Type	Size	No. of Contacts	EACH		
				1-24	25-99	100-Up
512-1158	208718-1	14	5	16.12	14.41	12.80
512-1159	208714-1	14	7	17.63	15.87	14.17
512-1161	208488-1	22	16	18.97	17.07	15.17
512-1162	208457-1	28	24	27.42	24.68	21.94
512-1163	208470-1	28	37	27.42	24.68	21.94
Standard Sex Square Flange Receptacles (For Pin Contacts)						
512-1164	208719-1	14	5	11.68	10.51	9.34
512-1167	208715-1	14	7	12.77	11.49	10.21
512-1168	208489-1	22	16	17.34	15.61	13.88
512-1169	208459-1	28	24	19.21	17.24	15.27
512-1174	208471-1	28	37	19.21	17.24	15.27
Reverse Sex Plugs Without Peripheral Seal (For Pin Contacts)						
512-1177	208720-1	14	5	16.12	14.41	12.80
512-1179	208716-1	14	7	18.08	16.27	14.46
512-1181	208486-1	22	14	18.97	17.07	15.17
512-1183	208472-1	28	37	27.42	24.68	21.94
Reverse Sex Square Flange Receptacles (For Socket Contacts)						
512-1185	208721-1	14	5	13.10	11.79	10.48
512-1187	208717-1	14	7	13.10	11.79	10.48
512-1189	208487-1	22	14	15.03	13.53	12.03
512-1191	208473-1	28	37	19.20	17.28	15.36

Series 2

These connectors use Amplimate type 20DF and 20DM contacts and tools that are listed with Amplimate D-Sub connectors in this catalog.

Standard Sex Plugs Without Peripheral Seal (For Socket Contacts)

512-1193	208490-1	22	28	42.74	38.92	34.65
512-1195	208476-1	28	63	60.39	54.35	48.31
Reverse Sex Plugs Without Peripheral Seal (For Pin Contacts)						
512-1197	208492-1	22	28	44.23	38.70	34.28
512-1199	208474-1	28	57	60.39	54.35	48.31
Standard Sex Square Flange Receptacles (For Pin Contacts)						
512-1201	208491-1	22	28	16.16	14.44	12.83
512-1202	208477-1	28	63	20.64	18.58	16.52
Reverse Sex Square Flange Receptacles (For Socket Contacts)						
512-1203	208493-1	22	28	16.16	14.44	12.82
512-1204	208475-1	28	57	20.64	18.58	16.52



Series 3

The Type XII power contacts and tools are listed with Series 3, CPC connectors.

Standard Sex Plugs Without Peripheral Seal (For Socket Contacts)

Stock No.	Mfr's. Type	Size	No. of Contacts	EACH		
				1-24	25-99	100-Up
512-1206	208494-1	22	3	21.64	18.94	16.78
512-1207	208482-1	28	7	26.98	24.28	21.58
Reverse Sex Plugs Without Peripheral Seal (For Pin Contacts)						
512-1208	208496-1	22	3	21.64	18.94	16.78
512-1209	208484-1	28	7	24.67	22.20	19.73
Standard Sex Square Flange Receptacles (For Pin Contacts)						
512-1211	208495-1	22	3	15.28	13.75	11.22
512-1212	208483-1	28	7	20.04	18.04	16.04
Reverse Sex Square Flange Receptacles (For Socket Contacts)						
512-1213	208497-1	22	3	15.68	13.72	11.76
512-1214	208485-1	28	7	20.04	18.04	16.04

Series 4

Series 1 multimate contacts and tools and Series 3 power contacts and tools are both used for this series.

Standard Sex Plugs Without Peripheral Seal (For Socket Contacts)

Stock No.	Mfr's. Type	Size	No. of Contacts	EACH		
				1-24	25-99	100-Up
512-1216	208478-1	28	4 Power, 12 Multimate	27.66	24.20	22.54
512-1217	208480-1	28	2 Power, 20 Multimate	27.66	24.20	22.54
Standard Sex Square Flange Receptacles (For Pin Contacts)						
512-1218	208479-1	28	4 Power, 12 Multimate	20.04	18.04	16.04
512-1219	208481-1	28	2 Power, 20 Multimate	20.04	18.04	16.04

Cable Clamps For Metal-Shell CPC Connectors

Stock No.	Mfr's. Type	Shell Size	Cable O.D. Range	EACH		
				1-24	25-99	100-Up
512-1261	208945-5	14	.312″-.562″	7.08	6.37	5.66
512-1262	208945-7	22	.500″-.750″	9.68	8.71	7.74
512-1263	208945-8	28	.625″-.938″	12.98	11.68	10.38

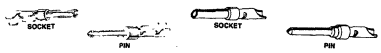
HDP Metal Shell Connectors

Choice of zinc-plated shell or tin-plated shell with grounding indents on the plugs. Insert is black thermoplastic, rated 94 V-O. **Contact Rating (with 20 AWG Wire):** 7.5 Amps. **Termination Resistance:** 5K megohms. **Engagement Force:** 12 oz. **Separation Force:** .75 oz. **Mating Force:** 8 oz. per contact. CONTACTS NOT INCLUDED. Select contacts from those offered below.

Zinc-Plated

Stock No.	Mfr.'s Type	Style	Pins	EACH 1-24	EACH 25-99	EACH 100-499
512-0005	205204-1	Plug	9	1.12	1.01	0.91
512-0010	205203-1	Receptacle	9	1.12	1.01	0.91
512-0015	205206-1	Plug	15	1.42	1.28	1.14
512-0020	205205-1	Receptacle	15	1.42	1.28	1.14
512-0025	205208-1	Plug	25	1.18	1.06	0.96
512-0030	205207-1	Receptacle	25	1.18	1.06	0.92
512-0035	205210-1	Plug	37	1.68	1.51	1.34
512-0040	205209-1	Receptacle	37	1.68	1.51	1.34
512-0045	205212-1	Plug	50	2.02	1.82	1.62
512-0050	205211-1	Receptacle	50	2.02	1.82	1.62
Tin-Plated With Grounding Indents						
512-0105	205204-4	Ind. Plug	9	1.90	1.71	1.52
512-0110	205203-3	Receptacle	9	1.40	1.26	1.12
512-0115	205206-3	Ind. Plug	15	1.92	1.73	1.54
512-0120	205205-2	Receptacle	15	1.42	1.28	1.14
512-0125	207464-2	Ind. Plug	25	1.98	1.78	1.58
512-0130	207463-1	Receptacle	25	1.48	1.33	1.18
512-0135	205210-3	Ind. Plug	37	2.18	1.96	1.74
512-0140	205209-2	Receptacle	37	1.68	1.51	1.34
512-0145	205212-3	Ind. Plug	50	2.52	2.27	2.02
512-0150	205211-2	Receptacle	50	2.02	1.82	1.62

Pins And Sockets



Crimp Style (24-20 AWG Wire)

Type 66506-9. Pin. Brass with selective gold over nickel. Additional .000030" gold on the mating end.
512-9000. 1-9 ..... **PER PKG./100 15.62**
10-49 ..... **PER PKG./100 14.06** **50-Up** ..... **PER PKG./100 12.50**
Type 66504-9. Socket. Phosphor bronze with selective gold over nickel. Additional .000030" gold on mating end.
512-9010. 1-9 ..... **PER PKG./100 16.04**
10-49 ..... **PER PKG./100 14.44** **50-Up** ..... **PER PKG./100 12.84**

Solder Cup Type (18 AWG Max. Wire)

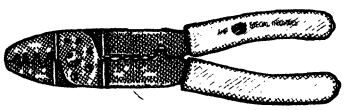
Type 66570-3. Pin. Brass with gold flash over nickel. Additional .000030 gold on mating end.
512-9020. 1-9 ..... **PER PKG./100 17.75**
10-49 ..... **PER PKG./100 15.85** **50-Up** ..... **PER PKG./100 13.39**
Type 66569-3. Socket. Phosphor bronze with gold flash over nickel. Additional .000030 gold on mating end.
512-9030. 1-9 ..... **PER PKG./100 21.34**
10-49 ..... **PER PKG./100 19.05** **50-Up** ..... **PER PKG./100 16.10**

HD-20 Contact Crimping Tool

For all 24-20 AWG crimp type pins and sockets.
512-9119. Type 603547-1 ..... **EACH 90.55**

AMP Service Hand Tool

Designed for use with D-sub contacts. Crimps 22-10 AWG uninsulated open barrel and insulated closed barrel Terminals. Features bolt cutter and cushioned handles.
512-9126. Type 725 ..... **EACH 47.67**



HDP-20 Solder Cup Connectors

Pre-loaded duplex plated solder cup contacts with shell finish of standard zinc chromate or tin. One-piece 94 V-O rated plastic insert. Anti-solderwicking contact design. Intermateable with other subminiature-D connectors. UL Recognized, CSA Certified. Available in 9, 15, 25, and 37 position plugs and receptacles.

Zinc-Plated Shells

Stock No.	Mfr.'s Type	Style	Pins	EACH 1-24	EACH 25-99	EACH 100-499
512-0305	747904-4	Plug	9	2.01	1.81	1.61
512-0310	747905-4	Receptacle	9	2.79	2.51	2.23
512-0315	747908-4	Plug	15	2.79	2.51	2.23
512-0320	747909-4	Receptacle	15	3.74	3.37	3.00
512-0325	747912-4	Plug	25	4.02	3.62	3.22
512-0330	757913-4	Receptacle	25	5.18	4.66	4.14
512-0335	747916-4	Plug	37	5.92	5.33	4.74
512-0340	747917-4	Receptacle	37	7.42	6.68	5.94
Tin-Plated With Grounding Indents						
512-0405	747904-2	Ind. Plug	9	2.70	1.93	1.53
512-0410	747905-2	Receptacle	9	3.57	2.55	2.02
512-0415	747908-2	Ind. Plug	15	3.57	2.55	2.02
512-0420	747909-2	Receptacle	15	4.78	3.42	2.71
512-0425	747912-2	Ind. Plug	25	5.12	3.66	3.19
512-0430	747913-2	Receptacle	25	6.43	4.59	4.00
512-0435	747916-2	Ind. Plug	37	7.48	5.35	4.64
512-0440	747917-2	Receptacle	37	9.22	6.59	5.72

Insertion/Extraction Tool

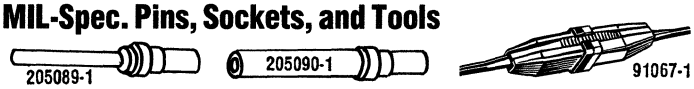
For size 20 Crimp and Solder Cup Contacts.
512-0470. 91285-1 ..... **EACH 11.87**

HDM-20 (MIL-C-24308) Connectors

Shell constructed of Glass G zinc-plated steel per ASTM B-633. Stainless steel retention springs. Insert material per MIL-C-24308.

Stock No.	Mfr.'s Type	MIL-C-M23408	Style	Pins	EACH 1-24	EACH 25-99	EACH 100-499
512-0205	205162-1	4-259	Plug	9	4.94	4.45	3.96
512-0210	205161-1	2-281	Receptacle	9	4.94	4.45	3.96
512-0215	205164-1	4-260	Plug	15	5.98	5.38	4.78
512-0220	205163-1	2-282	Receptacle	15	5.98	5.38	4.78
512-0225	205166-1	4-261	Plug	25	7.43	6.69	5.95
512-0230	205165-1	2-283	Receptacle	25	7.43	6.69	5.95
512-0235	205168-1	4-262	Plug	37	8.92	8.03	7.14
512-0240	205167-1	2-284	Receptacle	37	8.92	8.03	7.14
512-0245	205170-1	4-263	Plug	50	11.00	9.90	8.80
512-0250	205169-1	2-285	Receptacle	50	11.00	9.90	8.80

MIL-Spec. Pins, Sockets, and Tools



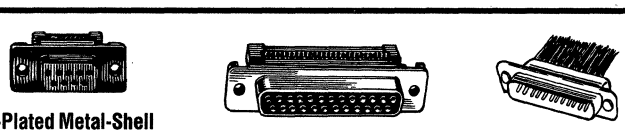
Type 1-66506-0. Pin. Brass with gold flash over nickel.
512-9035. 1-9 ..... **PER PKG./100 11.33**
10-49 ..... **PER PKG./100 10.10** **50-Up** ..... **PER PKG./100 8.55**
Type 1-66504-0. Socket. Phosphor bronze with gold flash over nickel.
512-9040. 1-9 ..... **PER PKG./100 13.70**
10-49 ..... **PER PKG./100 12.20** **50-Up** ..... **PER PKG./100 10.34**
Type 205089-1. Pin. (M39029/64-369)
512-9015. 1-9 ..... **PER PKG./100 24.77**
10-49 ..... **PER PKG./100 22.29** **50-Up** ..... **PER PKG./100 20.06**
Type 205090-1. Socket. (M39029/63-368)
512-9017. 1-9 ..... **PER PKG./100 38.80**
10-49 ..... **PER PKG./100 34.92** **50-Up** ..... **PER PKG./100 31.43**
Type 91067-1. Tool. Per M81969/1-04
512-9045 ..... **EACH 2.76**
Type 91067-2. Tool. Per M81969/1-02
512-9110 ..... **EACH 2.76**

HDF-20 Low Profile Flat Ribbon Cable Connectors

For termination to 30 AWG solid, 28 AWG solid, and stranded or 26 AWG solid and stranded flat ribbon cable on .050 centers.

All Plastic-Black Thermoplastic Body

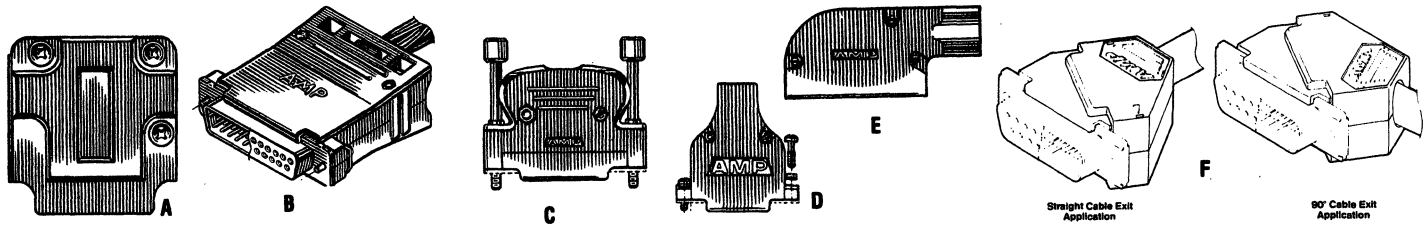
Stock No.	Mfr.'s Type	Number of Contacts	Style	EACH 1-99	EACH 100-499
512-0055	747321-4	9	Plug	4.18	3.40
512-0060	747318-4	9	Receptacle	4.25	3.46
512-0065	747321-3	15	Plug	4.88	3.98
512-0067	747318-3	15	Receptacle	5.17	4.21
512-0070	747321-2	25	Plug	6.20	5.04
512-0080	747318-2	25	Receptacle	6.57	5.35
512-0085	747321-1	37	Plug	8.79	7.15
512-0090	747318-1	37	Receptacle	9.22	7.50



Tin-Plated Metal-Shell

Stock No.	Mfr.'s Type	Number of Contacts	Style	EACH 1-99	EACH 100-499
512-0155	747306-4	9	Plug	4.70	3.84
512-0160	747303-4	9	Receptacle	4.73	3.86
512-0165	747306-3	15	Plug	5.77	4.70
512-0170	747303-3	15	Receptacle	5.95	4.84
512-0175	747306-2	25	Plug	7.22	5.86
512-0180	747303-2	25	Receptacle	7.78	6.35
512-0185	747306-1	37	Plug	10.23	8.34
512-0190	747303-1	37	Receptacle	11.04	8.99

Clamps And Shields



Straight/90° Exit Cable Clamps (Hoods)

Assemblies can be used on either plugs or receptacles and will not interfere with commonly used hardware. Grey thermoplastic. Finish is textured. Black zinc-plated steel flat head screws.

Stock No.	Mfr.'s Type	Cast Style	Fig.	EACH		
				1-24	25-99	100-499
512-0605	207467-1	9-Pin	A	2.06	1.85	1.64
512-0610	207470-1	15-Pin	A	2.11	1.90	1.69
512-0615	207345-1	25-Pin	A	2.22	2.00	1.78
512-0620	207473-1	37-Pin	A	2.56	2.23	1.92
512-0625	207476-1	50-Pin	A	2.56	2.23	1.92

Straight/90° Exit Cable Clamps (Hoods)

Assemblies can be used on either plugs or receptacles and will not interfere with commonly used hardware. Grey thermoplastic. 4-40 zinc-plated steel screws.

512-0705	206471-1	15-Pin	B	2.66	2.25	1.90
512-0710	206472-1	25-Pin*	B	2.72	2.27	1.94
512-0715	745134-1	25-Pin**	B	2.72	2.27	1.94
512-0720	745081-1	37-Pin	B	2.76	2.35	1.97
512-0725	745082-1	50-Pin	B	2.84	2.40	2.03

* Cable dia. .335" ** Cable dia. .460"

Straight Exit Dataphone Cable Clamps (Hoods)

512-1000	745122-2	15-Pin	C	5.31	4.78	4.25
512-1005	745121-2	25-Pin	C	5.39	4.85	4.31

2-Piece Straight Exit RFI/EMI Shields

Die Cast Metal

Stock No.	Mfr.'s Type	Max. Cable Dia.	Case Style	Fig.	EACH		
					1-24	25-99	100-499
512-0805	745171-1	0.250	9-Pin	D	5.15	4.63	4.11
512-0810	745172-2	0.375	15-Pin	D	5.28	4.75	4.22
512-0815	745173-4	0.350	25-Pin	D	5.40	4.86	4.32
512-0820	745173-3	0.430	25-Pin	D	5.40	4.86	4.32
512-0825	745174-4	0.425	37-Pin	D	5.53	4.98	4.43
512-0830	745174-3	0.500	37-Pin	D	5.53	4.98	4.43
512-0835	745175-5	0.450	50-Pin	D	5.67	5.10	4.53

2-Piece Straight Exit RFI/EMI Shields

Metal-Plated Plastic

512-0905	745854-3	0.250	9-Pin	D	3.36	2.85	2.40
512-0910	747099-3	0.375	15-Pin	D	3.42	2.91	2.44
512-0915	745833-7	0.350	25-Pin	D	3.52	2.98	2.52
512-0920	745833-5	0.430	25-Pin	D	3.52	2.98	2.52
512-0925	747100-7	0.425	37-Pin	D	3.62	3.06	2.59
512-0930	747100-5	0.500	37-Pin	D	3.62	3.06	2.59

2-Piece 90° Exit RFI/EMI Shields (Die Cast)

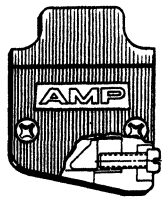
512-0950	745652-2	0.375	15-Pin	E	8.69	7.82	6.95
512-0955	745653-4	0.350	25-Pin	E	9.19	8.27	7.35
512-0960	745653-3	0.430	25-Pin	E	9.19	8.27	7.35

Straight/90° Exit Cable Clamps (Hoods)

This model is three piece. The panels can be arranged to be in either a straight or a 90° cable exit position. Black thermoplastic body.

512-0975	745306-1	.550"	25-Contact	F	2.22	1.88	1.66

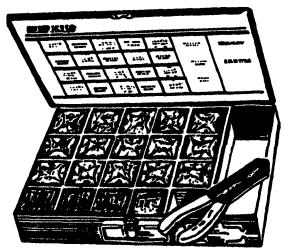
Clam Shell Straight/45° Exit Hoods



Assemblies can be used on either plug or receptacle and will not interfere with commonly used hardware. Black thermoplastic, textured finish, zinc-plated steel pan head screws. (6-32).

Stock No.	Mfr.'s Type	Pins	EACH		
			1-24	25-99	100-499
512-0505	205729-1	9	2.24	1.89	1.60
512-0510	205730-1	15	2.26	1.93	1.62
512-0515	205718-1	25	2.28	1.93	1.63
512-0520	205731-1	37	2.30	2.01	1.64
512-0525	205732-1	50	2.42	2.03	1.73

"D" Type Connector Kits



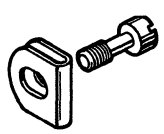
Type D Connector Kits are contained in a rugged steel carrying case. Extra compartments allow customizing of kit. Replacement parts are available from stock.

Model 606064-2. RS232 type kit contains: 100 pin and 100 socket contacts, 6 25-position zinc receptacles, 18 25-position zinc plugs, 14 25-position cable clamps, an extraction tool, a crimp tool, and 25 4 1/8" cable ties.
512-9120.....**EACH 196.00**

Model 607886-1. RS449 kit contains: pins and sockets (200 each); 9, 15, 25, and 37-position zinc receptacles (3 of each); 9, 15, 25, and 37-position zinc plugs (6 each); 9, 15, 25, and 37-position clamps (6 each); 100 4 1/8" cable ties. Also includes 4 extraction tools and 1 crimp tool.
512-9121.....**EACH 250.85**

Model 607887-1. Same as above but without crimp tool.
512-9122.....**EACH 209.35**

Male Screw Retainers



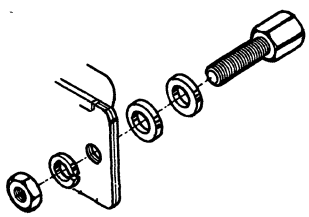
Kits contain 2 male-screws and 2 clips. Screws are made of zinc plated steel retainers of aluminum coated steel. **Type 205980-1** for metal shell connectors. **Type 745647-1** for all plastic connectors. All parts packaged unassembled.

512-9050. Type 205980-1. **1-99** ....**EACH 0.41** **100-Up**.....**EACH 0.37**
512-9055. Type 745647-1. **1-99** ....**EACH 0.44** **100-Up**.....**EACH 0.40**

Locking Posts

Kit contains 2 complete post assemblies. Constructed of cold-rolled zinc plated steel. 4-40 threaded. **Size:** .416" long.

512-9080. Type 206514-1. **1-99** .....**EACH 1.56**
100-Up.....**EACH 1.40**

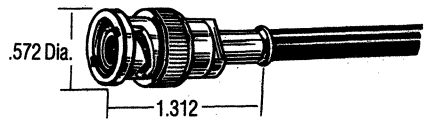


Female Screw Locks

Female screw locks for use with either metal or plastic connector shells. Available in square or hex nut types; short, standard, or long sizes. Each kit contains 2 female screw lock assemblies. All parts packaged unassembled. Includes female screw lock screw, two flat washers, lockwasher, and hex or square nuts.

Stock No.	Mfr.'s Type	Nominal Type	Size Nut	Nut Type	Screw Length	EACH	
						1-99	100-499
512-9060	207952-1	Short	0.250	Square	0.250	1.21	1.06
512-9070	205817-1	Standard	0.350	Hex	0.312	1.32	1.19
512-9075	207719-1	Long	0.350	Hex	0.560	1.36	1.22

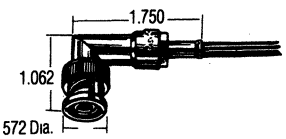
Standard Single Crimp Plugs



Stock No.	Mfr.'s Type	Used With	Dielectric‡	Hand Tool	EACH 1-24	EACH 25-49
512-2298	2-329066-1*	58, 58A, 59B, 58C	PP	69140-1	8.61	7.75
512-2300	2-329082-1*	58, 58A, 58B, 58C	PP	69140-1	8.61	7.75
512-2302	2-329083-1*	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	PP	69141-1	8.61	7.75
512-2306	330878*	Belden 8281, Amphenol 21-1060-7, Western Electric 724, 3049	PP	69652	8.82	7.94
512-2308	2-329544-1*	58, 58A, 58B, 58C	TF	69140-1	10.25	9.25
512-2310	2-329444-1*	58, 58A, 58B, 58C	TF	69140-1	10.25	9.25
512-2312	2-329446-1*	161, 179, 187	TF	69245-1	10.25	9.25
512-2314	2-329447-1*	180, 189, 195	TF	69246-1	10.25	9.25
512-2316	2-329444-2*	55, 55A, 55B, 223	TF	69140-2	10.25	9.25
512-2318	2-330061-1*	174, 188, 316	TF	69245-1	10.45	9.45

*SP = Silver Plating. †Tarnish Resistant Plating. ‡PP = Polypropylene, TF = Teflon®.

50 Ohm Standard Single Crimp Right-Angle Plugs



Stock No.	Mfr.'s Type	Used With	Dielectric‡	Hand Tool	EACH 1-24	EACH 25-49
512-2278	331178	174, 188	TF	69245-1	19.27	17.35
512-2274	331179	161, 179, 187	TF	69425-1	19.27	17.35
512-2276	331180	180, 180A, 195	TF	69246-1	19.27	17.35
512-2280	50635	Belden 8281, Western Electric 724, 3049	TF	69652	21.90	19.71

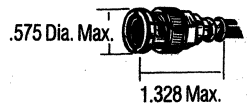
‡TF = Teflon®.

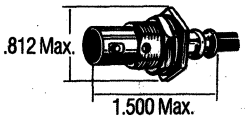
BNC Connectors 50 Ohm Standard Single Crimp Jacks

Stock No.	Mfr.'s Type	Used With	Dielectric‡	Hand Tool	EACH 1-24	EACH 25-49
512-2290	2-329065-1	58, 58A, 58B, 58C	PP	69140-1	10.48	9.43
512-2292	2-330059-1	174, 188	PP	69245-1	10.84	9.76
512-2294	2-329453-1	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	TF	69141-1	13.17	11.85
512-2296	2-329452-2	55, 55A, 55B, 223	TF	69140-2	8.77	7.90

‡PP = Polypropylene, TF = Teflon®.

Twin BNC Plugs and Jacks





Twin BNC Plugs (Teflon Dielectric)

Stock No.	Mfr.'s Type	Description	Finish	EACH 1-24	EACH 25-49
512-2152	332225-3	Trompeter TWC-124-2	Silver	16.60	15.68

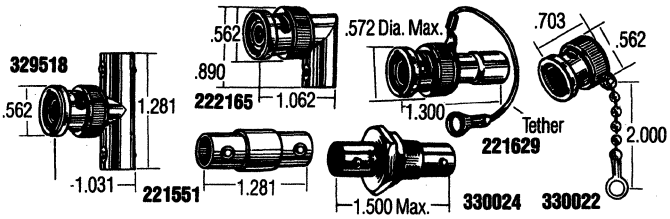
Twin BNC Plugs (Polypropylene)

512-2153	332225-6	RG 108, 108A	Nickel	6.67	6.29

Twin BNC Bulkhead Jacks

512-2154	332342	RG 108, 108A	—	13.50	12.75

BNC Accessories



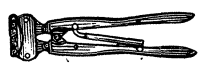
T-Adaptors

Stock No.	Mfr.'s Type	Description	Finish	EACH 1-24	EACH 25-49
512-2156	329518	Jack/Jack/Plug‡	Silver*	24.41	23.05
512-2158	222641-2	Jack/Jack/Plug‡	Nickel*	8.74	8.25
512-2159	221988-1	Jack/Jack/Jack	Nickel†	13.67	12.91
Right Angle					
512-2160	329517	Comparable RG306B	Nickel†	19.38	18.30
512-2161	222165-2	Comparable RG306B	Nickel*	14.35	13.54
Bulkhead Jacks					
512-2162	330024	Comparable RG492D	Silver†	12.44	11.75
512-2164	228226-2	Comparable RG492D	Silver†	7.88	7.44
Jack Feedthrough					
512-2165	221551-1	Comparable RG914	Nickel†	4.11	3.88
Commercial Terminators					
512-2166	221629-1	1 Watt, 50 ohm, without tether	—	6.41	6.05
512-2168	221629-6	1 Watt, 93 ohm, without tether	—	6.48	6.12
Jack Covers					
512-2170	330022	Comparable RGCW123A	Silver	5.44	5.15

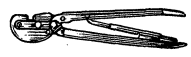
*Center Contact: Gold Plated. †Center Contact: Silver Plated. ‡Comparable RG274B.

Hand Tools

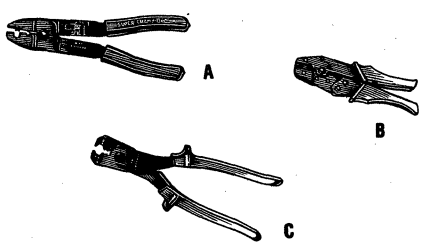
512-2400. 69140-1 ..... EACH 370.00
512-2401. 69141-1 ..... EACH 370.00
512-2402. 69245-1 ..... EACH 401.00
512-2403. 69246-1 ..... EACH 531.00
512-2404. 69140-2 ..... EACH 370.00
512-2405. 69331-1 ..... EACH 551.00
512-2406. 69478-1 ..... EACH 220.00
512-2407. 69477-1 ..... EACH 220.00
512-2408. 220009-1 ..... EACH 258.00
512-2409. 69477-2 ..... EACH 220.00
512-2410. 220043-1 ..... EACH 306.00
512-2411. 220045-2 ..... EACH 382.00


69140

59477


69652

512-2412. 220045-3 ..... EACH 405.00
512-2413. 69652 ..... EACH 431.00
512-2414. 220015-1 ..... EACH 457.00



Crimp Tools

BNC Coaxial Crimp Tools—Fig. A

Stock No.	Mfr.'s Type	Used With	Desc.	EACH 1-9	EACH 10-24
512-2216	673	58	Crimp Tool	39.18	35.25
512-2218	674	59/62	Crimp Tool	39.18	35.25

BNC Commercial Dual Crimp—Fig. B

512-2224	673-1	—	*	123.92	111.53
512-2226	673-2	58	Crimp Die	70.97	63.87
512-2228	673-3	59/62	Crimp Die	70.97	63.87
512-2230	673-4	174, 188, 316	Crimp Die	186.67	168.00

*Tool w/out Dies (Ratchet).

BNC Hex Dual Crimp Tool—Fig. C

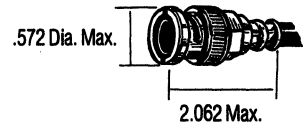
Stock No.	Mfr.'s Type	Used With	Desc.	EACH 1-9	EACH 10-24
512-2030	677	59/62	Crimp Tool	44.16	39.75
512-2234	677-1	58/59/62, Belden 8218, Belden 8279	Crimp Tool	102.59	92.33
512-2236	677-2	Belden 8281, Belden 9141	Crimp Tool	102.59	92.33

UHF Crimp Tool—Fig. A

512-2220	675	RG58/59	Crimp Tool	39.18	35.25
512-2222	675-1	RG58 (Miniature)	Crimp Tool	66.40	59.76

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

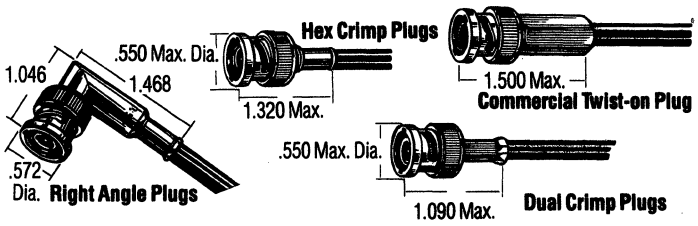
BNC 50 Ohm Plugs Standard Dual Crimp



Stock No.	Mfr.'s Type	Used With	Finish	Hand Tool	EACH 1-24	EACH 25-49
512-2017	2-331350-1	58, 58A, 58B, 58C	S.P.	69478-1	5.01	4.51
512-2022	225395-1	Belden 8219, 8262	T.R.	69478-1	4.37	3.94
512-2042	331350	59, 59A, 59B, 62, 62A, 62B, 124, 210, 240	S.P.	69477-1	5.01	4.51
512-2023	225395-2	Belden 9204, 9209, 9269	T.R.	69477-1	4.37	3.94
512-2066	225395-3	55, 55A, 55B, 223	T.R.	69478-1	4.37	3.94
512-2068	225395-4	71, 71A, 71B	T.R.	69477-1	3.72	3.35
512-2044	2-331350-9	142, 142A, 142B, 400	S.P.	69478-1	5.01	4.51
512-2072	225395-6	142, 142A, 142B, 400	T.R.	69478-1	2.69	2.42
512-2046	2-331350-4	174, 188, 316 Belden 9239	S.P.	220009-1	5.01	4.51
512-2074	225395-7	174, 188, 316 Belden 9239	T.R.	220009-1	4.37	3.94
512-2048	2-331350-5	179, 187, Belden 9221	S.P.	220009-1	3.09	2.78
512-2076	225395-8	179, 187, Belden 9221	T.R.	220009-1	4.37	3.94
512-2050	2-331350-6	180, 180A, 195	S.P.	69477-2	5.01	4.51
512-2078	225395-9	180, 180A, 195	T.R.	69477-2	4.32	3.89
512-2052	2-331350-2	Amphenol 21-597	S.P.	69477-2	3.09	2.78
512-2080	1-225395	Belden 8218	T.R.	69477-2	4.37	3.94
512-2054	225886-1	8, 8A, 213	S.P.	220015-1	18.11	16.30
512-2082	2-225395-1	8, 8A, 213	T.R.	220015-1	10.71	9.64
512-2056	225886-2	9, 9A, 9B, 214	S.P.	220015-1	12.06	10.85
512-2058	4-331350-0	WECO 724, Belden 3049, 8281, Amphenol 21-1060-7	S.P.	220043-1	5.90	5.31
512-2084	2-225395-0	Belden 8212, 9104, 9112, 9167, 9259	T.R.	69477-1	2.79	2.51
512-2060	5-331350-8	Belden 8213	S.P.	2200015-1	10.35	9.32

*S.P. = Silver Plated; T.R. = Tarnish Resistant.

Crimp and Twist-On Plugs



Standard Dual Crimp Right-Angle Plugs

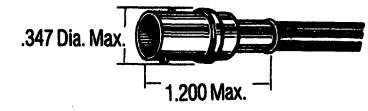
Stock No.	Mfr.'s Type	Used With	Finish	Hand Tool	EACH 1-24	EACH 25-49
512-2282	225974-1	58, 58A, 58B, 58C	T.R.	69727	16.49	14.84
512-2288	225974-5	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	T.R.	69669-1	16.49	14.84
512-2284	225973-4	142, 142A, 142B	S.P.	69726	17.49	15.74
512-2286	225973-5	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	S.P.	69669-1	17.49	15.74
Commercial Dual Crimp Plugs						
512-2088	1-227079-1	59, 59A, 59B, 62, 62A, 124, 140, 210	1	220189-2	2.59	2.33
512-2086	1-227079-3	Belden 9266, RG59 Type with 20 AWG C.C.	2	220189-2	3.94	3.55
Commercial Hex Crimp Plugs						
512-2025	221128-1	58, 58A, 58B, 58C	2	677-1	3.10	2.79
512-2026	221128-2	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	2	677	3.10	2.79
512-2094	221128-3	Belden 8281, 9231, W.E. 728B	2	677-2	3.10	2.79
512-2098	1-221128-4	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	1	677	2.89	2.60

*S.P. = Silver Plated; T.R. = Tarnish Resistant; 1 = Silver Plated Center Contact; 2 = Gold Plated Center Contact.

Commercial Twist-On Plug

Stock No.	Mfr.'s Type	Used With	Dielectric	EACH 1-24	EACH 25-49
512-2100	221984-1	59/62	Acetal	4.00	3.60
512-2320	221984-7	58	Acetal	3.82	3.44
512-2322	221984-5	Belden 8281	Acetal	7.30	6.57

BNC 50 Ohm Jacks Standard Dual Crimp

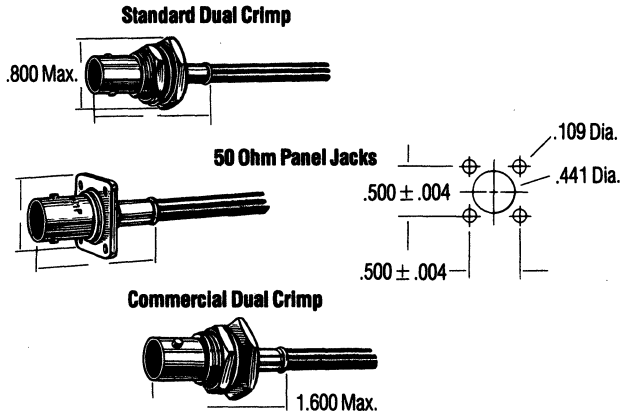


Stock No.	Mfr.'s Type	Used With	Finish	Hand Tool	EACH 1-24	EACH 25-49
512-2102	2-331351-1	58, 58A, 58B, 58C	S.P.	69478-1	6.13	5.52
512-2018	225396-1	58, 58A, 58B, 58C	T.R.	69478-1	4.47	4.03
512-2104	331351	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	S.P.	68477-1	6.13	5.52
512-2019	225396-2	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	T.R.	68477-1	4.47	4.03
512-2106	2-331351-4	174, 188	S.P.	220009-1	6.13	5.52
512-2114	225396-7	174, 188	T.R.	220009-1	4.47	4.03
512-2116	225396-8	179, 187	T.R.	220009-1	4.47	4.03
512-2108	2-331351-6	180, 180A, 195	S.P.	69477-2	6.13	5.52

*S.P. = Silver Plated; T.R. = Tarnish Resistant.

6

Jacks



Standard Dual Crimp Bulkhead Jacks

Stock No.	Mfr.'s Type	Used With	Finish	Hand Tool	EACH 1-24	EACH 25-49
512-2132	1-331693-1	RG 58, 58A, 58B, 58C	S.P.	69478-1	7.19	6.47
512-2021	225398-1	RG 58, 58A, 58B, 58C	T.R.	69478-1	6.32	5.69
512-2324	331693	RG 59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	S.P.	69477-1	7.15	6.44
512-2020	225398-2	RG 59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	T.R.	69477-1	6.29	5.66
512-2326	1-331693-6	RG 55, 55A, 55B, 223	S.P.	69478-1	7.19	6.47
512-2140	225398-3	RG 55, 55A, 55B, 223	T.R.	69478-1	6.32	5.69
512-2134	1-331693-2	RG 174, 188	S.P.	220009-1	7.15	6.44
512-2142	225398-2	RG 174, 188	T.R.	220009-1	6.29	5.66
512-2328	1-331693-3	RG 179, 187	S.P.	220009-1	7.15	6.44
512-2144	225398-8	RG 179, 187	T.R.	220009-1	6.29	5.66
512-2330	1-331693-4	RG 180, 180A, 195	S.P.	69477-2	7.15	6.44
512-2332	1-331693-0	Belden 8218, Amphenol 21-597	S.P.	69477-2	7.15	6.44
BNC 50 Ohm Panel Jacks						
512-2118	225397-1	58, 58A, 58B, 58C	T.R.	69478-1	8.02	7.22
512-2334	225397-2	59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	T.R.	69477-1	8.02	7.22
512-2120	225397-7	174, 188	T.R.	220009-1	8.02	7.22
512-2336	225397-8	179, 187	T.R.	220009-1	8.02	7.22
512-2338	331694	59, 59A, 59B, 62, 62B, 124, 140, 210	S.P.	69477-1	9.49	8.54
Commercial Dual Crimp Bulkhead Jacks						
512-2146	228980-6	RG 59, 59A, 59B, 62, 62A, 62B, 124, 140, 210	—	220190-1/ 220189-2	5.34	4.81
512-2148	228980-7	RG 174, 188, 316	—	220190-1/ 220210-1	5.49	4.94

*S.P. = Silver Plated; T.R. = Tarnish Resistant.

Solder Jacks

228509-9. BNC 50 Ohm Panel Solder Jack. Requires bushing. Gold contact.
512-2122. 1-24 ..... EACH 3.94 25-49 ..... EACH 3.55

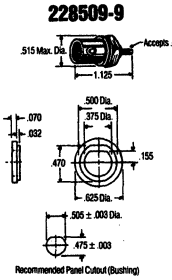
227715-2. BNC 50 Ohm Commercial Panel Solder Jack. Requires bushing. Silver contact. **Dielectric:** Teflon.
512-2126. 1-24 ..... EACH 2.34 25-49 ..... EACH 2.11

227726-2. BNC 50 Ohm Isolated Solder Receptacle. Silver contact.
512-2128. 1-24 ..... EACH 4.24 25-49 ..... EACH 3.82

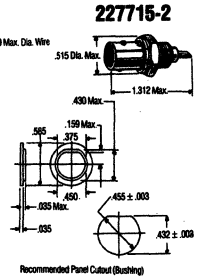
227699-1. P.C. Board Panel Mount Jack. Commercial Vertical Mount. Silver Finish.
512-2130. 1-24 ..... EACH 4.85 25-49 ..... EACH 4.37

Bushings
227223-1. For thickwall panels that have .500 "D" cutout.
512-2124. 1-24 ..... EACH .15 25-49 ..... EACH .14

228509-9



227715-2



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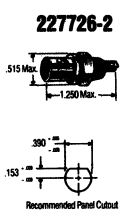

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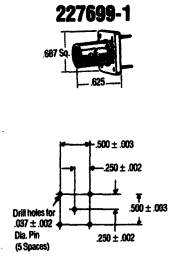
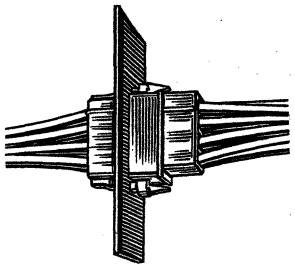
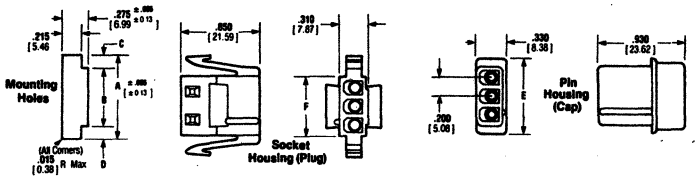


Panel Mount Connectors

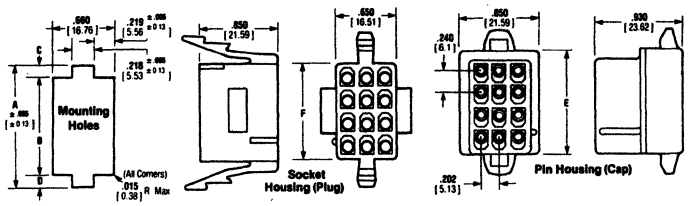


- Fully Polarized Nylon Housings
- Easy Cavity Identification
- Locking Devices are Integral Part of Design, Connector Halves will Hold Together Under Severe Conditions of Vibration and Shock
- Built-In Contact Stabilization and Self-Aligning Features
- Hot Side Egg Crate Design for Safety
- Precision Molded to Exacting Tolerance Recommended Panel Thickness, .025"-.065" (.064-1.65mm)

3 and 4 Circuits



6, 9, 12 and 15 Circuits



Pin Housings

Stock No.	Mfr.'s Type	Circuits	EACH 1-9	EACH 10-49
512-1350	1-480305-0	3	0.17	0.16
512-1352	1-480426-0	4	0.24	0.23
512-1355	1-480276-0	6	0.28	0.27
512-1360	1-480277-0	9	0.32	0.31
512-1365	1-480278-0	12	0.37	0.36
512-1370	1-480324-0	15	0.43	0.41

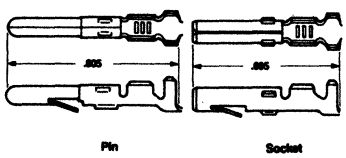
Socket Housings

Stock No.	Mfr.'s Type	Circuits	EACH 1-9	EACH 10-49
512-1300	1-480304-0	3	0.25	0.24
512-1306	1-480425-0	4	0.25	0.24
512-1305	1-480273-0	6	0.30	0.29
512-1310	1-480274-0	9	0.36	0.35
512-1315	1-480275-0	12	0.39	0.38
512-1320	1-480323-0	15	0.51	0.49

Number of Circuits	Dimensions Inches (MM) A	B	E	F
3	.910 (23.11)	.645-.635 (16.38-16.13)	.810 (20.57)	.630 (16.00)
4	1.110 (28.19)	.845-.835 (21.46-21.21)	1.010 (25.65)	.830 (21.08)
6	.840 (21.34)	.575-.570 (14.61-14.48)	.665 (16.89)	.565 (14.35)
9	1.075 (27.31)	.815-.810 (20.70-20.57)	.905 (22.99)	.805 (20.45)
12	1.320 (33.53)	1.055-1.050 (26.80-26.67)	1.145 (29.08)	1.045 (26.54)
15	1.550 (39.37)	1.290-1.285 (32.77-32.64)	1.382 (35.10)	1.280 (32.51)

Contacts

Mate-N-Lok Contacts — Tin Plated Brass (For All Housings On This Page)



Stock No.	Mfr.'s Type	Style	AWG	PKG./100 1-4	PKG./100 5-9
512-1301	60618-1	Pin	24-18	9.50	8.55
512-1302	60617-1	Socket	24-18	9.50	8.55
512-1401	60620-1	Pin	20-14	9.50	8.55
512-1402	60619-1	Socket	20-14	9.50	8.55

Crimping And Extraction Tool

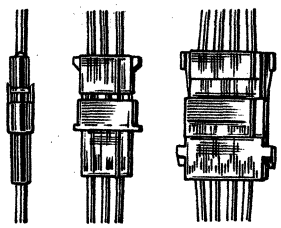
Type 601884-1 (725). Service Hand Tool. Crimps 22-10 AWG.
512-9126 ..... **EACH 47.67**

Type 465644-1 Extraction Tool. For 20-14 AWG Pins and Sockets.
512-9155 ..... **EACH 12.60**

General Purpose Mate-N-Lok Connector Kit

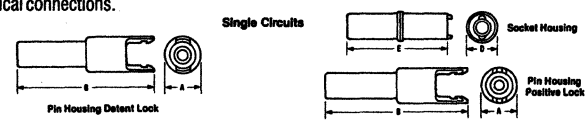
Model 1-601883-6. Kit contains connectors, contacts, extraction tool, and Super Champ FT handheld crimp tool. You get 146 assorted pieces, including 1,2,3,6 and 9-circuit connectors and contacts (20-14 AWG wire size). Contained in a sturdy, see-through case.
512-9315 ..... **EACH 75.95**

Free Hanging Connectors

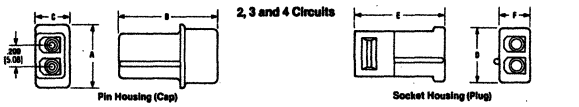


This version of the Mate-N-Lok Connector provides all the quality features of the panel mount, yet was designed for free-hanging installations. The 2, 3, and 4 circuit configurations feature detent locking housings while the 6, 8, and 10 circuit configurations utilize positive lock housings. A single circuit connector is available with an option of detent or positive lock housings. The multiple circuit connector is available with an option of detent or positive lock housings. The multiple circuit configurations are polarized to assure proper electrical connections.

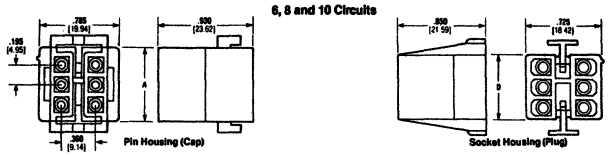
Single Circuits



2, 3 and 4 Circuits



6, 8 and 10 Circuits



Number of Circuits	Dimensions Inches (MM) A	B	C	D	E	F
1	.300 (7.62)	1.240 (31.50)	—	.260 (6.60)	.870 (22.10)	—
2	.610 (15.49)	.930 (23.62)	.330 (8.38)	.530 (13.46)	.860 (21.84)	.295 (7.49)
3	.810 (20.57)	.930 (23.62)	.325 (8.25)	.825 (20.96)	.850 (21.59)	.310 (7.87)
4	1.010 (25.65)	.930 (23.62)	.330 (8.38)	1.025 (26.04)	.850 (21.59)	.310 (7.87)
6	.705 (17.95)	—	—	.610 (15.49)	—	—
8	.900 (22.84)	—	—	1.000 (25.40)	—	—
10	1.095 (27.81)	—	—	1.000 (25.40)	—	—

Socket Housings

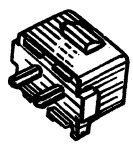
Stock No.	Mfr.'s Type	Circuits	EACH 1-9	EACH 10-49
512-1400	1-480349-0	1	0.10	.09
512-1405	1-480318-0	2	0.14	.13
512-1410	1-480303-0	3	0.19	.18
512-1415	1-480424-0	4	0.22	.21
512-1420	1-480270-0	6	0.31	.30
512-1422	1-480283-0	8	0.34	.33
512-1425	1-480285-0	10	0.37	.35
—	—	—	—	—

Pin Housings

Stock No.	Mfr.'s Type	Circuits	EACH 1-9	EACH 10-49
512-1450	1-480351-0**	1	0.10	.09
512-1451	1-480350-0*	1	0.10	.09
512-1455	1-480319-0	2	0.14	.13
512-1350	1-480305-0	3	0.17	.16
512-1465	1-480426-0	4	0.24	.23
512-1470	1-480340-0	6	0.25	.24
512-1472	1-480345-0	8	0.29	.28
512-1475	1-480339-0	10	0.33	.32

** Positive Lock. * Detent Lock.

PC Board Mount Mate-N-Lock



PC Board Pin Headers
(Mate with free hanging Socket Connectors)
.070" holes on .200" centers.

Detent Lock For .062" Thick Boards

Stock No.	Mfr.'s Type	Circuits	EACH 1-9	EACH 10-49
512-1434	350209-1	2	0.30	0.29
512-1436	350210-1	3	0.47	0.45
512-1438	350211-1	4	0.53	0.51

For .125" Thick Boards Positive Lock

512-1484	350425-1	6	0.63	0.60
512-1486	350426-1	8	0.77	0.74
512-1488	350219-1	10	1.12	1.07

For .125" Thick Boards Detent Lock

512-1444	350422-1	2	0.32	0.31
512-1446	350424-1	4	0.57	0.54

Positive Lock For .062" Thick Boards Tin-Plated Contacts.

Stock No.	Mfr.'s Type	Circuits	EACH 1-9	EACH 10-49
512-1428	350539-1	2	0.45	0.43
512-1430	350541-1	3	0.65	0.62
512-1432	350543-1	4	0.96	0.91

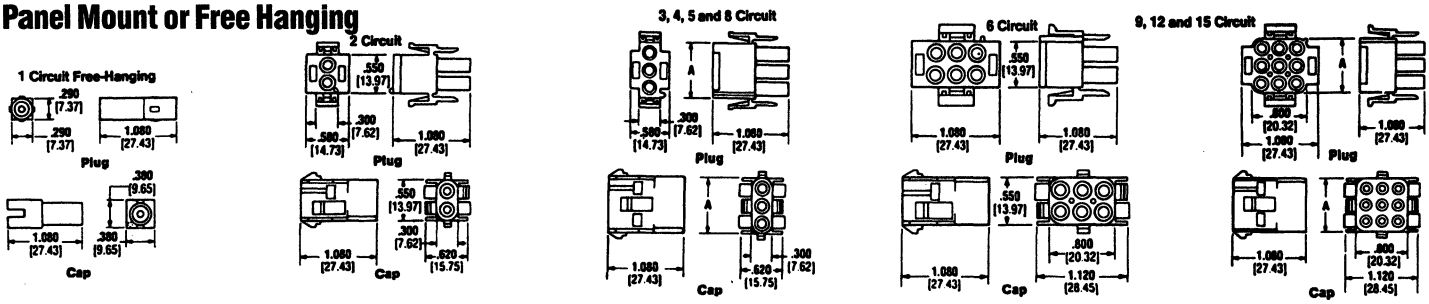
For .062" Thick Boards Positive Lock

512-1480	350212-1	8	0.74	0.70
512-1482	1-380991-0	10	0.85	0.81

For .062" Thick Boards, Gold Plated Detent Lock

512-1441	350209-2	2	0.72	0.68
512-1442	350210-2	3	1.10	1.05
512-1443	350211-2	4	1.31	1.25

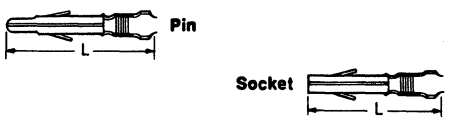
Panel Mount or Free Hanging



Features

- ► Innumerable Keying Combinations
- ► Pins and Sockets Can Be Intermixed in the Same Housing
- ► Positive Polarization
- ► Rear Cavity Identification
- ► Pin or Socket Contact Can Be Hot
- ► Positive Locking Housings
- ► Contacts and Housings Have Dual-Wire Capability
- ► Insulation Capability To .200 (5.08) Diameter
- ► Removable, Crimp Snap-In Contacts
- ► Low Contact Mating Force
- ► Dual Locking Lances Provide Optimum Contact Stability
- ► Panel Mount or Free-Hanging
- ► Available in 94 V-O Flame Retardant Material. Meets the Material Requirements of Table 23.1 of UL Standard 1410 (Television Receivers and Video Products)
- ► Make First, Break Last Capability Using Grounding Pin
- ► Harness to PC Board Capability Using Pin or Socket Header Assemblies
- ► Contacts are on .250 (6.35) centerline Spacing
- ► Recognized Under Component Program of Underwriters Laboratories Inc. File No. E28476
- ► CSA Certified File No. LR 16455
- ► Tested By VDE Under Their Test Report #4751-800-2/A

This series of connectors provides a highly reliable and economical means of grouping multiple-lead connectors in today's computer, computer/peripheral equipment and business machines.



6

Plugs

Stock No.	Mfr.'s Type	Number of Circuits	Diameter A	EACH 1-49	50-99	100-Up
512-2995	1-350867-0	1	—	0.14	0.13	0.12
512-3000	1-480698-0	2	—	0.19	0.17	0.16
512-3002	1-480700-0	3	.80 (20.32)	0.24	0.22	0.19
512-3005	1-480702-0	4	1.05 (26.67)	0.22	0.21	0.20
512-1417	1-480763-0	5	1.30 (33.02)	0.19	0.17	0.15
512-3010	1-480704-0	6	—	0.27	0.26	0.25
512-3012	1-480706-0	9	.80 (20.32)	0.36	0.33	0.29
512-3021	1-480708-0	12	1.05 (26.67)	0.42	0.38	0.33
512-3023	1-480710-0	15	1.30 (33.02)	0.61	0.55	0.49

Caps

Stock No.	Mfr.'s Type	Number of Circuits	Diameter A	EACH 1-49	50-99	100-Up
512-2996	1-350868-0	1	—	0.12	0.11	0.10
512-3015	1-480699-0	2	—	0.20	0.19	0.18
512-3004	1-480701-0	3	.80 (20.32)	0.26	0.24	0.21
512-3020	1-480703-0	4	1.05 (26.67)	0.22	0.21	0.20
512-1467	1-480764-0	5	1.30 (33.02)	0.19	0.17	0.15
512-3025	1-480705-0	6	—	0.26	0.23	0.21
512-3022	1-480707-0	9	.80 (20.32)	0.33	0.30	0.27
512-3024	1-480709-0	12	1.05 (26.67)	0.37	0.33	0.30
512-3026	1-480711-0	15	1.30 (33.02)	0.55	0.50	0.45

Universal Pins and Sockets

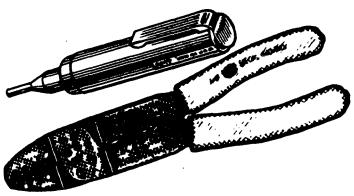
Can be used in either plug or cap housings. **Pin dia.:** .084" (2.13 mm). Constructed of pre-tinned brass (phosphor bronze).

Stock No.	Mfr.'s Type	Style	L. Dimension In.	L. Dimension mm	PK./100 1-4	PK./100 5-9	PK./100 10-49
512-1303†	350690-1	Pin	.790	20.07	6.80	6.30	5.61
512-1304†	350689-1	Socket	.760	19.30	6.80	6.30	5.61
512-3030*	350547-1	Pin	.790	20.07	6.80	6.30	5.61
512-3035*	350550-1	Socket	.760	19.30	6.80	6.30	5.61
512-3045*	350552-1	Pin	.810	20.57	9.20	8.32	7.53
512-3040*	350551-1	Socket	.780	19.81	9.16	8.28	7.49
512-1307*	350705-1	Split Pin	.790	20.07	6.80	6.30	5.61

† 24-18 AWG * 20-14 AWG

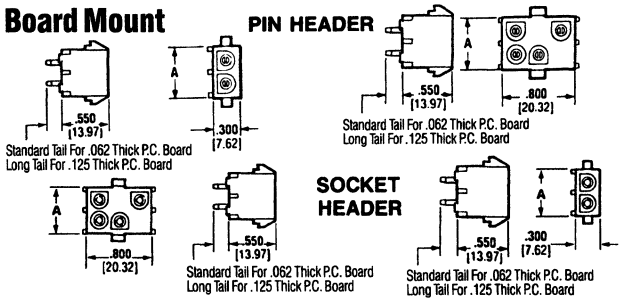
Tools

AMP Service Hand Tool



Crimps 22-10 AWG uninsulated open barrel and insulated closed barrel terminals. Features bolt cutter and cushioned handles.
512-9126. Type 601884-1 ..... **EACH 47.67**
Insertion Tool.
512-9160. 455830-2 ..... **EACH 17.23**
Extraction Tool.
512-9165. 458994-2 ..... **EACH 35.34**

PC Board Mount



Pin Header Assemblies

Stock No.	Mfr.'s Type	Mates With*	Description	Dimensions A	EACH 1-49	50-99	100-Up
512-3060	350428-1	1-480698-0	2 Pos. Pre-Tin	.550 (13.97)	0.43	0.39	0.35
512-3065	350429-1	1-480700-0	3 Pos. Pre-Tin	.800 (20.32)	0.50	0.45	0.41
512-3070	350430-1	1-480702-0	4 Pos. Pre-Tin	1.050 (26.67)	0.63	0.57	0.52
512-3075	640466-1	1-480763-0	5 Pos. Pre-Tin	1.300 (33.02)	0.91	0.82	0.74
512-3080	350431-1	1-480704-0	6 Pos. Pre-Tin	.55 (13.97)	0.82	0.74	0.67
512-3085	350432-1	1-408706-0	9 Pos. Pre-Tin	.800 (20.32)	1.00	0.91	0.82
512-3090	350433-1	1-480708-0	12 Pos. Pre-Tin	1.050 (26.67)	1.22	1.10	0.99
512-3095	350434-1	1-480710-0	15 Pos. Pre-Tin	1.300 (33.02)	1.49	1.35	1.22

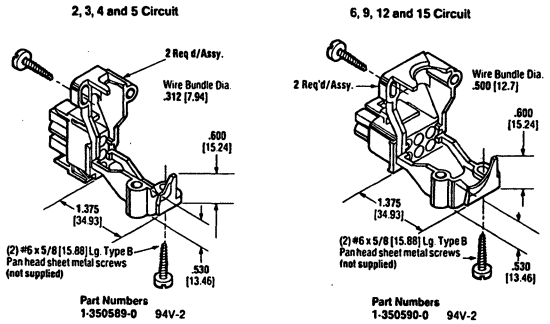
* Mates with plug housing part number using socket contacts.

Socket Header Assemblies

512-3130	350759-4	1-480698-0	2 Pos. Pre-Tin	.550 (13.97)	0.38	0.34	0.31
512-3135	350760-4	1-480700-0	3 Pos. Pre-Tin	.800 (20.32)	0.47	0.43	0.38
512-3140	350761-4	1-480702-0	4 Pos. Pre-Tin	1.050 (26.67)	0.58	0.53	0.48
512-3145	640467-1	1-480763-0	5 Pos. Pre-Tin	1.300 (33.02)	0.90	0.81	0.74
512-3150	350762-4	1-480704-0	6 Pos. Pre-Tin	.55 (13.97)	0.85	0.77	0.69
512-3155	350763-4	1-408706-0	9 Pos. Pre-Tin	.800 (20.32)	1.12	1.01	0.91
512-3160	350764-4	1-480708-0	12 Pos. Pre-Tin	1.050 (26.67)	1.42	1.29	1.15
512-3165	350765-4	1-480710-0	15 Pos. Pre-Tin	1.300 (33.02)	1.70	1.54	1.39

* Mates with plug housing number using pin contacts.

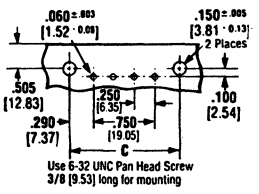
Strain Reliefs



Two pieces required for each assembly.
Strain Relief for 2, 3, 4 and 5 Circuit Mate-N-Lok Connectors.
512-3050. 1-350589-0 ..... **EACH 0.48**

Strain Relief for 6, 9, 12 and 15 Circuit Mate-N-Lok Connectors.
512-3055. 1-350590-0 ..... **EACH 0.55**

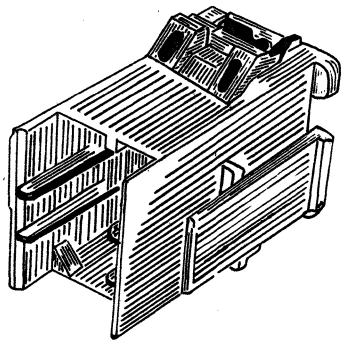
Right Angle Pin And Socket Headers



Housing 94V-O Nylon, brick red color.
Contacts-phosphor bronze.

Stock No.	Mfr.'s Type	Mates With*	Description	EACH 1-49	50-99	100-Up
512-3100	1-350942-0	1-480698-0	2 Pos. Pre-Tin	1.05	0.95	0.86
512-3105	1-350943-0	1-480700-0	3 Pos. Pre-Tin	1.04	0.94	0.84
512-3110	1-350944-0	1-480702-0	4 Pos. Pre-Tin	1.18	1.06	0.94
512-3115	1-350945-0	1-480763-0	5 Pos. Pre-Tin	1.38	1.25	1.13
512-3120	640583-1	640585-1	6 Pos. Pre-Tin	1.93	1.74	1.57
512-3125	640584-1	640586-1	8 Pos. Pre-Tin	2.18	1.97	1.78

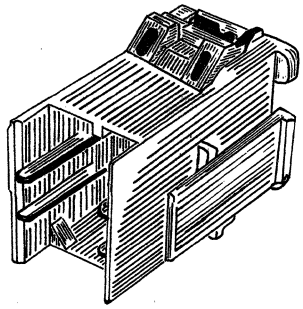
Pin Housings



Nylon, 94V-O Rated, Brick Red.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-999
512-3600	1-640507	2	.26	.22
512-3602	1-640508	3	.38	.33
512-3604	1-640509	4	.41	.35
512-3606	1-640510	6	.46	.40
512-3608	1-640511	9	.49	.43
512-3610	1-640512	12	.55	.48
512-3612	1-640513	15	.60	.53
512-3614	1-640514	20	.95	.83

Socket Housings

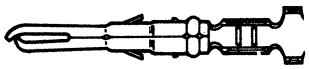


Nylon, 94V-O Rated, Brick Red.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-999
512-3616	1-640517	2	.25	.22
512-3618	1-640518	3	.37	.32
512-3620	1-640519	4	.39	.34
512-3622	1-640520	6	.44	.39
512-3624	1-640521	9	.49	.43
512-3626	1-640522	12	.54	.47
512-3628	1-640523	15	.58	.51
512-3630	1-640524	20	.95	.83
512-3632	1-640525	24	1.01	.88
512-3634	1-640526	36	1.05	.92

Pins

Material and Finish: Phosphor bronze, pre-tin plated or .000050" (0.00127) nickel over entire contact and .000030" (0.00076) gold in contact area. .008" (0.2) stock thickness.



Live Split Pin

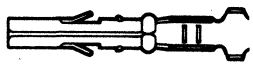
Wire Size 26-18 AWG—Live Split Pin

Stock No.	Mfr.'s Type	Plating*	PER PKG./100	
			1-4	5-9
512-3680	640545-1	1	11.20	10.08
512-3682	640545-2	2	44.79	39.50

*1 = Phosphor Bronze—Pre-Tin; 2 = Gold.

Sockets

Material and Finish: Phosphor bronze, pre-tin plated or .000050" (0.00127) nickel over entire contact and .000030" (0.00076) gold in contact area. .008" (0.2) stock thickness.



Standard Socket

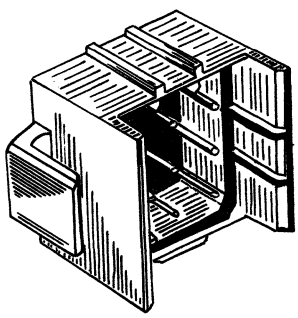
Wire Size 26-18 AWG

Stock No.	Mfr.'s Type	Plating*	PER PKG./100	
			1-4	5-9
512-3684	641300-1	1	10.55	9.49
512-3686	641300-2	2	38.34	34.51

*1 = Phosphor Bronze—Pre-Tin; 2 = Gold.

P.C. Board Pin Headers

Material. Housings: Nylon, 94V-0 rated, brick red. **Contacts:** Plated tin over .000050" (0.00127) nickel over contact length and matte tin on solder tail end.

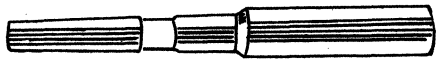


For .063 P.C. Board Thickness

Stock No.	Mfr.'s Type	No. of Pos.	Plating*	EACH	
				1-99	100-999
512-3636	640498-1	3	3	.51	.41
512-3638	640499-1	4	3	.77	.55
512-3640	640500-1	5	3	.92	.76
512-3642	640501-1	9	3	1.20	1.10
512-3644	640502-1	12	3	1.54	1.31
512-3646	640503-1	15	3	1.88	1.65
512-3648	640504-1	20	3	2.44	2.14
512-3650	640505-1	24	3	2.72	2.39
512-3652	640498-2	3	4	1.40	1.15
512-3654	640499-2	4	4	1.75	1.37
512-3656	640500-2	5	4	2.41	1.98
512-3658	640501-2	9	4	3.34	2.74
512-3660	640502-2	12	4	4.90	3.55
512-3662	640503-2	15	4	7.26	4.32

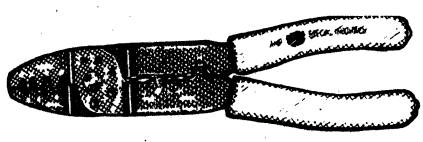
*3 = Phosphor Bronze, Pre-Tin, with Matte Tin on Solder Tail; 4 = Gold, with Matte Tin on Solder Tail.

Keying Plug



512-3670. 350591-1. **1-99**.....**EACH .40** **100-499**.....**EACH .32**

Tooling



512-9126. 601884-1 (725). Contact crimping tool.....**EACH 47.67**

DIPLOMATE® Low Profile DIP Sockets

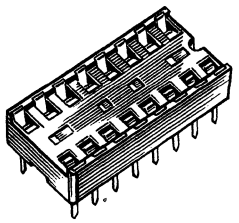
The DIPLOMATE socket family provides high quality at low cost with superior handling characteristics. It is available with dual wiping contacts in tin or gold plating over beryllium copper or economical phosphor bronze. The large target area of the contacts and tapered side ramps in the housing insure easy entry of a DIP package. Internal anti-overstress walls prevent contact damage. The housings are compatible with commercially available automatic insertion equipment for socket-to-board or DIP-to-socket applications. These stackable housings feature a "True Closed Bottom" design which prevents solder or flux wicking at class 1 conditions of EIA 486.

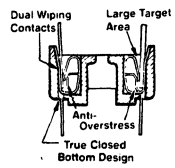
Standoffs provide board clearance for proper cleaning after soldering. Sockets are available with straight solder tails for clinching and are "true positioned" for automatic insertion into the PC board. Solder tails with retention feature, for self-retention in the PC board during handling and flow soldering, are available for hand insertion.

Housings are constructed from self-extinguishing glass-filled polyester, 94V-0 rated material and meet the material requirements of Table 23.1 of UL 1410 Standard for Television Receivers and Video Products.

The DIPLOMATE (DL) DIP socket family meets the requirements of EIA RS415, MIL-S-83734 and the most stringent specifications of main-frame computer manufacturers.

Dual Leaf

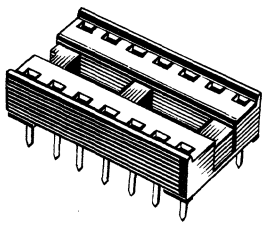


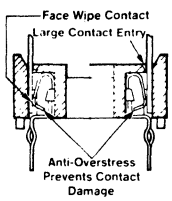


PERFORMANCE CHARACTERISTICS. Rating: 250 VAC. **Contact Resistance:** 20 milliohms max. (initial), 30 milliohms max. (after test). **Dielectric Withstanding Voltage:** 1000 VRMS min. **Insulation Resistance:** 5000 megohms min. **Capacitance:** 0.5 picofarad max. **Operating Temperature:** −55°C to +105°C (tin), −55°C to +125°C (gold). **Vibration:** 10-2000-10 Hz in 20 minutes at .06 (1.52) or 15 Gs for 3 sweeps in each of 3 axes. **Shock:** 100 Gs sawtooth, 6 shocks. **Engaging Force:** 340 grams (3.33 N) max. (.013 (0.33) pin). **Separating Force:** 25 grams (.24 N) (.008 (0.2) pin).

No. of Pos.	Dimensions—Inch (mm)		
	Length	Width	Height
6	.295 (7.49)	.394 (10.01)	.210 (5.33)
8	.395 (10.03)	.394 (10.01)	.210 (5.33)
14	.695 (17.65)	.394 (10.01)	.210 (5.33)
16	.795 (20.19)	.394 (10.01)	.210 (5.33)
18	.895 (22.73)	.394 (10.01)	.210 (5.33)
20	.995 (25.27)	.394 (10.01)	.210 (5.33)
22	1.095 (27.81)	.494 (12.55)	.210 (5.33)
24	1.195 (30.35)	.694 (17.63)	.210 (5.33)
28	1.395 (35.43)	.694 (17.63)	.210 (5.33)
40	1.995 (50.67)	.694 (17.63)	.210 (5.33)

Single Leaf





PERFORMANCE CHARACTERISTICS. Rating: 250 VAC. **Contact Resistance:** 20 milliohms max. (initial) 30 milliohms max. (after test). **Dielectric Withstanding Voltage:** 1000 VRMS min. **Insulation Resistance:** 10,000 megohms min. **Capacitance:** 1.0 picofarad max. **Operating Temperature:** −55°C to +105°C (tin) (BeCu or PhBz), −55°C to +85°C (tin) (copper alloy). **Vibration:** 10-2000-10 Hz in 20 minutes at .06 (1.52) or 15 Gs for 3 sweeps in each of 3 axes. **Shock:** 100 Gs sawtooth, 6 shocks. **Engaging Force:** 340 grams (3.33 N) max. (.013 (0.33) pin). **Separating Force:** 15 grams (.15 N) (.008 (0.2) pin).

No. of Pos.	Dimensions—Inch (mm)		
	Length	Width	Height
8	.397 (10.08)	.390 (9.91)	.185 (4.70)
14	.697 (17.70)	.390 (9.91)	.185 (4.70)
16	.797 (20.24)	.390 (9.91)	.185 (4.70)
18	.897 (22.78)	.390 (9.91)	.185 (4.70)
20	.997 (25.32)	.390 (9.91)	.185 (4.70)
22	1.097 (27.86)	.490 (12.45)	.185 (4.70)
24	1.197 (30.40)	.690 (17.53)	.185 (4.70)
28	1.397 (35.48)	.690 (17.53)	.185 (4.70)
40	1.997 (50.72)	.690 (17.53)	.185 (4.70)

Sockets with Straight Solder Tabs

Phosphor Bronze—Tinned (Open Frame)

Stock No.	Mfr.'s Type	No. of Type	EACH	
			1-99	100-499
512-4650	2-643290-3	8	.15	.135
512-4651	2-643291-3	14	.23	.207
512-4652	2-643292-3	16	.26	.234
512-4653	2-643293-3	18	.29	.261
512-4654	2-653294-3	20	.32	.288
512-4655	2-643295-3	22	.36	.324
512-4656	2-643296-3	24	.39	.351
512-4657	2-643297-3	28	.45	.405
512-4658	2-643298-3	40	.65	.585

Sockets with Straight Solder Tails

Beryllium Copper with Tin Lead Plating

Dual Leaf (Closed Frame)

Stock No.	Mfr.'s Type	No. of Type	EACH	
			1-99	100-499
512-4520	2-641296-1	6	.170	.153
512-4521	2-640463-1	8	.170	.153
512-4522	2-640357-1	14	.280	.252
512-4523	2-640358-1	16	.330	.297
512-4524	2-640359-1	18	.370	.333
512-4525	2-640464-1	20	.414	.366
512-4526	2-640360-1	22	.450	.410
512-4527	2-640361-1	24	.500	.450
512-4528	2-640362-1	28	.580	.522
512-4529	2-640379-1	40	.740	.668

Phosphor Bronze with Tin-Lead Plating

Dual Leaf (Closed Frame)

512-4530	2-641296-3	6	.150	.135
512-4531	2-640463-3	8	.150	.135
512-4532	2-640357-3	14	.190	.171
512-4533	2-640358-3	16	.220	.198
512-4534	2-640359-3	18	.250	.225
512-4535	2-640464-3	20	.270	.243
512-4536	2-640360-3	22	.300	.270
512-4537	2-640361-3	24	.330	.297
512-4538	2-640362-3	28	.380	.342
512-4539	2-640379-3	40	.540	.486

Beryllium Copper with .000030" Gold Plating*

Dual Leaf (Closed Frame)

512-4540	2-641296-2	6	.370	.333
512-4541	2-640463-2	8	.370	.333
512-4542	2-640357-2	14	.620	.558
512-4543	2-640358-2	16	.710	.629
512-4544	2-640359-2	18	.800	.720
512-4545	2-640464-2	20	.890	.801
512-4546	2-640360-2	22	1.040	.936
512-4547	2-640361-2	24	1.150	1.035
512-4548	2-640362-2	28	1.210	1.089
512-4549	2-640379-2	40	1.600	1.440

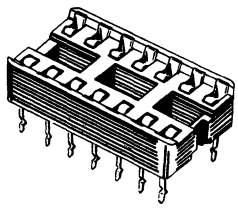
Phosphor Bronze with .000015" Gold Plating*

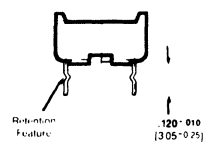
Dual Leaf (Closed Frame)

512-4550	2-641296-4	6	.270	.215
512-4551	2-640463-4	8	.270	.215
512-4552	2-640357-4	14	.470	.380
512-4553	2-640358-4	16	.540	.430
512-4554	2-640359-4	18	.600	.480
512-4555	2-640464-4	20	.670	.530
512-4556	2-640360-4	22	.810	.650
512-4557	2-640361-4	24	.860	.700
512-4558	2-640362-4	28	.920	.740
512-4559	2-640379-4	40	1.310	1.050

*Gold thickness in contact area. Tin-lead plate on solder tails.

Sockets with Retention Feature





Beryllium Copper—Tinned

Dual Leaf (Open Frame except 6 and 8 contact)

Stock No.	Mfr.'s Type	No. of Type	EACH	
			1-99	100-499
512-4620	2-641259-1	6	.22	.198
512-4621	2-641260-1	8	.22	.198
512-4622	2-641609-1	14	.39	.351
512-4623	2-641610-1	16	.44	.396
512-4624	2-641611-1	18	.49	.451
512-4625	2-641612-1	20	.55	.495
512-4626	2-641613-1	22	.61	.549
512-4627	2-641614-1	24	.66	.594
512-4628	2-641615-1	28	.78	.702
512-4629	2-641616-1	40	1.11	.999

Phosphor Bronze—Tinned

Dual Leaf (Open Frame except 6 and 8 contact)

512-4630	2-641259-3	6	.15	.135
512-4631	2-641260-3	8	.15	.135
512-4632	2-641609-3	14	.24	.216
512-4633	2-641610-3	16	.27	.243
512-4634	2-641611-3	18	.31	.279
512-4635	2-641612-3	20	.34	.306
512-4636	2-641613-3	22	.37	.333
512-4637	2-641614-3	24	.41	.369
512-4638	2-641615-3	28	.48	.432
512-4639	2-641616-3	40	.68	.612

Beryllium Copper with .000030" Gold Plating*

Dual Leaf (Open Frame except 6 and 8 contact)

512-4570	2-641259-2	6	.40	.360
512-4571	2-641260-2	8	.40	.360
512-4572	2-641609-2	14	.62	.558
512-4573	2-641610-2	16	.69	.621
512-4574	2-641611-2	18	.86	.774
512-4575	2-641612-2	20	.96	.864
512-4576	2-641613-2	22	1.05	.945
512-4577	2-641933-2	24	1.15	1.035
512-4578	2-641615-2	28	1.24	1.116
512-4579	2-641616-2	40	1.77	1.593

*Gold thickness in contact area. Tin-lead plate on solder tails.

Phosphor Bronze with .000015" Gold Plating*

Dual Leaf (Open Frame except 6 and 8 contact)

Stock No.	Mfr.'s Type	No. of Type	EACH	
			1-99	100-499
512-4580	2-641259-4	6	.31	.289
512-4581	2-641260-4	8	.31	.289
512-4582	2-652609-4	14	.52	.468
512-4583	2-641610-4	16	.60	.540
512-4584	2-641611-4	18	.67	.603
512-4585	2-641612-4	20	.74	.666
512-4586	2-641613-4	22	.82	.738
512-4587	2-641614-4	24	.89	.801
512-4588	2-641615-4	28	.92	.822
512-4589	2-641616-4	40	1.49	1.341

Beryllium Copper with Tin-Lead Plating

Single Leaf (Open Frame)

512-4500	2-641866-1	8	.22	.198
512-4501	2-641867-1	14	.34	.306
512-4502	2-641868-1	16	.39	.351
512-4503	2-641869-1	18	.44	.396
512-4504	2-641870-1	20	.49	.441
512-4505	2-641871-1	22	.54	.486
512-4506	2-641872-1	24	.59	.531
512-4507	2-641873-1	28	.69	.621
512-4508	2-641874-1	40	.98	.882

Phosphor Bronze with Tin-Lead Plating

Single Leaf (Open Frame)

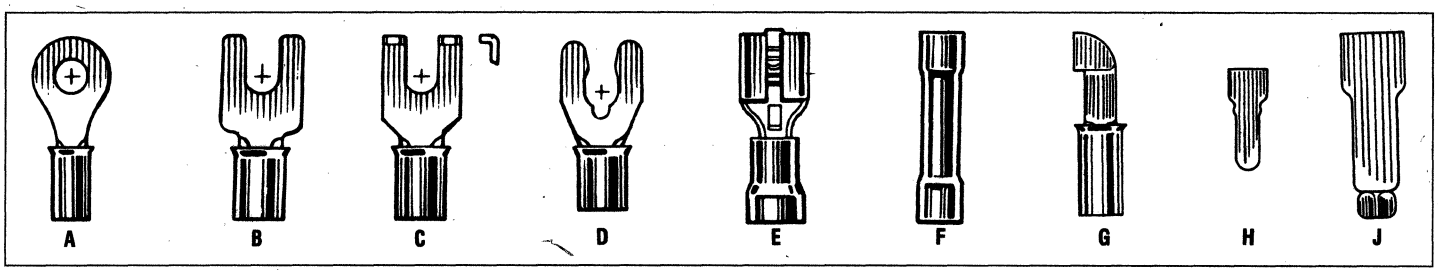
512-4510	2-651866-3	8	.15	.135
512-4511	2-641867-3	14	.22	.198
512-4512	2-641868-3	16	.25	.225
512-4513	2-641869-3	18	.29	.261
512-4514	2-641870-3	20	.32	.288
512-4515	2-641871-3	22	.35	.315
512-4516	2-641872-3	24	.39	.351
512-4517	2-641873-3	28	.45	.405
512-4518	2-641874-3	40	.65	.585

Copper Alloy with Tin-Lead Plating

Single Leaf (Open Frame)

512-4560	2-651866-5	8	.11	.099
512-4561	2-641867-5	14	.18	.162
512-4562	2-641868-5	16	.21	.189
512-4563	2-641869-5	18	.24	.216
512-4564	2-641870-5	20	.26	.234
512-4565	2-641871-5	22	.29	.261
512-4566	2-641872-5	24	.32	.288
512-4567	2-641873-5	28	.40	.36
512-4568	2-641874-5	40	.53	.477

*Gold thickness in contact area. Tin-lead plate on solder tails.



These terminals feature color-coded nylon sleeves, funnel ramp entry, serrated inner barrel, a copper sleeve over the barrel, and tin-plated terminals for corrosion resistance.

Terminals meet or exceed the requirements of MIL-T-7928, Type 11, Class 1 and 2.

Ring Tongue Terminals (Fig. A)

Nylon insulation, tin-plated copper terminals.

AWG 22-16 (Red)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-4300	31880	4	.140″	.672″	.218″	18.24	15.52	13.69
512-4302	36150	6	.140″	.672″	.218″	18.24	15.52	13.69
512-4304	36152	6	.140″	.797″	.281″	18.24	15.52	13.69
512-4306	31890	8	.140″	.844″	.312″	18.24	15.52	13.69
512-4308	36154	10	.140″	.844″	.312″	18.24	15.52	13.69
512-4310	31887	10	.140″	.797″	.281″	18.24	15.52	13.69
512-4312	32836	10	.125″	.876″	.344″	17.66	15.00	13.24
512-4314	31894	1/4″	.140″	1.078″	.469″	21.34	18.13	16.00
512-4316	31895	5/16″	.140″	1.078″	.469″	21.34	18.13	16.00
512-4318	31897	3/8″	.140″	1.218″	.531″	21.99	18.68	16.48
512-4320	328975	1/2″	.140″	1.293″	.713″	23.81	20.26	17.88

AWG 16-14 (Blue)

512-4322	328996	4	.170″	.703″	.250″	18.24	15.52	13.69
512-4324	36157	6	.150″	.859″	.343″	18.24	15.52	13.69
512-4326	36158	6	.170″	.859″	.343″	18.24	15.52	13.69
512-4328	320560	8	.150″	.859″	.343″	18.24	15.52	13.69
512-4330	320565	8	.170″	.859″	.343″	18.24	15.52	13.69
512-4332	320574	10	.150″	.859″	.343″	18.24	15.52	13.69
512-4334	36160	10	.170″	.859″	.343″	18.24	15.52	13.69
512-4336	321045	1/4″	.170″	1.078″	.469″	21.34	18.13	16.00
512-4338	328998	5/16″	.170″	1.078″	.469″	21.34	18.13	16.00
512-4340	328999	3/8″	.170″	1.218″	.531″	21.99	18.68	16.48

AWG 12-10 (Yellow)

512-4342*	35149	6	.250″	.953″	.281″	10.82	9.18	8.10
512-4344	35108	8	.250″	1.083″	.375″	21.64	18.37	16.21
512-4130	324918	10	.230″	1.052″	.312″	21.64	18.37	16.21
512-4346	35109	10	.250″	1.083″	.375″	21.64	18.37	16.21
512-4348	35110	1/4″	.250″	1.322″	.531″	25.17	21.37	18.85
512-4350	35111	5/16″	.250″	1.322″	.531″	25.17	21.37	18.85
512-4352	35112	3/8″	.250″	1.414″	.593″	25.17	21.37	18.85
512-4354*	35151	1/2″	.250″	1.594″	.750″	13.03	11.48	10.18

*Package of 50.

Spade Tongue Terminals (Fig. B)

AWG 22-16 (Red)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-4356	328394	2	.140″	.727″	.182″	18.24	15.52	13.69
512-4358	327717	4	.140″	.674″	.218″	22.24	18.89	16.70
512-4360	34541	6	.140″	.846″	.250″	18.24	15.52	13.69
512-4362	32053	8	.140″	.908″	.375″	18.24	15.52	13.69
512-4364	32054	10	.140″	.908″	.375″	18.24	15.52	13.69

AWG 16-14 (Blue)

512-4366	35559	6	.170″	.753″	.297″	18.24	15.52	13.69
512-4368	321233	8	.170″	.753″	.297″	18.24	15.52	13.69
512-4370	32060	10	.170″	.908″	.375″	18.24	15.52	13.69

AWG 12-10 (Yellow)

512-4372	322985	6	.230″	.954″	.290″	23.80	20.21	18.10
512-4088	32588	8	.230″	1.095″	.406″	21.54	18.37	16.20
512-4376*	32589	10	.230″	1.095″	.406″	10.82	9.19	8.10

*Package of 50

Faston Receptacles (Fig. E)

Stock No.	Mfr.'s Type	AWG	Insulation Dia. (Max.)	Length	Fits Tab	PER PKG./100		
						1-4	5-9	10-24
512-4150	640903-1	22-18	.140″	.900″	.250″ × .032″	22.52	19.17	17.00
512-4440	640917-1	22-18	.135″	.800″	.187″ × .020″	22.52	19.17	17.00
512-4160	640905-1	16-14	.170″	.900″	.250″ × .032″	22.52	19.17	17.00
512-4444	640919-1	16-14	.170″	.800″	.187″ × .020″	22.52	19.17	17.00
512-4155*	640907-1	12-10	.250″	1.012″	.250″ × .032″	14.56	12.36	11.67

*Package of 50

Flanged Spade Tongue Terminals (Fig. C)

AWG 22-16 (Red)

Stock No.	Mfr.'s Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-4378	324608	2	.140″	.727″	.182″	20.10	17.08	15.00
512-4380	32562	6	.140″	.737″	.296″	20.10	17.08	15.00
512-4382	32498	8	.140″	.830″	.416″	20.10	17.08	15.00

AWG 16-14 (Blue)

512-4384	320861	6	.170″	.737″	.294″	20.10	17.08	15.00
512-4386	320862	8	.170″	.737″	.294″	20.10	17.08	15.00
512-4388	320863	10	.170″	.737″	.294″	20.10	17.08	15.00

AWG 12-10 (Yellow)

512-4390	325150*	6	.250″	1.017″	.296″	11.90	10.11	9.05
512-4392	32510*	8	.230″	1.017″	.416″	11.90	10.11	9.05
512-4394	324015	10	.250″	1.017″	.416″	23.80	20.21	18.10

*Package of 50

Short Spring Spade Terminals (Fig. D)

Short Spring

Stock No.	Mfr.'s Type	AWG	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
							1-4	5-9	10-24
512-4406	52927	22-16	4	.125″	.799″	.203″	20.86	17.76	15.50
512-4408	52929	22-16	6	.125″	.799″	.250″	20.86	17.76	15.50
512-4410	52930	22-16	8	.125″	.860″	.375″	20.86	17.76	15.50
512-4412	52931	22-16	10	.125″	.908″	.406″	20.86	17.76	15.50
512-4414	52935	16-14	6	.170″	.799″	.250″	20.86	17.76	15.50
512-4416	52936	16-14	8	.170″	.860″	.375″	20.86	17.76	15.50
512-4418	52937	16-14	10	.170″	.908″	.406″	20.86	17.76	15.50
512-4420	52941	12-10	6	.250″	.959″	.250″	24.55	20.84	18.50
512-4422	52942	12-10	8	.250″	1.052″	.375″	24.55	20.84	18.50
512-4424	52943	12-10	10	.250″	1.100″	.406″	24.55	20.84	18.50

Long Spring

512-4426	52409	22-16	6	.125″	.938″	.250″	20.86	17.76	15.50
512-4428	52410	22-16	8	.125″	.979″	.281″	20.86	17.76	15.50
512-4430	52411	22-16	10	.125″	1.005″	.343″	20.86	17.76	15.50
512-4432	52404	16-14	6	.170″	.928″	.250″	20.86	17.76	15.50
512-4434	52421-1	16-14	8	.170″	.974″	.281″	20.86	17.76	15.50
512-4436	52422-1	16-14	10	.170″	1.000″	.343″	20.86	17.76	15.50

Butt Splice Terminals (Fig. F)

Stock No.	Mfr.'s Type	AWG	Insulation Dia. (Max.)	Length	Barrel ID. Min.	PER PKG./50		
						1-4	5-9	10-24
512-4396	320559	22-16	.125″	1.265″	.061″	32.20	27.35	24.10
512-4398	320562	16-14	.150″	1.265″	.085″	32.20	27.35	24.10
512-4400	320570	12-10	.220″	1.656″	.129″	49.72	41.64	35.00

Knife Disconnect Splices (Fig. G)

Stock No.	Mfr.'s Type	AWG	Insulation Dia. (Max.)	Length	PER PKG./100		
					1-4	5-9	10-24
512-4402	32446	22-16	.140″	.878″	36.36	30.94	27.50
512-4404	32448	16-14	.170″	.878″	36.36	30.94	27.50

Closed End Splices (Fig. H and J)

Stock No.	Mfr.'s Type	AWG	Material	Rating Code	Length	Fig.	PER PKG./100		
							1-4	5-9	10-24
512-4448	36964	22-16	Purple Vinyl	VS	.740″	J	9.10	7.75	6.50
512-4450	35115	22-16	Trans. Nylon	ECN	.680″	H	11.27	9.59	8.30
512-4452	35653	22-10	Trans. Nylon	ECN	.775″	H	12.79	10.89	9.40
512-4454	36965	22-10	Purple Vinyl	VS	1.010″	J	10.02	8.53	7.25

*VS = 300 V, 90°C; ECN = 300 V, 105°C

Solderless Terminals and Splices

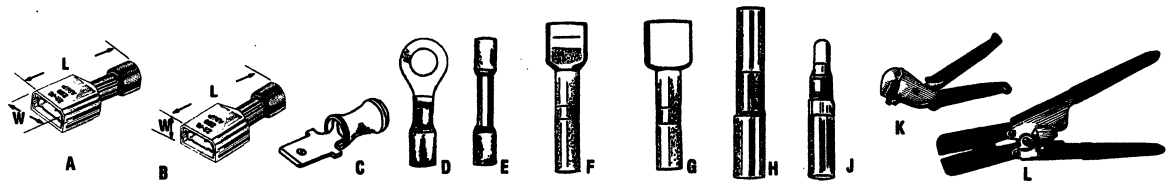


Fig. A—Ultra-Fast Fully Insulated FASTON® Receptacles
Housing: Translucent, color-coded nylon type 6/6. **Terminal:** Tin plated copper alloy.

Stock No.	Mfr.'s Type	AWG	Length	Width	Mating Tab	Pkg. Size	PER PKG. 1-4	PER PKG. 5-9
512-4202	2-520184-2	22-16	.855″	.370″	.032″ × .250″	100	15.94	14.04
512-4204	2-520264-2	22-16	.935″	.370″	.032″ × .250″	250	44.34	39.91
512-4206	3-350820-2	16-14	.855″	.370″	.032″ × .250″	250	39.85	35.86
512-4208	3-520141-2	16-14	.935″	.370″	.032″ × .250″	100	17.74	15.97
512-4212	4-520448-2	12-10	.935″	.370″	.032″ × .250″	1000	202.80	182.60
512-4214	2-520182-2	22-18	.855″	.300″	.020″ × .187″	100	14.61	13.15
512-4216	2-520194-2	22-18	.855″	.300″	.032″ × .187″	250	36.53	32.88
512-4218	2-520275-2	22-16	.935″	.300″	.032″ × .187″	250	40.63	36.57
512-4222	3-350816-2	16-14	.855″	.300″	.020″ × .187″	100	14.61	13.15
512-4224	3-520125-2	16-14	.855″	.300″	.032″ × .187″	500	73.05	65.75
512-4226	3-520151-2	16-14	.935″	.300″	.020″ × .187″	500	81.25	73.15
512-4228	2-520081-2	22-18	.735″	.235″	.016″ × .110″	500	78.60	70.75
512-4232	2-520084-2	22-18	.735″	.235″	.020″ × .110″	100	15.72	14.15
512-4234	2-520273-2	22-18	.735″	.235″	.032″ × .110″	500	78.60	70.75

Fig. B—Ultra-Fast Fully Insulated FASTON® Tab Terminals

Stock No.	Mfr.'s Type	AWG	Length	Width	Fits Receptacle	Pkg. Size	PER PKG. 1-4	PER PKG. 5-9
512-4236	2-520103-2	22-16	.855″	.275″	.032″ × .250″	100	29.05	26.15
512-4238	2-520107-2	16-14	.855″	.275″	.032″ × .250″	100	29.05	26.15

Fig. C—PIDG Insulated Tab Terminals
Nylon insulation, copper sleeve, tinned copper alloy tab terminal.

512-4242	66023-2	22-16	—	—	.032″ × .250″	100	27.50	24.75
512-4246	66024-2	16-14	—	—	.032″ × .250″	100	27.50	24.75

Pre-Insulated Sealed Terminals and Splices (Heat Shrinkable)

The items have color-coded nylon, heat-shrinkable sleeves, and heavy duty clear insulation. The connectors are environmentally sealed to prevent corrosion from fluids and vapors.

Wire Size 22-16

Stock No.	Mfr.'s Type	Description	Fig.	Pkg. Size	PER PKG.* 1-4	PER PKG.* 5-9
512-4248	607922-1	Ring Terminal #6 Stud	D	1	.70	.63
512-4250	607922-2	Ring Terminal #8 Stud	D	1	.70	.63
512-4252	607922-3	Ring Terminal #10 Stud	D	50	25.00	22.25
512-4254	607922-4	Ring Terminal 1/4″ Stud	D	50	30.00	27.00
512-4200	603502-2	Butt Splice	E	100	63.00	56.70
512-4240	607709-1	.250″ Receptacle	F	1	.86	.77

Wire Size 16-14

512-4260	607923-1	Ring Terminal #6 Stud	D	1	.72	.65
512-4262	607923-2	Ring Terminal #8 Stud	D	1	.72	.65
512-4205	603503-2	Butt Splice	E	100	63.00	56.70
512-4230	607705-1	.250″ Receptacle	F	1	.88	.79
512-4235	607706-1	.250″ Tab	G	1	.88	.79
512-4270	607707-1	.156″ Dia. Shur-Plug Receptacle	H	1	.96	.86
512-4272	607708-1	.156″ Dia. Shur-Plug Pin	J	1	.86	.77

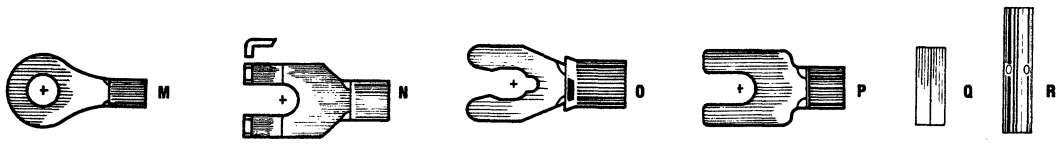
Wire Size 12-10

512-4274	607924-1	Ring Terminal #8 Stud	D	1	.84	.76
512-4210	603504-2	Butt Splice	E	50	44.95	40.45

*For items sold with a package size of 1, the 2nd price is 25-99.

Crimp Tools
Fig. K—Type 607949-1. For pre-insulated sealed terminals and splices.
512-9220 ..... **EACH 110.00**
Fig. L—Type 59824-1. For PIDG FASTON receptacles.
512-9225 ..... **EACH 311.27**

Solistrand Uninsulated Terminals



Constructed of fine grade high conductivity copper (spring spade terminals are constructed of phosphor bronze) and tin-plated. These feature a brazed seam, dimples or serrations inside the barrel and a bell-shaped barrel entrance. Meets or exceeds the requirements of MIL-T-7928, type 1, class 1 and 2. UL listed and CSA certified.

Fig. M—Ring Tongue Terminals

Stock No.	Mfr.'s Type	AWG	Stud Size	Length	Width	Pkg. Size	PER PKG. 1-4	PER PKG. 5-9
512-4278	34110	22-16	#6	.621″	.312″	100	9.19	7.82
512-4280	34111	22-16	#8	.625″	.312″	100	9.19	7.82
512-4282	34112	22-16	#10	.625″	.312″	100	9.19	7.82
512-4284	34113	22-16	1/4″	.855″	.469″	100	10.74	9.14
512-4286	34120	16-14	#6	.590″	.312″	100	9.19	7.82
512-4288	324955	16-14	#8	.590″	.312″	200	18.38	15.64
512-4290	34123	16-14	#10	.636″	.343″	100	9.19	7.82
512-4292	34124	16-14	1/4″	.855″	.469″	100	10.74	9.14
512-4294	32994	12-10	#8	.760″	.375″	50	5.96	5.06
512-4296	33457	12-10	#10	.760″	.375″	100	11.92	10.12
512-4298	33458	12-10	1/4″	1.004″	.531″	100	13.70	11.63

Fig. N—Flanged Spade Tongue Terminals

512-4301	320749	22-16	6	.514″	.296″	100	10.10	8.60
512-4303	320856	16-14	8	.514″	.294″	100	10.10	8.60

Fig. P—Spade Tongue Terminals

512-4305	36195	22-16	6	.530″	.297″	100	9.19	7.82
512-4307	323127	22-16	6	.623″	.250″	200	18.38	15.64
512-4309	34117	22-16	8	.685″	.375″	200	18.38	15.64
512-4311	34118	22-16	10	.685″	.375″	100	9.19	7.82
512-4313	32995	12-10	8	.772″	.406″	100	11.92	10.12
512-4315	33479	12-10	10	.772″	.406″	100	11.92	10.12

Fig. O—Short Spring Spade Tongue Terminals

Stock No.	Mfr.'s Type	AWG	Stud Size	Length	Width	Pkg. Size	PER PKG. 1-4	PER PKG. 5-9
512-4317	53120-1	22-16	6	.576″	.250″	100	11.94	10.16
512-4319	53123-1	16-14	6	.576″	.250″	100	11.94	10.16
512-4321	53124-1	16-14	8	.637″	.375″	100	11.94	10.16
512-4323	53125-1	16-14	10	.685″	.406″	100	11.94	10.16
512-4325	53126-1	12-10	6	.636″	.250″	50	7.48	6.35
512-4327	53127-1	12-10	8	.729″	.375″	50	7.48	6.35
512-4329	53128-1	12-10	10	.777″	.406″	50	7.48	6.35

Fig. Q—Parallel Splices
When using two or more wires in a parallel splice, the combined cross sectional area must be within the circular mil area (CMA) listed.

Stock No.	Mfr.'s Type	AWG	CMA	Length	Pkg. Size	PER PKG. 1-4	PER PKG. 5-9
512-4331	34130	22-16	509-3,260	.301″	100	8.67	7.38
512-4333	34137	16-14	2,050-5,180	.301″	100	8.67	7.38
512-4335	34138	12-10	5,180-13,100	.343″	50	5.00	4.38

Fig. R—Standard Butt Splices

512-4337	31818	22-16	509-3,260	.591″	100	13.28	11.30
512-4339	31819	16-14	2,050-5,180	.572″	100	13.28	11.30
512-4341	32151	12-10	5,180-13,100	.567″	50	8.69	7.40

Plasti-Grip® Terminals and Splices

Terminals are constructed of high conductivity copper and are tin-plated. Spring spade tongue terminals are constructed of phosphor bronze and are tin-plated. Color-coded vinyl insulation sleeves with a funnel entry for easy wire insertion. UL and CSA rated for 600 V max. (1000 V fixture or sign.) and 90°C.

Fig. A

Fig. B

Fig. C

Fig. D

Fig. E.

Ring Tongue Terminals (Fig. A)

22-16 AWG (Red)

Stock No.	Mfr's. Type	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
						1-4	5-9	10-24
512-4008	34141	4	.140″	.684″	.218″	14.04	11.95	10.55
512-4010	34142	6	.140″	.572″	.218″	14.04	11.95	10.55
512-4015	34144	6	.140″	.809″	.218″	14.04	11.95	10.55
512-4020	34145	8	.140″	.809″	.281″	14.04	11.95	10.55
512-4016	34148	8	.140″	.856″	.312″	14.04	11.95	10.55
512-4025	34146	10	.140″	.809″	.281″	14.04	11.95	10.55
512-4028	34149	10	.140″	.856″	.312″	14.04	11.95	10.55
512-4030	34150	1/4″	.140″	1.090″	.469″	16.42	13.97	12.33
512-4032	34151	5/16″	.140″	1.090″	.469″	16.42	13.97	12.33
512-4034	34152	3/8″	.140″	1.230″	.531″	16.91	14.40	12.71
16-14 AWG (Blue)								
512-4036	34157	4	.170″	.715″	.250″	18.54	15.78	13.93
512-4035	34158	6	.170″	.715″	.250″	14.04	11.95	10.55
512-4040	34160	8	.170″	.871″	.343″	14.04	11.95	10.55
512-4045	34161	10	.170″	.871″	.343″	14.04	11.95	10.55
512-4120	34162	1/4″	.170″	1.090″	.469″	16.42	13.97	12.33
512-4042	34163	5/16″	.170″	1.090″	.469″	16.42	13.97	12.33
512-4044	34164	3/8″	.170″	1.230″	.531″	16.91	14.40	12.71
12-10 AWG (Yellow)								
512-4046	34852	6	.250″	.953″	.281″	17.03	14.46	12.76
512-4047**	34169	8	.230″	1.083″	.375″	8.51	7.23	6.38
512-4048**	34853	8	.250″	1.083″	.375″	8.51	7.23	6.38
512-4050**	34854	10	.250″	1.083″	.375″	8.51	7.23	6.38
512-4056**	34855	1/4″	.250″	1.327″	.531″	9.78	8.30	7.32
512-4057**	34172	5/16″	.230″	1.327″	.531″	9.78	8.30	7.32
512-4058**	34856	5/16″	.250″	1.327″	.531″	9.92	8.42	7.43
512-4054**	34173	3/8″	.230″	1.421″	.593″	9.78	8.30	7.32
512-4059**	34837	1/2″	.250″	1.594″	.750″	14.61	12.41	10.95

** Package of 50.

Spade Tongue Terminals (Fig. B)

Stock No.	Mfr's. Type	AWG	Stud Size	Insulation Dia. (Max.)	Length	Width	PER PKG./100		
							1-4	5-9	10-24
512-4060	320665	22-16	6	.140″	.765″	.297″	14.04	11.95	10.55
512-4065	34155	22-16	8	.140″	.920″	.375″	14.04	11.95	10.55
512-4066	34156	22-16	10	.140″	.920″	.375″	14.04	11.95	10.55
512-4080	322994	16-14	6	.140″	.765″	.297″	14.04	11.95	10.55
512-4082	34166	16-14	8	.170″	.920″	.375″	14.04	11.95	10.55
512-4085	34167	16-14	10	.170″	.920″	.375″	14.04	11.95	10.55
512-4092**	34176**	12-10	10	.230″	1.095″	.406″	8.51	7.23	6.38

Flanged Spade Tongue Terminals (Fig. C)

512-4070	322249	22-16	6	.140″	.749″	.296″	15.45	13.15	11.60
512-4072	324169	22-16	8	.140″	.842″	.416″	15.45	13.15	11.60
512-4074	328516	22-16	10	.140″	.749″	.296″	15.45	13.15	11.60
512-4094	324165	16-14	6	.170″	.749″	.294″	15.45	13.15	11.60
512-4096	324581	10-12	6	.230″	1.017″	.296″	15.77	13.39	11.82
512-4076**	324172	10-12	8	.230″	1.017″	.416″	7.91	6.71	5.92

Short Spring Spade Tongue Terminals (Fig. D)

512-4097	52947	22-16	4	.140″	.811″	.203″	16.66	14.18	12.52
512-4005	52949	22-16	6	.140″	.811″	.250″	16.66	14.18	12.52
512-4098	52950	22-16	8	.140″	.872″	.375″	16.66	14.18	12.52
512-4102	52951	22-16	10	.140″	.920″	.406″	16.66	14.18	12.52
412-4104	52955	16-14	6	.140″	.811″	.250″	16.66	14.18	12.52
512-4106	52956	16-14	8	.170″	.872″	.375″	16.66	14.18	12.52
512-4108	52957	16-14	10	.170″	.920″	.406″	16.66	14.18	12.52
512-4112	52961	12-10	6	.200″	.959″	.250″	19.94	16.93	14.93
512-4114	52962	12-10	8	.200″	1.052″	.375″	19.94	16.93	14.93
512-4116	52963	12-10	10	.200″	1.100″	.406″	19.94	16.93	14.93

** Package of 50

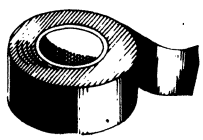
Butt Splices (Fig. E)

Stock No.	Mfr's. Type	AWG	Insulation Dia. (Max.)	Length	PER PKG./100		
					1-4	5-9	10-24
512-4135	34070	22-16	.140″	1.065″	16.85	14.34	12.65
512-4140	34071	16-14	.170″	1.065″	16.85	14.34	12.65
512-4000	34072	12-10	.230″	1.160″	25.31	21.49	18.96

** Package of 50

Cold Shrink Tape

This is an all purpose insulating and sealing tape which bonds itself permanently, water seals, has better insulating qualities than electrical tape and is ideal for "buried" applications.

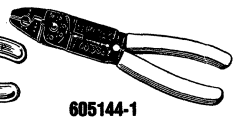


Stock No.	Mfr's. Type	Description	EACH		
			1-49	50-99	100-Up
512-0001	605260-1	1″ × 10′ Blk	3.26	3.02	2.78
512-0002	607971-1	1″ × 10′ Wht	3.26	3.02	2,78

Hand Tools

6-601881-2

6-601881-4

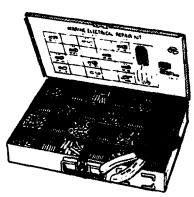

605144-1

6-601881-2 Deluxe Wire Stripping Tool. For solid and stranded wire 22-10 AWG.
512-9180 ..... **EACH 6.00**

6-601881-4 Super Champ® Hand Tool. All purpose electrical repair tool. Crimps 22-10 AWG terminals, strips wire, cuts bolts and wire.
512-9185 ..... **EACH 15.00**

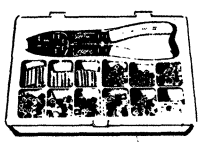
605144-1 Super Champ IV® . Crimps insulated and uninsulated terminals including all Plastic-Grip, PIDG, and Solistrand types and splices.
512-9190 ..... **EACH 18.00**

Terminal Kits



Marina Operator's Shop Kit

600486-1. Rugged steel carrying case contains eleven different types of basic terminals. Includes those used most often by Marina operators. A Super Champ crimping tool completes the kit. Illustrated sheet in lid identifies and locates components. Extra compartments allow customizing kit with other AMP products.
512-9200 ..... **EACH 67.75**

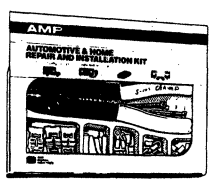


Electrical Repair Kit

1-601881-3. 104 assorted terminals. A Super Champ IV crimping tool for insulated and uninsulated terminals, wire sizes 22-10 AWG. Complete in clear plastic case.
512-9210 ..... **EACH 30.65**

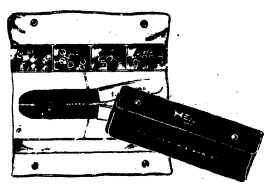
Auto & Home Repair and Installation Kit

604555-1. 41 assorted connectors and nylon wire ties. Also includes a handy Super Champ crimping tool. Complete in clear plastic case.
512-9205 ..... **EACH 18.25**

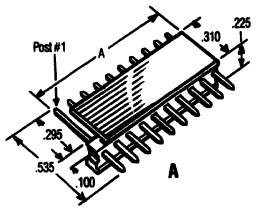


Emergency Electrical Repair Kit

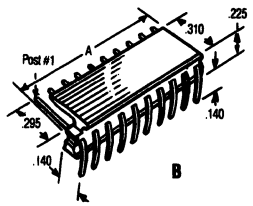
604812-1. 26 of the most popular insulated terminals and splices plus a versatile Super Champ crimping tool, for wire sizes 22-10 AWG. Complete in a folding vinyl case.
512-9215 ..... **EACH 17.00**



MTA-100 Post Headers .100 Centers



A



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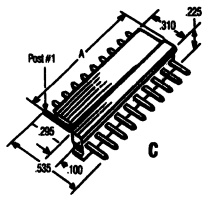

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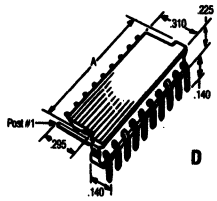


D

Polarized Header With Polarizing Notches

Straight Post .025 Square—Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3300	640454-2	2	.200	2	.124	.103	.093
512-3301	640454-3	3	.300	2	.186	.155	.139
512-3302	640454-4	4	.400	2	.249	.208	.186
512-3303	640454-5	5	.500	2	.310	.259	.232
512-3304	640454-6	6	.600	2	.339	.282	.253
512-3305	640454-7	7	.700	2	.395	.329	.295
512-3306	640454-8	8	.800	2	.451	.376	.337
512-3307	1-640454-0	10	1.000	2	.564	.470	.421
512-3308	1-640454-2	12	1.200	2	.677	.564	.505

Straight Post .025 Square—Fig. A

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3309	1-640454-4	14	1.400	2	.790	.658	.590
512-3310	2-640454-0	20	2.000	2	1.411	1.176	1.053

Right Angle Post .025 Square—Fig. B

512-3311	640455-2	2	.200	2	.186	.155	.139
512-3312	640455-5	5	.500	2	.466	.388	.347
512-3313	640455-8	8	.800	2	.677	.564	.505

Friction Lock Header With Polarizing Notches

Straight Posts .025 Square—Fig. C

512-3314	640456-2	2	.200	2	.114	.095	.085
512-3315	640456-3	3	.300	2	.171	.142	.127
512-3316	640456-4	4	.400	2	.228	.190	.170
512-3317	640456-5	5	.500	2	.284	.237	.212
512-3318	640456-6	6	.600	2	.310	.259	.232
512-3319	640456-7	7	.700	2	.362	.302	.270
512-3320	640456-8	8	.800	2	.414	.345	.309
512-3321	640456-9	9	.900	2	.466	.388	.347
512-3322	1-640456-0	10	1.000	2	.517	.431	.386
512-3323	1-640456-1	11	1.100	2	.569	.474	.425
512-3324	1-640456-2	12	1.200	2	.621	.517	.463
512-3325	1-640456-3	13	1.300	2	.672	.560	.502
512-3326	1-640456-4	14	1.400	2	.724	.604	.540
512-3327	1-640456-5	15	1.500	2	.970	.808	.724
512-3328	1-640456-6	16	1.600	2	1.035	.862	.772
512-3329	1-640456-8	18	1.800	2	1.164	.970	.869
512-3330	2-640456-0	20	2.000	2	1.293	1.078	.965

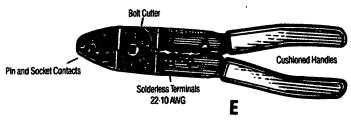
Straight Posts .025 Square—Fig. C

512-3331	2-640456-2	22	2.200	2	1.423	1.186	1.062
512-3332	2-640456-4	24	2.400	2	1.552	1.293	1.158

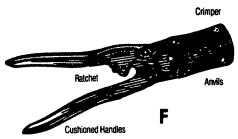
Right Angle Post .025 Square—Fig. D

512-3333	640457-2	2	.200	2	.186	.155	.139
512-3334	640457-3	3	.300	2	.279	.233	.208
512-3335	640457-4	4	.400	2	.372	.310	.278
512-3336	640457-5	5	.500	2	.466	.388	.347
512-3337	640457-6	6	.600	2	.508	.423	.379
512-3338	640457-7	7	.700	2	.593	.494	.442
512-3339	640457-8	8	.800	2	.677	.564	.505
512-3340	640457-9	9	.900	2	.762	.635	.569
512-3341	1-640457-0	10	1.000	2	.846	.705	.632
512-3342	1-640457-5	15	1.500	2	1.587	1.323	1.184
512-3343	2-640457-4	24	2.400	2	2.538	2.115	1.894

*Finish: 2 = Tin plated, copper alloy.



E



F

AMP Tools

Fig E. Hand Tool. Crimps solderless terminals 22-10 AWG. Cuts bolts. Cushioned handles.
512-9126. 601884-1 (725) ..... **EACH 47.67**

Fig. F. Ratchet Tool. Crimps 32-20 AWG Contacts. CERTI-CRIMP ratchet handle assures proper termination.
512-9119. 603547-1 (725-1) ..... **EACH 90.55**

MTA-156 Receptacles .156 Centers

Closed End With Lock, Without Polarizing Tab—Fig. G

24 AWG

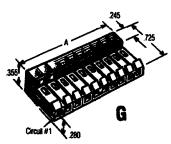
Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3344	640429-2	2	.312	1	.155	.129	.116
512-3345	640429-6	6	.936	1	.423	.353	.316

22 AWG

512-3346	640428-2	2	.312	1	.155	.129	.116
512-3347	640428-3	3	.468	1	.233	.194	.174
512-3348	640428-4	4	.624	1	.310	.259	.232
512-3349	640428-5	5	.780	1	.388	.323	.290
512-3350	640428-6	6	.936	1	.423	.353	.316
512-3351	640428-7	7	1.092	1	.494	.412	.369
512-3352	640428-8	8	1.248	1	.564	.470	.421
512-3353	640428-9	9	1.404	1	.635	.529	.474
512-3354	1-640428-0	10	1.560	1	.705	.588	.526
512-3355	1-640428-1	11	1.716	1	.776	.647	.579
512-3356	1-640428-2	12	1.872	1	.180	1.60	.140

18 AWG

512-3357	640426-2	2	.312	1	.155	.129	.116
512-3358	640426-3	3	.468	1	.233	.194	.174
512-3359	640426-4	4	.624	1	.310	.259	.232
512-3360	640426-5	5	.780	1	.388	.323	.290
512-3361	640426-6	6	.936	1	.423	.353	.316
512-3362	640426-7	7	1.092	1	.494	.412	.369
512-3363	640426-8	8	1.248	1	.564	.470	.421
512-3364	640426-9	9	1.404	1	.635	.529	.474
512-3365	1-640426-0	10	1.560	1	.705	.588	.526
512-3366	1-640426-1	11	1.716	1	.776	.647	.579
512-3367	1-640426-2	12	1.872	1	.847	.706	.632
512-3368	1-640426-3	13	2.028	1	.917	.764	.684
512-3369	1-640426-4	14	2.184	1	.988	.823	.737
512-3370	1-640426-5	15	2.340	1	1.323	1.102	.987



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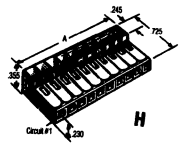


H

Closed End Without Lock, Without Polarizing Tabs—Fig. H

22 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3371	640433-3	3	.468	1	.233	.194	.174
512-3372	640433-5	5	.780	1	.388	.323	.290
512-3373	640433-6	6	.936	1	.423	.353	.316
512-3374	640433-7	7	1.092	1	.494	.412	.369
512-3375	640433-8	8	1.248	1	.564	.470	.421
512-3376	640433-9	9	1.404	1	.635	.529	.474
512-3377	1-640433-0	10	1.560	1	.705	.588	.526

20 AWG

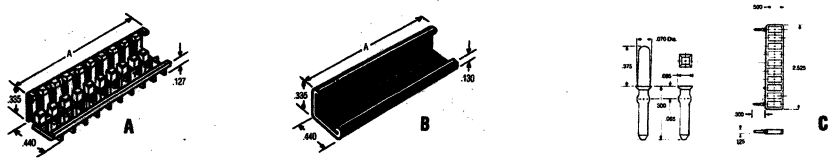
512-3386	1-640432-0	10	1.560	1	.705	.588	.526

18 AWG

512-3378	640431-3	3	.468	1	.233	.194	.174
512-3379	640431-4	4	.624	1	.310	.259	.232
512-3380	640431-5	5	.780	1	.388	.323	.290
512-3381	640431-6	6	.936	1	.423	.353	.316
512-3382	640431-7	7	1.092	1	.494	.412	.369
512-3383	640431-8	8	1.248	1	.564	.470	.421
512-3384	640431-9	9	1.404	1	.635	.529	.474
512-3385	1-640431-0	10	1.560	1	.705	.588	.526

*Finish: 1 = Tin plated, phosphor bronze.

MTA-156 Accessories



Closed End Strain Relief Covers (94V-2 Rated)—Fig. A

.095 Max. O.D. (Natural)

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	EACH 1-99	EACH 100-499	EACH 500-Up
512-3400	643067-2	2	.312	.65	.54	.49
512-3401	643067-3	3	.468	.66	.55	.49
512-3402	643067-4	4	.624	.66	.55	.49
512-3403	643067-5	5	.780	.66	.55	.49
512-3404	643067-6	6	.936	.66	.55	.49
512-3405	643067-8	8	1.248	.67	.56	.50

Closed-End Dust Covers—Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	EACH 1-99	EACH 100-499	EACH 500-Up
512-3406	640551-3	3	.468	.07	.06	.05
512-3407	640551-4	4	.624	.08	.07	.06

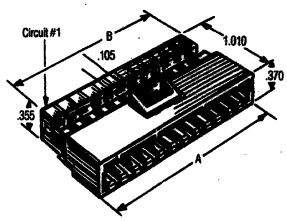
Closed-End Dust Covers—Fig. B

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	EACH 1-99	EACH 100-499	EACH 500-Up
512-3408	640551-5	5	.780	.10	.08	.08
512-3409	640551-6	6	.936	.12	.10	.09
512-3410	640551-7	7	1.092	.13	.11	.10
512-3411	640551-9	9	1.404	.16	.14	.12
512-3412	1-640551-0	10	1.560	.18	.15	.13
512-3413	1-640551-2	12	1.872	.21	.17	.15
512-3414	1-640551-3	13	2.028	.22	.18	.16
512-3415	1-640551-6	16	2.496	.26	.21	.19

Keying Plugs—Fig. C

512-3416. 640629-1. Flush ..... **EACH .05**
512-3417. 641623-1. Flush ..... **EACH .05**

MTA-156 Cable To Cable Posted Connectors .156 Centers

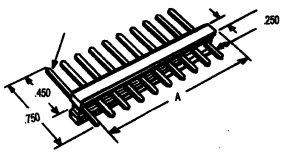


22 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A	Dim. B	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3418	641437-2	2	.468	.312	2	.34	.28	.25
512-3419	641437-4	4	.780	.624	2	.47	.39	.35

*Finish: 2 = Tin plated, copper alloy.

MTA-156 Post Headers .156 Centers Flat Header

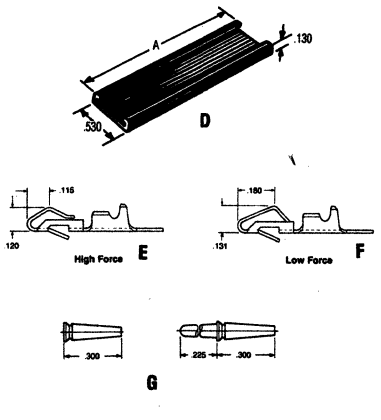


Straight Post .045 Square

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3427	640383-2	2	.312	2	.09	.07	.06
512-3428	640383-4	4	.624	2	.18	.15	.13
512-3429	640383-6	6	.936	2	.25	.21	.18
512-3430	640383-7	7	1.092	2	.29	.24	.22
512-3431	640383-9	9	1.404	2	.38	.31	.28
512-3432	1-640383-0	10	1.560	2	.42	.35	.31
512-3433	1-640383-2	12	1.872	2	.50	.42	.37
512-3434	1-640383-5	15	2.340	2	.79	.66	.59

*Finish: 2 = Tin-plated, copper alloy.

Connector Accessories



Standard Cover 15 Position—Fig. D

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	EACH 1-99	EACH 100-499	EACH 500-Up
512-3490	1-641106-5	15	2.376	.22	.18	.16

Contact (High Force)—Fig. E
640706-1. Finish: .012 brass, bright tin-plated.
512-3420 ..... **EACH .10**

Contact (Low Force)—Fig. F
640707-1. Finish: .012 brass, bright tin-plated.
512-3421 ..... **EACH .07**
770258-1. Finish: .012 brass, gold plated.
512-3422 ..... **EACH .41**

Keying Plug—Fig. G
512-3423. 640254-1 ..... **EACH .06**

Extraction Tool.
512-3424. 457241-1 ..... **EACH 23.86**

Hand Tool.
90123-2. Insulation Diameter: .060-.100.
512-3425 ..... **EACH 237.60**
90123-5. Insulation Diameter: .043-.075.
512-3426 ..... **EACH 256.22**

MTA-156 Post Header .156

Polarized Header With Polarizing Notches

Straight Post .045 Square—Fig. H

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3435	640444-2	2	.312	2	.12	.10	.09
512-3436	640444-3	3	.468	2	.18	.15	.13
512-3437	640444-4	4	.624	2	.24	.20	.18
512-3438	640444-5	5	.780	2	.31	.25	.23
512-3439	640444-6	6	.936	2	.33	.28	.25
512-3440	640444-7	7	1.092	2	.39	.32	.29
512-3441	640444-8	8	1.248	2	.45	.37	.33
512-3442	640444-9	9	1.404	2	.50	.42	.37
512-3443	1-640444-0	10	1.560	2	.56	.47	.42

Straight Post .045 Square—Fig. H

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3444	1-640444-2	12	1.872	2	.67	.56	.50

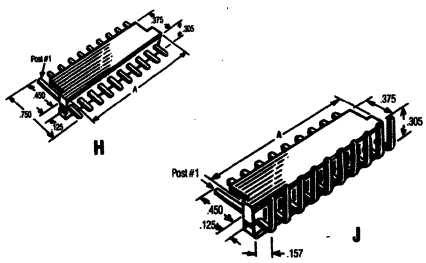
Straight Post .045 Round—Fig. H

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3445	640386-4	4	.624	2	.24	.20	.18
512-3446	1-640386-0	10	1.560	2	.56	.47	.42
512-3447	1-640386-2	12	1.872	2	.67	.56	.50

Right Angle Post .025 Square—Fig. J

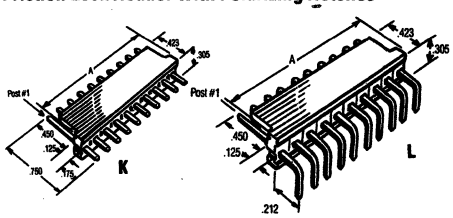
Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3491	640387-4	4	.624	2	.37	.31	.27
512-3492	640387-8	8	1.248	2	.67	.56	.50

*Finish: 2 = Tin-plated, copper alloy.



MTA-156 Post Header .156 Centers

Friction Lock Header With Polarizing Notches



Straight Post .045 Square—Fig. K

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1.99	EACH 100-499	EACH 500-Up
512-3450	640445-2	2	.312	2	.12	.10	.09
512-3451	640445-3	3	.468	2	.18	.15	.13
512-3452	640445-4	4	.624	2	.24	.20	.18

Straight Post .045 Square—Fig. K

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1.99	EACH 100-499	EACH 500-Up
512-3454	640445-6	6	.936	2	.33	.28	.25
512-3455	640445-7	7	1.092	2	.39	.32	.29
512-3456	640445-8	8	1.248	2	.45	.37	.33
512-3457	640445-9	9	1.404	2	.50	.42	.37
512-3458	1-640445-0	10	1.560	2	.56	.47	.42
512-3459	1-640445-1	11	1.716	2	.62	.51	.46
512-3460	1-640445-2	12	1.872	2	.67	.56	.50
512-3461	1-640445-3	13	2.028	2	.73	.61	.54
512-3462	1-640445-4	14	2.184	2	.79	.65	.59
512-3463	1-640445-5	15	2.340	2	1.05	.88	.79
512-3464	1-640445-6	16	2.496	2	1.12	.94	.84

Straight Post .045 Round—Fig. K

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1.99	EACH 100-499	EACH 500-Up
512-3465	640388-2	2	.312	2	.12	.10	.09
512-3466	640388-3	3	.468	2	.18	.15	.13
512-3467	640388-4	4	.624	2	.24	.20	.18
512-3468	640388-5	5	.780	2	.39	.32	.29
512-3469	640388-6	6	.936	2	.33	.28	.25
512-3470	640388-7	7	1.092	2	.39	.32	.29

Straight Post .045 Round—Fig. K

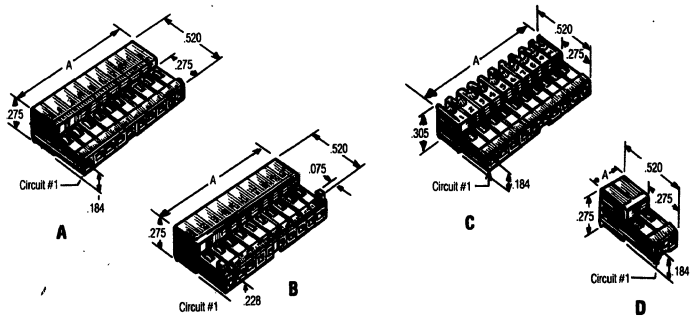
Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1.99	EACH 100-499	EACH 500-Up
512-3471	640388-8	8	1.248	2	.45	.37	.33
512-3472	640388-9	9	1.404	2	.50	.42	.37
512-3473	1-640388-0	10	1.560	2	.56	.47	.42
512-3474	1-640388-2	12	1.872	2	.67	.56	.50

Right Angle .045 Square—Fig. L

Stock No.	Mfr.'s Type	No. of Pos.	Dim. A—In.	Finish*	EACH 1.99	EACH 100-499	EACH 500-Up
512-3475	640389-2	2	.312	2	.18	.15	.13
512-3476	640389-3	3	.468	2	.27	.23	.20
512-3477	640389-4	4	.624	2	.37	.31	.27
512-3478	640389-5	5	.780	2	.46	.38	.34
512-3479	640389-6	6	.936	2	.60	.42	.37
512-3480	640389-7	7	1.092	2	.59	.49	.44
512-3481	640389-8	8	1.248	2	.67	.56	.50
512-3482	640389-9	9	1.404	2	.76	.63	.56
512-3483	1-640389-0	10	1.560	2	.84	.70	.63
512-3484	1-640389-2	12	1.872	2	1.01	.84	.75
512-3485	1-640389-5	15	2.340	2	1.58	1.32	1.18

*Finish: 2 = Tin plated, copper alloy.

MTA-100 Receptacles .100 Centers



Closed-End Without Polarizing Tab—Fig. A

28 AWG

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3200	640443-2	2	.200	1	.140	.116	.104
512-3201	640443-3	3	.300	1	.209	.175	.156
512-3202	640443-4	4	.400	1	.279	.233	.209
512-3203	640443-6	6	.600	1	.381	.318	.284
512-3205	640443-7	7	.700	1	.444	.370	.332
512-3206	640443-8	8	.800	1	.508	.423	.379
512-3207	1-640443-1	11	1.100	1	.698	.582	.521

26 AWG

512-3210	640442-2	2	.200	1	.140	.116	.104
512-3211	640442-3	3	.300	1	.209	.175	.156
512-3212	640442-4	4	.400	1	.279	.233	.209
512-3213	640442-5	5	.500	1	.349	.291	.261
512-3214	640442-6	6	.600	1	.381	.318	.284
512-3215	640442-7	7	.700	1	.444	.370	.332
512-3216	640442-8	8	.800	1	.508	.423	.379
512-3217	640442-9	9	.900	1	.571	.476	.426
512-3218	1-640442-0	10	1.000	1	.635	.529	.474
512-3219	1-640442-2	12	1.200	1	.762	.635	.569
512-3220	1-640442-4	14	1.400	1	.888	.740	.663

24 AWG

512-3221	640441-2	2	.200	1	.137	.114	.102
512-3222	640441-3	3	.300	1	.209	.175	.156
512-3223	640441-4	4	.400	1	.266	.222	.199
512-3224	640441-5	5	.500	1	.349	.291	.261
512-3225	640441-6	6	.600	1	.381	.318	.284
512-3226	640441-7	7	.700	1	.444	.370	.332
512-3227	640441-8	8	.800	1	.508	.423	.379
512-3228	640441-9	9	.900	1	.571	.476	.426
512-3229	1-640441-0	10	1.000	1	.635	.529	.474
512-3230	1-640441-1	11	1.100	1	.698	.582	.521
512-3231	1-640441-2	12	1.200	1	.762	.635	.569
512-3232	1-640441-4	14	1.400	1	.889	.741	.663
512-3233	1-640441-5	15	1.500	1	1.190	.992	.888
512-3234	1-640441-8	18	1.800	1	1.428	1.190	1.066
512-3235	2-640441-0	20	2.000	1	1.587	1.323	1.184
512-3236	2-640441-4	24	2.400	1	1.905	1.587	1.421

*Finish: 1 = Tin plated, phosphor bronze.

22 AWG

512-3237	640440-2	2	.200	1	.140	.116	.104
512-3238	640440-3	3	.300	1	.209	.175	.156
512-3239	640440-4	4	.400	1	.279	.233	.208
512-3240	640440-5	5	.500	1	.349	.291	.261
512-3241	640440-6	6	.600	1	.381	.317	.284
512-3242	640440-7	7	.700	1	.444	.370	.332
512-3243	640440-8	8	.800	1	.508	.423	.379
512-3244	640440-9	9	.900	1	.517	.431	.386
512-3245	1-640440-0	10	1.000	1	.635	.529	.474
512-3246	1-640440-1	11	1.100	1	.698	.582	.521
512-3247	1-640440-2	12	1.200	1	.762	.635	.569
512-3248	1-640440-4	14	1.400	1	.889	.741	.663
512-3249	1-640440-5	15	1.500	1	1.190	.992	.888
512-3250	1-640440-6	16	1.600	1	1.270	1.058	.948
512-3251	1-640440-8	18	1.800	1	1.428	1.190	1.066
512-3252	1-640440-9	19	1.900	1	1.508	1.256	1.125
512-3253	2-640440-0	20	2.000	1	1.587	1.323	1.184
512-3254	2-640440-1	21	2.100	1	1.667	1.389	1.244
512-3255	2-640440-4	24	2.400	1	1.905	1.587	1.421

Closed-End With Polarizing Tab—Fig. B

26 AWG

512-3256	643815-5	5	.500	1	1.905	1.587	1.421
512-3257	643815-7	7	.700	1	.444	.370	.332

24 AWG

512-3258	643814-6	6	.600	1	.381	.317	.284
512-3259	643814-7	7	.700	1	.444	.370	.332

22 AWG

512-3260	643813-4	4	.400	1	.279	.233	.208
512-3261	643813-5	5	.500	1	.349	.291	.261

Feed-Thru Receptacle Without Polarizing Tabs—Fig. C

24 AWG

512-3262	640621-4	4	.400	1	.279	.233	.208
512-3263	640621-6	6	.600	1	.381	.317	.284
512-3264	640621-8	8	.800	1	.508	.423	.379
512-3265	640621-9	9	.900	1	.571	.476	.426
512-3266	1-640621-2	12	1.200	1	.762	.635	.569

22 AWG

512-3267	640620-2	2	.200	1	.140	.116	.104
512-3268	1-640620-2	12	1.200	1	.762	.635	.569

Closed End Receptacle for .014-.010 Diameter or Square Leads—Fig. D

26 AWG

512-3269	641536-2	2	—	1	.140	.116	.104

24 AWG

512-3270	641535-2	2	—	1	.140	.116	.104
512-3271	641535-3	3	—	1	.209	.175	.156

22 AWG

512-3272	641534-3	3	—	1	.209	.175	.156

*Finish: 1 = Tin plated, phosphor bronze.

MTA-100 Accessories

Closed End Strain Relief—Fig. E

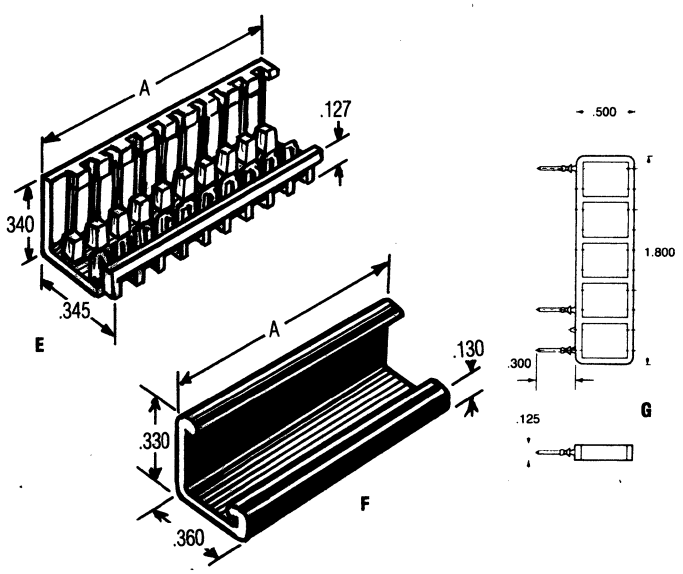
Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	EACH 1-99	EACH 100-499	EACH 500-Up
512-3273	643075-2	2	.200	.616	.513	.460
512-3274	643075-3	3	.300	.618	.515	.461
512-3275	643075-4	4	.400	.620	.517	.463
512-3276	643075-5	5	.500	.622	.519	.464
512-3277	643075-6	6	.600	.625	.520	.466
512-3278	643075-7	7	.700	.627	.522	.468
512-3279	643075-8	8	.800	.629	.524	.469
512-3280	1-643075-0	10	1.000	.633	.528	.473
512-3281	1-643075-2	12	1.200	.638	.532	.476
512-3282	1-643075-5	15	1.500	.644	.537	.481

Closed End Dust Covers—Fig. F

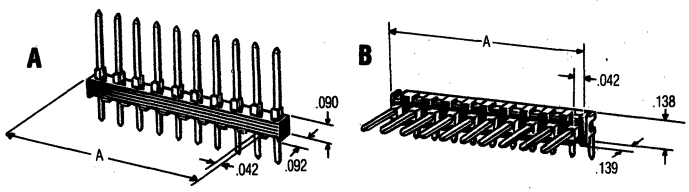
512-3283	640550-3	3	.300	.066	.055	.049
512-3284	640550-4	4	.400	.081	.068	.060
512-3285	640550-5	5	.500	.094	.078	.070
512-3286	640550-6	6	.600	.106	.088	.079
512-3287	640550-7	7	.700	.118	.098	.088
512-3288	640550-8	8	.800	.132	.110	.098
512-3289	640550-9	9	.900	.143	.119	.107
512-3290	1-640550-0	10	1.000	.154	.129	.115
512-3291	1-640550-2	12	1.200	.185	.154	.138
512-3292	1-640550-4	14	1.400	.208	.173	.155
512-3293	2-640550-0	20	2.000	.290	.241	.216

Keying Plug With Carrier Strip—Fig. G

512-3294. 641994-1.....EACH .05



Standard Headers— Unshrouded Single Row, .100 Centers



.025 Square Straight Post—Fig. A

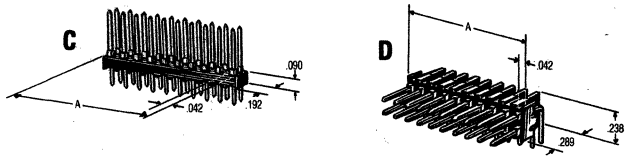
Stock No.	Mfr.'s Type	No. of Pos.	Length A	Finish*	EACH 1-24	EACH 25-99	EACH 100-249
512-1500	87220-1	1	.084	1	.28	.252	.224
512-1502	87224-1	1	.084	2	.28	.252	.224
512-1504	87348-1	1	.084	3	.18	.162	.144
512-1506	87220-2	2	.184	1	.52	.468	.416
512-1508	87224-2	2	.184	2	.46	.414	.368
512-1510	87348-2	2	.184	3	.30	.270	.240
512-1512	87220-3	3	.284	1	.72	.648	.576
512-1514	87224-3	3	.284	2	.60	.540	.480
512-1516	87348-3	3	.284	3	.42	.378	.336
512-1518	87220-4	4	.384	1	.94	.846	.752
512-1520	87224-4	4	.384	2	.78	.712	.634
512-1522	87348-4	4	.384	3	.46	.414	.368
512-1524	87220-5	5	.484	1	1.08	.972	.864
512-1526	87224-5	5	.484	2	.88	.792	.704
512-1528	87348-5	5	.484	3	.54	.486	.432
512-1530	87220-6	6	.584	1	1.26	1.134	1.008
512-1532	87224-6	6	.584	2	1.06	1.054	.954
512-1534	87224-7	7	.684	2	1.20	1.080	.960
512-1536	87220-8	8	.784	1	1.62	1.458	1.296
512-1538	87224-8	8	.784	2	1.32	1.188	1.056
512-1540	87348-8	8	.784	3	.84	.716	.632
512-1542	87224-9	9	.884	2	1.42	1.278	1.136
512-1544	1-87220	10	.984	1	2.02	1.818	1.616
512-1546	1-87224	10	.984	2	1.62	1.458	1.296
512-1548	1-87348	10	.984	3	1.02	.918	.816
512-1550	1-87220-2	12	1.184	1	2.34	2.106	1.872
512-1552	1-87224-2	12	1.184	2	1.92	1.728	1.536
512-1554	1-87348-2	12	1.184	3	1.18	1.062	.944
512-1556	1-87224-4	14	1.384	2	2.22	1.998	1.776
512-1558	1-87348-4	14	1.384	3	1.36	1.224	1.088
512-1560	1-87220-5	15	1.484	1	2.92	2.628	2.336
512-1562	1-87224-5	15	1.484	2	2.34	2.106	1.872
512-1564	2-87220	20	1.984	1	3.84	3.456	3.072
512-1566	2-87224	20	1.984	2	3.06	2.754	2.448
512-1568	4-87220	40	3.984	1	7.50	6.750	6.000
512-1570	4-87224	40	3.984	2	6.00	5.400	4.800

.025 Square Right-Angle Post—Fig. B

512-1572	87232-2	2	.184	1	.54	.486	.432
512-1574	87233-2	2	.184	2	.48	.432	.384
512-1576	87551-2	2	.184	3	.34	.306	.272
512-1578	87232-3	3	.284	1	.72	.648	.576
512-1580	87233-3	3	.284	2	.60	.540	.480
512-1582	87551-3	3	.284	3	.42	.378	.336
512-1584	87232-4	4	.384	1	.94	.846	.742
512-1586	87233-4	4	.384	2	.72	.648	.576
512-1588	87232-5	5	.484	1	1.14	1.026	.912
512-1590	87233-5	5	.484	2	.96	.864	.768
512-1592	87233-6	6	.584	2	1.08	.972	.864
512-1594	87233-7	7	.684	2	1.24	1.116	.992
512-1596	87233-8	8	.784	2	1.38	1.242	1.104
512-1598	1-87232	10	.984	1	1.75	1.570	1.390
512-1600	1-87233	10	.984	2	1.68	1.512	1.344
512-1602	1-87233-2	12	1.184	2	1.98	1.782	1.584
512-1604	1-87551-4	14	1.384	3	1.44	1.296	1.152
512-1606	1-87551-5	15	1.484	3	1.54	1.386	1.232
512-1608	2-87233	20	1.984	2	3.22	2.898	2.576

*Finish: 1 = Sel. Gold/Nickel A—Gold flash over .000050 nickel on entire post, with additional .000030 gold on contact area; 2 = Sel. Gold/Nickel B—Gold flash over .000050 nickel on entire post, with additional .000015 gold on contact area; 3 = Tin-Lead/Nickel—.000100-.000200 tin-lead over .000050 nickel on entire post.

Standard Headers— Unshrouded Double Row .100 × .100 Centers



.025 Square Straight Post—Fig. C

Stock No.	Mfr.'s Type	No. of Pos.	Length A	Finish*	EACH 1-24	EACH 25-99	EACH 100-249
512-1610	1-87215	2	.084	1	.58	.522	.464
512-1612	87227-1	2	.084	2	.52	.468	.416
512-1614	1-87215-1	4	.184	1	1.02	.918	.816
512-1616	87227-2	4	.184	2	.88	.792	.704
512-1618	1-87215-2	6	.284	1	1.24	1.116	.992
512-1620	87227-3	6	.284	2	1.02	.918	.816
512-1622	87543-3	6	.284	3	.64	.576	.512
512-1624	87215-1	8	.384	1	1.56	1.404	1.248
512-1626	87227-4	8	.384	2	1.26	1.134	1.008
512-1628	87543-4	8	.384	3	.76	.684	.608
512-1630	87215-2	10	.484	1	1.92	1.728	1.536
512-1632	87227-5	10	.484	2	1.56	1.404	1.248
512-1634	87543-5	10	.484	3	.88	.792	.704
512-1636	87215-3	12	.584	1	2.26	2.034	1.808
512-1638	87227-6	12	.584	2	1.80	1.620	1.440
512-1640	87543-6	12	.584	3	1.00	.900	.800
512-1642	87215-4	14	.684	1	2.58	2.322	2.064
512-1644	87227-7	14	.684	2	2.02	1.818	1.616
512-1646	87543-7	14	.684	3	1.14	1.026	.912
512-1648	87215-5	16	.784	1	2.92	2.628	2.336
512-1650	87227-8	16	.784	2	2.32	2.088	1.856
512-1652	87543-8	16	.784	3	1.32	1.188	1.056
512-1654	87215-7	20	.984	1	3.38	3.222	2.864
512-1656	1-87227	20	.984	2	2.82	2.538	2.256
512-1658	1-87543	20	.984	3	1.62	1.458	1.296
512-1660	87215-9	26	1.284	1	4.66	4.194	3.718
512-1662	1-87227-3	26	1.284	2	3.64	3.276	2.912
512-1664	1-87543-3	26	1.284	3	2.10	1.890	1.680
512-1666	1-87227-4	28	1.384	2	3.94	3.546	3.152
512-1668	1-87215-7	34	1.684	1	6.06	5.454	4.848
512-1670	1-87227-7	34	1.684	2	4.74	4.266	3.792
512-1672	2-87215	40	1.984	1	7.12	6.508	5.796
512-1674	2-87227	40	1.984	2	5.56	5.004	4.448
512-1676	2-87227-5	50	2.484	2	6.96	6.264	5.568
512-1678	3-87227	60	2.984	2	8.34	7.506	6.672

.025 Square Right-Angle Post—Fig. D

512-1680	87230-2	4	.184	2	.70	.630	.560
512-1682	87230-3	6	.284	2	.90	.810	.720
512-1684	87230-4	8	.384	2	1.20	1.080	.960
512-1686	86479-3	10	.484	1	1.92	1.730	1.540
512-1688	87230-5	10	.484	2	1.54	1.386	1.232
512-1690	87563-5	10	.484	3	.94	.846	.752
512-1692	87230-7	14	.684	2	2.08	1.872	1.668
512-1694	86479-1	16	.784	2	3.78	3.400	3.020
512-1696	1-87230	20	.984	2	2.96	2.660	2.370
512-1698	1-87563	20	.984	3	1.78	1.600	1.420
512-1700	1-86479	26	1.284	1	4.86	4.370	3.890
512-1702	1-87230-3	26	1.284	2	3.78	3.400	3.000
512-1704	1-87563-3	26	1.284	3	1.78	1.600	1.420
512-1706	1-87230-7	34	1.684	2	4.96	4.460	3.970
512-1708	2-86479-4	40	1.984	1	7.50	6.750	6.000
512-1710	2-87230	40	1.984	2	5.80	5.220	4.640
512-1712	3-86479-6	44	2.184	1	8.26	7.430	6.610
512-1714	2-86479-9	50	2.484	1	9.40	8.460	7.520
512-1716	2-87230-5	50	2.484	2	7.30	6.570	5.840
512-1718	3-87230	60	2.984	2	8.68	7.810	6.940
512-1720	3-86479-4	60	2.984	1	11.22	10.100	8.980

*Finish: 1 = Sel. Gold/Nickel A—Gold flash over .000050 nickel on entire post, with additional .000030 gold on contact area; 2 = Sel. Gold/Nickel B—Gold flash over .000050 nickel on entire post, with additional .000015 gold on contact area; 3 = Tin-Lead/Nickel—.000100-.000200 tin-lead over .000050 nickel on entire post.

Breakaway Headers Unshrouded Single Row, .100 Centers

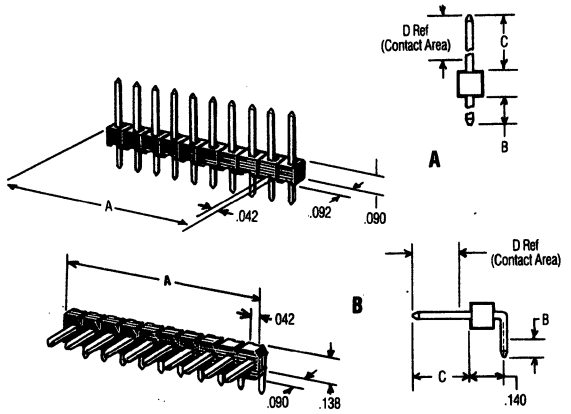


Fig. A—.025 Square Straight Post

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions-In.				Finish*	EACH		
			A	B	C	D		1-24	25-99	100-249
512-1722	102972-1	1	.084	.125	.318	.200	1	.18	.162	.144
512-1724	103321-1	1	.084	.125	.318	.200	2	.16	.144	.128
512-1726	103239-2	2	.184	.120	.230	.185	3	.34	.306	.272
512-1728	103185-2	2	.184	.120	.230	.185	1	.30	.270	.240
512-1730	103327-2	2	.184	.120	.230	.185	2	.18	.162	.128
512-1732	102976-2	2	.184	.125	.318	.200	3	.34	.306	.272

Fig. A—.025 Square Straight Post

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions-In.				Finish*	EACH		
			A	B	C	D		1-24	25-99	100-249
512-1734	102972-2	2	.184	.125	.318	.200	1	.30	.270	.240
512-1736	103321-2	2	.184	.125	.318	.200	2	.24	.216	.192
512-1738	103239-3	3	.284	.120	.230	.185	3	.48	.432	.384
512-1740	103185-3	3	.284	.120	.230	.185	1	.42	.378	.336
512-1742	103327-3	3	.284	.120	.230	.185	2	.24	.216	.192
512-1744	102976-3	3	.284	.125	.318	.200	3	.48	.432	.384
512-1746	102972-3	3	.284	.125	.318	.200	1	.42	.378	.336
512-1748	103321-3	3	.284	.125	.318	.200	2	.34	.306	.272
512-1750	102976-4	4	.384	.125	.318	.200	3	.60	.540	.480
512-1752	102972-4	4	.384	.125	.318	.200	1	.54	.486	.432
512-1754	102972-5	5	.484	.125	.318	.200	1	.60	.540	.480
512-1756	103321-5	5	.484	.125	.318	.200	2	.42	.378	.336
512-1758	102972-6	6	.584	.125	.318	.200	1	.72	.648	.576
512-1760	102972-7	7	.684	.125	.318	.200	1	.82	.738	.656
512-1762	102972-8	8	.784	.125	.318	.200	1	.90	.810	.720
512-1764	1-102976-8	18	1.784	.125	.318	.200	3	2.16	1.940	1.720
512-1766	4-103185-0	40	3.984	.120	.230	.185	1	3.84	3.460	3.080
512-1768	4-102976-0	40	3.984	.125	.318	.200	3	4.66	4.190	3.720
512-1770	4-102972-0	40	3.984	.125	.318	.200	1	4.02	3.620	3.220
512-1772	4-103321-0	40	3.984	.125	.318	.200	2	2.82	2.540	2.260

Fig. B—.025 Square Right Angle Post

512-1774	102974-4	4	.384	.110	.318	.200	1	.52	.468	.416
512-1776	4-102974-0	40	3.984	.110	.318	.200	1	4.20	3.78	3.36

*Contact Plating: 1 = .000015 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel; 2 = .000100-.000200 tin-lead over .000050 nickel on entire post; 3 = .000030 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel.

Breakaway Headers Unshrouded Double Row, .100 × .100 Centers

Type 91406-1. Hand Tool.
512-1778 .....EACH 178.75

Fig. C—.025 Square Straight Post

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions-In.				Finish*	EACH		
			A	B	C	D		1-24	25-99	100-249
512-1780	103240-2	4	.184	.120	.230	.185	3	.54	.486	.432
512-1782	103322-2	4	.184	.125	.318	.200	2	.36	.324	.288
512-1784	103240-3	6	.284	.120	.230	.185	3	.70	.630	.560
512-1786	103186-3	6	.284	.120	.230	.185	1	.58	.522	.464
512-1788	102973-3	6	.284	.125	.318	.200	1	.60	.540	.480
512-1790	103240-4	8	.384	.120	.230	.185	3	.90	.810	.720
512-1792	103186-4	8	.384	.120	.230	.185	1	.76	.684	.608
512-1794	102977-4	8	.384	.125	.318	.200	3	.96	.864	.768
512-1796	102973-4	8	.384	.125	.318	.200	1	.82	.738	.656
512-1798	103186-5	10	.484	.120	.230	.185	1	.96	.864	.768
512-1800	103328-5	10	.484	.120	.230	.185	2	.66	.594	.528
512-1802	102977-5	10	.484	.125	.318	.200	3	1.20	1.080	.960
512-1804	102973-5	10	.484	.125	.318	.200	1	1.02	.918	.816
512-1806	103240-6	12	.584	.120	.230	.185	3	1.36	1.224	1.088
512-1808	103186-6	12	.584	.120	.230	.185	1	1.14	1.026	.912
512-1810	102973-6	12	.584	.125	.318	.200	1	1.18	1.062	.944
512-1812	103186-7	14	.684	.120	.230	.185	1	1.30	1.170	1.040
512-1814	103186-8	16	.784	.120	.230	.185	1	1.48	1.332	1.184
512-1816	103328-8	16	.784	.120	.230	.185	2	1.02	.918	.816
512-1818	102977-8	16	.784	.125	.318	.200	3	1.80	1.620	1.440
512-1820	102973-8	16	.784	.125	.318	.200	1	1.54	1.386	1.232
512-1822	1-103186-0	20	.984	.120	.230	.185	1	1.86	1.674	1.488
512-1824	1-102977-0	20	.984	.125	.318	.200	3	2.20	1.980	1.760
512-1826	1-102973-0	20	.984	.125	.318	.200	1	1.86	1.674	1.488
512-1828	1-103186-3	26	1.284	.120	.230	.185	1	2.38	2.142	1.904
512-1830	1-102973-3	26	1.284	.125	.318	.200	1	2.40	2.160	1.920
512-1832	1-103240-5	30	1.484	.120	.230	.185	3	3.22	2.898	2.576
512-1834	1-103186-7	34	1.684	.120	.230	.185	1	3.06	2.750	2.440
512-1836	1-102973-7	34	1.684	.125	.318	.200	1	3.12	2.810	2.500
512-1838	2-103186-0	40	1.984	.120	.230	.185	1	3.54	3.190	2.840
512-1840	2-102977-0	40	1.984	.125	.318	.200	3	4.36	3.920	3.480
512-1842	2-102973-0	40	1.984	.125	.318	.200	1	3.66	3.290	2.920
512-1844	2-103322-0	40	1.984	.125	.318	.200	2	2.50	2.250	2.000
512-1846	2-103186-5	50	2.484	.120	.230	.185	1	2.74	2.470	2.200
512-1848	2-102973-5	50	2.484	.125	.318	.200	1	4.60	4.140	3.680

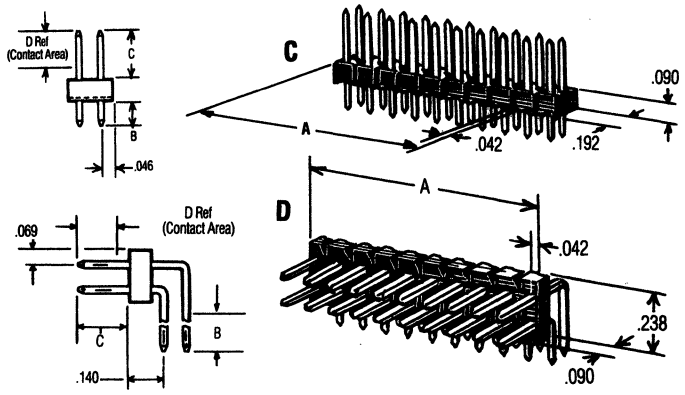


Fig. C—.025 Square Straight Post

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions-In.				Finish*	EACH		
			A	B	C	D		1-24	25-99	100-249
512-1850	3-102973-0	60	2.984	.125	.318	.200	1	5.50	4.950	4.400
512-1852	4-103240-0	80	3.984	.120	.230	.185	3	6.22	5.600	4.980
512-1854	4-103186-0	80	3.984	.120	.230	.185	1	6.84	6.160	5.480
512-1856	4-103328-0	80	3.984	.120	.230	.185	2	4.48	4.030	3.580
512-1858	4-102977-0	80	3.984	.125	.318	.200	3	8.58	7.720	6.860
512-1860	4-103322-0	80	3.984	.125	.318	.200	2	4.74	4.270	3.800

Fig. D—.025 Square Right Angle Post

512-1862	103326-5	10	.484	.120	.230	.185	1	.96	.864	.768
512-1864	102975-5	10	.484	.110	.318	.200	1	1.02	.918	.816
512-1866	102975-7	14	.684	.110	.318	.200	1	1.38	1.242	1.104
512-1868	102975-8	16	.784	.110	.318	.200	1	1.60	1.440	1.280
512-1870	1-102975-0	20	.984	.110	.318	.200	1	1.96	1.764	1.568
512-1872	1-103326-3	26	1.284	.120	.230	.185	1	2.40	2.160	1.920
512-1874	1-102975-3	26	1.284	.110	.318	.200	1	2.52	2.268	2.016
512-1876	1-102975-7	34	1.684	.110	.318	.200	1	3.30	2.970	2.640
512-1878	2-102975-0	40	1.984	.110	.318	.200	1	5.22	4.700	4.180
512-1880	2-103326-5	50	2.484	.120	.230	.185	1	4.62	4.160	3.700
512-1882	2-102975-5	50	2.484	.110	.318	.200	1	4.86	4.370	3.880

*Contact Plating: 1 = .000015 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel; 2 = .000100-.000200 tin-lead over .000050 nickel on entire post; 3 = .000030 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel.

Standard Profile Headers

Shrouded Single Row, .100 Centers

Fig. A—.025 Square Straight Post (With Standoffs)

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Finish*	EACH		
			A	B		1-99	100-499	500-999
512-2600	103414-2	4	.520	.440	C	1.16	1.07	.98
512-2601	102202-1	4	.520	.440	D	1.13	1.03	.95
512-2602	102202-2	5	.620	.540	D	1.33	1.22	1.12
512-2603	102202-3	6	.720	.640	D	1.44	1.32	1.22
512-2604	102202-4	7	.820	.740	D	1.49	1.37	1.26
512-2605	102202-5	8	.920	.840	D	1.58	1.45	1.34
512-2606	102202-7	10	1.120	1.040	D	1.75	1.60	1.48
512-2607	102202-9	12	1.320	1.240	D	1.96	1.80	1.66
512-2608	1-102202-1	14	1.520	1.440	D	2.16	1.98	1.83
512-2609	1-102202-9	22	2.320	2.240	D	3.05	2.80	2.58

Shrouded with .150 End Dimension Double Row, .100 × .100 Centers

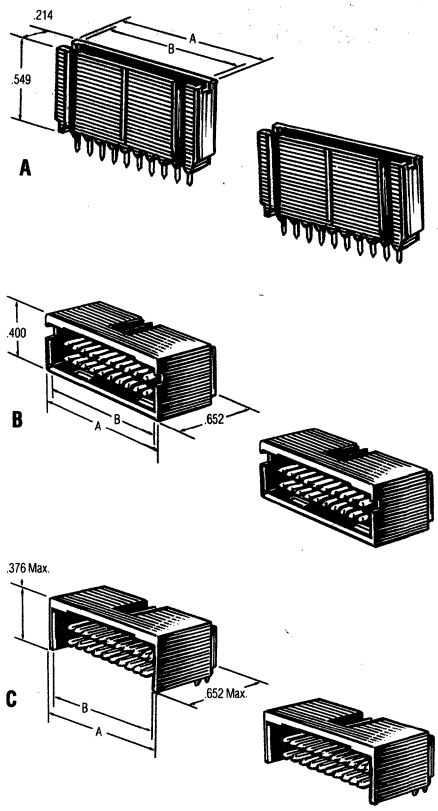
Fig. B—.025 Square Right-Angle Post (With Detent Windows)

512-2610	102570-2	8	.680	.600	D	1.24	1.13	1.05
512-2611	103167-2	10	.780	.700	C	1.75	1.60	1.48
512-2612	102570-3	10	.780	.700	D	1.45	1.33	1.23
512-2613	103167-7	20	1.280	1.200	C	3.04	2.78	2.57
512-2614	102570-8	20	1.280	1.200	D	2.47	2.27	2.09
512-2615	1-102570-0	24	1.480	1.400	D	2.93	2.68	2.48
512-2616	1-103167-0	26	1.580	1.500	C	3.91	3.58	3.31
512-2617	1-102570-1	26	1.580	1.500	D	2.25	2.07	1.91
512-2618	1-102570-5	34	1.980	1.900	D	4.09	3.75	3.46
512-2619	102570-1	40	2.280	2.200	D	4.69	4.30	3.97
512-2620	2-103167-2	50	2.780	2.700	C	7.20	6.60	6.09
512-2621	2-102570-2	50	2.780	2.700	D	5.80	5.32	4.91

Fig. C—.025 Square Right-Angle Post (With Pin Protection On 3 Sides)

512-2622	103165-6	20	1.280	1.200	C	3.04	2.78	2.57
512-2623	103165-9	26	1.580	1.500	C	3.91	3.58	3.31
512-2624	2-103165-1	50	2.780	2.700	C	7.20	6.60	6.09
512-2625	2-102620-1	50	2.780	2.700	D	5.80	5.32	4.91

***Plating Specifications:** C—.000030 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel; D—.000015 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel.



Low Profile Headers

Shrouded with .150 End Dimension Double Row, .100 × .100 Centers

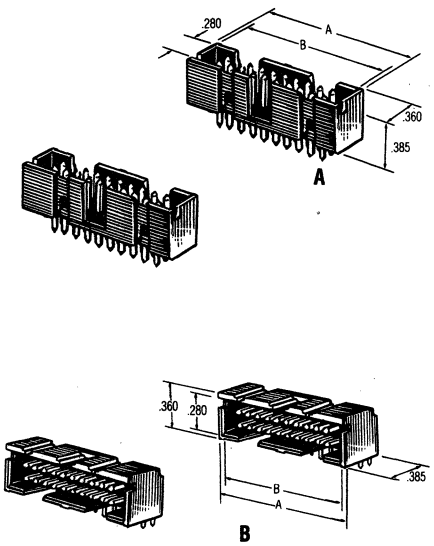
Fig. A—.025 Square Straight Post

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions		Finish*	EACH		
			A	B		1-99	100-499	500-999
512-2626	103308-1	10	.800	.700	D	1.27	1.17	1.08
512-2627	103309-1	10	.800	.700	C	1.42	1.30	1.20
512-2628	103308-3	16	1.100	1.000	D	1.82	1.67	1.54
512-2629	103308-5	20	1.300	1.200	D	2.22	2.03	1.88
512-2630	103309-5	20	1.300	1.200	C	2.51	2.30	2.12
512-2631	103308-6	26	1.600	1.500	D	2.62	2.40	2.22
512-2632	103309-6	26	1.600	1.500	C	3.00	2.75	2.54
512-2633	103308-7	34	2.000	1.900	D	3.15	2.88	2.66
512-2634	103309-7	34	2.000	1.900	C	3.64	3.33	3.08
512-2635	103308-8	40	2.300	2.200	D	3.58	3.28	3.03
512-2636	1-103308-0	50	2.800	2.700	D	4.15	3.80	3.51

Fig. B—.025 Square Right-Angle Post

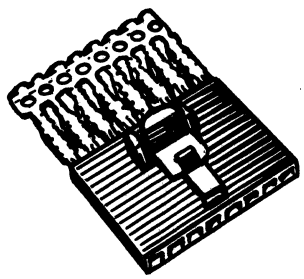
512-2637	103311-1	10	.800	.700	C	1.47	1.35	1.25
512-2638	103310-2	14	1.000	.900	D	1.69	1.55	1.43
512-2639	103310-6	26	1.600	1.500	D	2.69	2.47	2.28
512-2640	103310-7	34	2.000	1.900	D	3.27	3.00	2.77
512-2641	103311-7	34	2.000	1.900	C	3.75	3.43	3.17
512-2642	103310-8	40	2.300	2.200	D	3.71	3.40	3.14
512-2643	1-103310-0	50	2.800	2.700	D	4.29	3.93	3.63

***Plating Specifications:** C—.000030 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel; D—.000015 gold on contact area, .000100-.000200 tin-lead on solder area, with entire post underplated .000050 nickel.



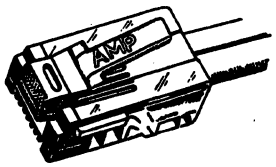
Receptacle Assemblies

Individual Polarized/Latching, Single Row, .100" (2.54 mm) Centers
Finish: 0.000015 (0.00038) gold on mating area, 0.000050 (0.00127) min. tin-lead on termination area, with entire contact underplated 0.000050 (0.00127) nickel.



Stock No.	Mfr.'s Type	No. of Pos.	Wire Size AWG	EACH		
				1-99	100-499	500-999
512-2644	103644-5	6	26-22	1.23	1.13	1.04
512-2645	103644-7	8	26-22	1.53	1.40	1.29
512-2646	103644-9	10	26-22	1.89	1.73	1.60

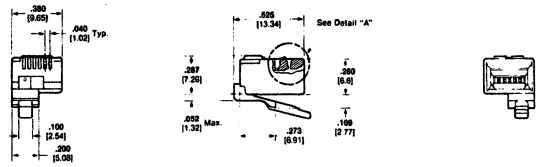
Modular Plugs



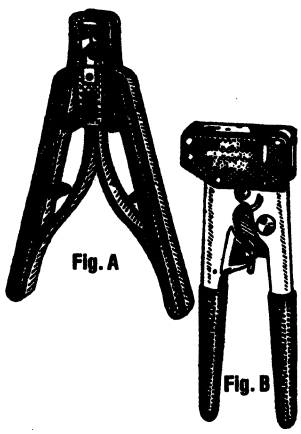
- Mass termination of jacketed cable with tinsel or stranded conductors.
- One-piece construction with preloaded contacts.
- FCC and telephone industry standard size and performance.
- Selectively gold plated contacts.
- Various positions and styles available.

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
512-5710	5-641334-3	Plug; 4 Position Handset	.28	.25	.22
512-5714	5-641335-1	Plug; 4 Position Line Cord	.28	.25	.22
512-5715	5-554710-3	Plug; 6 Position Round Cable	.32	.29	.26
512-5716	5-651337-1	Plug; 6 Position Line Cord	.32	.29	.26
512-5717	5-554739-3	Plug; 8 Position Line Cord	.82	.74	.66
512-5718	5-651339-3	Plug; 8 Position Line Cord	.82	.74	.66
512-5719	5-554169-3	Plug; 8 Position Round Cable	.82	.74	.66

Plug with Offset Latch (DEC Connect)



Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH		
				1-99	100-499	500-999
512-5722	5-555237-2	6	Line	.68	.61	.54

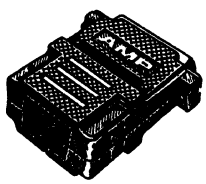


Modular Tools

Fig. A—Light Duty Hand Tools
Strips and terminates cable, lightweight and low cost. Constructed of strong DuPont Delrin©
512-5800. 231648-1. For 2, 4, and 6 Pos. Line Cord .....EACH 27.68
512-5805. 231649-1. For 4 Pos. Handset .....EACH 27.68

Fig. B—Heavy Duty Hand Tool and Dies
Cert-Crimp ratchet handle assures proper termination. Cuts, strips and terminates cable. All sizes can be accommodated by exchanging die sets.
512-5810. 231652-2. Tool with 2, 4 and 6 Pos. Dies for Line Cord Plugs .....EACH 117.58
512-5815. 313879-1. Die for 8 Pos. Line Cord Plugs.....EACH 37.95
512-5820. 313879-3. Die for 4 Pos. Handset Plugs.....EACH 37.95
512-5825. 231652-6. Ring Tool with Die-offset Latch Plug .....EACH 140.00
512-5830. 313879-6. Die Only—for Offset Latch Plug.....EACH 49.50

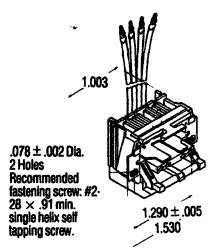
RS-232 Modular Jack Adaptor



Converts 25-contact plug/receptacle to 8-contact modular jack.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-Up
512-5700	747868-1	RS-232 Receptacle to Modular Phone Jack	14.13	13.04	12.11
512-5705	747772-1	RS-232 Plug to Modular Phone Jack	14.13	13.04	12.11

Wire leads are not included with the connector. Recommended lead 26 AWG 7-34 stranded wire with a Mini AMP-IN terminal (P/N 640401-1) attached to the board end. Maximum PCB thickness—.062.

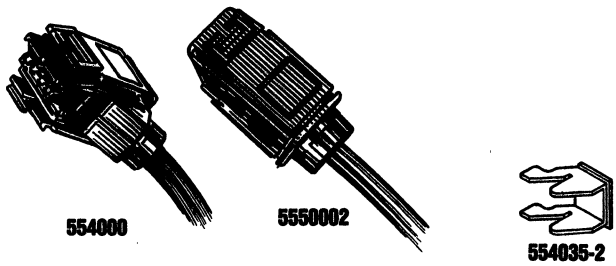


Panel Mount Connector Kit

Fully intermatable with the standard cable data connector above.

Stock No.	Mfr.'s Type	Description	EACH
512-5630	554922-1	Panel Mount Kit	9.50

IBM Style Token Ring Data Connector



Designed for the mechanical interface requirements of IEEE 802.5 specification local area networks. The connector is used to terminate 2 twisted pairs of data conductors. This connector mates with another identical connector.

Cable termination is by insulation displacement. Cable braid is held between a ferrule and the connector's integral grounding shield. Termination of the conductors requires only a pair of slip joint pliers.

Remove the appropriate posts for the desired cable exit direction. Completed connectors can be snapped into a panel cut-out or used as free-hanging.

Standard Connector Kits

Stock No.	Mfr.'s Type	Cable Type	Cable Exit	EACH
512-5600	554000-1*	1, 2, 6	45°, 90°, or 180°	5.44
512-5605	554000-2	6	45°	5.17
512-5610	554000-5	1, 2, 6, 7, 9	**	4.45

Strain Relief Kits

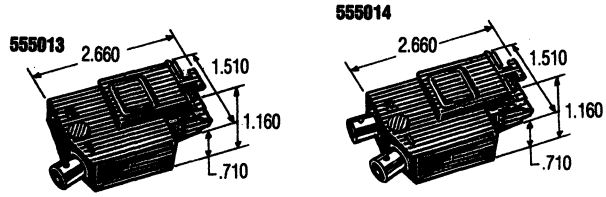
512-5612	555002-1	1, 2	90°	.88
512-5614	555002-2	7, 9	45°	.98
512-5616	555002-3	1, 2	180°	.88
512-5618	555002-4	6	45°	.98

*Equivalent to IBM type 8310574. **Strain relief kit sold separately.

Accessories

Stock No.	Mfr.'s Type	Description	EACH
512-5628	554035-2	Latch Lock	.31

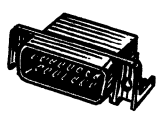
Cableless Balun

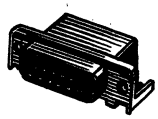


Balun designed to plug directly into the IBM cabling system faceplates or distribution panels.

Stock No.	Mfr.'s Type	Description	EACH
512-5500	555013-1	Single (equivalent to IBM 6339082)	33.00
512-5505	555014-1	Dual (equivalent to IBM 6339083)	45.85

PC Board D-Subs





HVP 20 all plastic, right angle .590 body length.

Plugs (with pin contacts)

Stock No.	Mfr.'s Type	No. of Contact Position	EACH	
			1-24	25-99
512-5900	207081-1	9	3.60	3.24
512-5901	206913-1	15	4.30	3.87
512-5902	206604-1	25	5.35	4.91
512-5903	206816-1	37	7.65	6.88
512-5904	206971-1	50	9.87	8.08

Receptacles (with socket contacts)

512-5905	207084-1	9	3.75	3.38
512-5906	206914-1	15	4.50	4.05
512-5907	206584-1	25	5.68	5.11
512-5908	206817-1	37	8.09	7.28
512-5909	206973-1	50	11.63	10.47

Novo Receptacles

Center and Military Polarized Receptacles .100" × .100" (2.54 × 2.54 mm) Centers

Kit numbers preassembled without strain relief.

Fig. A—Center and Military Polarized Receptacles

Stock No	Kit No.	No. of Pos.	Overall Length A	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3500	746288-1	10	.680	2	1.28	1.06	.95
512-3501	746228-2	14	.880	2	1.78	1.48	1.32
512-3502	746228-3	16	.980	2	2.04	1.70	1.52
512-3503	746228-4	20	1.180	2	2.54	2.11	1.89
512-3504	746228-6	26	1.480	2	3.00	2.50	2.23
512-3505	746228-8	34	1.880	2	3.70	3.08	2.76
512-3506	746228-9	40	2.180	2	4.26	3.55	3.17
512-3507	1-746288-0	50	2.680	2	5.16	4.30	3.85
512-3508	1-746288-1	60	3.180	2	6.02	5.01	4.49
512-3509	1-746288-2	64	3.380	2	6.42	5.35	4.79

Fig. B—Military Polarized

512-3510	746290-1	10	.680	2	1.28	1.06	.95
512-3511	746290-2	14	.880	2	1.78	1.48	1.32
512-3512	746290-3	16	.980	2	2.04	1.70	1.52
512-3513	746290-4	20	1.180	2	2.54	2.11	1.89
512-3514	746290-6	26	1.480	2	3.00	2.50	2.23

Fig. B—Military Polarized

Stock No	Kit No.	No. of Pos.	Overall Length A	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3515	746290-8	34	1.880	2	3.70	3.08	2.76
512-3516	746290-9	40	2.180	2	4.26	3.55	3.17
512-3517	1-746290-0	50	2.680	2	5.16	4.30	3.85
512-3518	1-746290-1	60	3.180	2	6.02	5.01	4.49
512-3519	1-746290-2	64	3.380	2	6.42	5.35	4.79

Fig. C—Strain Relief

512-3520	499252-5	10	.680	—	.32	.26	.23
512-3521	499252-9	14	.880	—	.35	.29	.26
512-3522	499252-8	16	.980	—	.38	.32	.28
512-3523	499252-2	20	1.180	—	.41	.34	.31
512-3524	499252-3	26	1.480	—	.48	.40	.35
512-3525	499252-6	34	1.880	—	.57	.48	.43
512-3526	499252-1	40	2.180	—	.64	.53	.47
512-3527	499252-4	50	2.680	—	.70	.58	.52
512-3528	499252-7	60	3.180	—	.83	.69	.62
512-3529	1-499252-3	64	3.380	—	.99	.74	.66

Fig. D—Keying Plug

512-3530	499712-1	—	—	—	.12	.10	.09

*Contact Plating: 2 = .000030 gold on post/pin mating end, .000100-.000200 bright tin-lead on termination end, with entire contact underplated .000050 nickel.

Fig. A

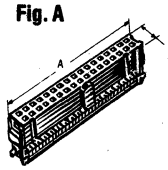


Fig. B

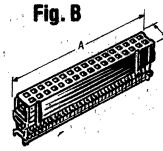


Fig. C

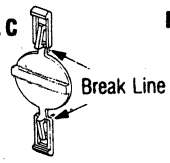


Fig. D

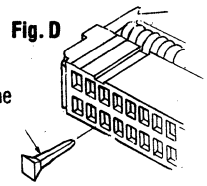


Fig. E

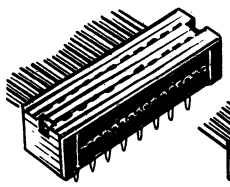


Fig. F

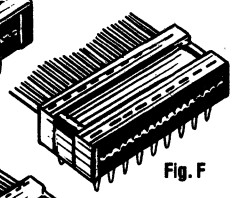
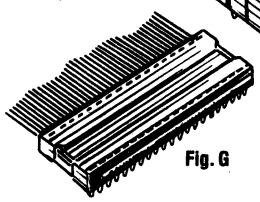


Fig. G



AMP-Latch DIP Plugs

Fig. E—.100" × .100" Centers

Stock No	Kit No.	No. of Pos.	Overall Length A	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3560	746610-1	10	.680	1	1.00	.83	.74
512-3561	746610-2	14	.880	1	1.14	.95	.85
512-3562	746610-3	16	.980	1	1.30	1.08	.97
512-3563	746610-4	20	1.180	1	1.48	1.23	1.10
512-3564	746610-5	24	1.380	1	1.68	1.40	1.25
512-3565	746610-6	26	1.480	1	1.80	1.50	1.34
512-3566	746610-7	30	1.680	1	2.02	1.68	1.50
512-3567	746610-8	34	1.880	1	2.16	1.80	1.61
512-3568	746610-9	40	2.180	1	2.44	2.03	1.82
512-3569	1-746610-0	50	2.680	1	2.82	2.35	2.10
512-3570	1-746610-1	60	3.180	1	3.18	2.65	2.37
512-3571	1-746610-2	64	3.380	1	3.30	2.75	2.46

Fig. F—.100" × .300" Centers

512-3572	746611-1	8	.488	2	1.18	.98	.88
512-3573	746613-1	8	.488	1	.96	.80	.71
512-3574	746611-2	14	.788	2	1.32	1.10	.98

Fig. F—.100" × .300" Centers

Stock No	Kit No.	No. of Pos.	Overall Length A	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3575	746613-2	14	.788	1	1.08	.90	.80
512-3576	746611-3	16	.888	2	1.48	1.23	1.10
512-3577	746613-3	16	.888	1	1.18	.98	.88
512-3578	746611-4	18	.988	2	1.62	1.35	1.20
512-3579	746613-4	18	.988	1	1.26	1.05	.94
512-3580	746611-5	20	1.188	2	1.80	1.50	1.34
512-3581	746613-5	20	1.188	1	1.48	1.23	1.10

Fig. G—.100" × .600" Centers

512-3582	746614-1	24	1.288	2	2.14	1.78	1.59
512-3583	746616-1	24	1.288	1	1.74	1.45	1.29
512-3584	746614-2	28	1.488	2	2.52	2.10	1.88
512-3585	746616-2	28	1.488	1	2.08	1.73	1.55
512-3586	746614-3	40	2.088	2	3.18	2.65	2.37
512-3587	746616-3	40	2.088	1	2.52	2.10	1.88

*Contact Plating: 1 = .000100-.000200" (0.00254-0.00508 mm) bright tin-lead over .000050" (0.00127 mm) nickel on entire contact; 2 = .000030" (0.00076 mm) gold on cable termination end; .000100-.000200" (0.00254-0.00508 mm) bright tin-lead on pin end, with entire contact underplated .000050" (0.00127 mm) nickel.

Universal Ejection Style Pin Headers; Military, Center and Dual Polarized; .100 × .100 Centers

Fig. H—Straight-Thru, 4 Sided .025 Square Posts, .240 Mating Post Length

Stock No	Kit No.	No. of Pos.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3531	102154-1	10	1	1.48	1.23	1.10
512-3532	102154-2	14	1	1.96	1.63	1.46
512-3533	102154-3	16	1	2.20	1.83	1.64
512-3534	102154-4	20	1	2.58	2.15	1.92
512-3535	102154-6	26	1	3.12	2.60	2.32
512-3536	102154-8	34	1	3.76	3.13	2.80
512-3537	102154-9	40	1	4.30	3.58	3.20
512-3538	1-102154-0	50	1	4.92	4.10	3.67
512-3539	1-102154-1	60	1	5.74	4.78	4.28
512-3540	1-102154-2	64	1	6.10	5.08	4.55

Fig. J—Right-Angle, 4 Sided .025 Square Posts

Stock No	Kit No.	No. of Pos.	Finish*	EACH 1-99	EACH 100-499	EACH 500-Up
512-3542	102160-1	10	2	1.50	1.25	1.11
512-3543	102160-2	14	2	2.02	1.68	1.50
512-3544	102160-3	16	2	2.26	1.88	1.68
512-3545	102160-4	20	2	2.64	2.20	1.97
512-3546	102160-6	26	2	3.22	2.68	2.40
512-3547	102160-8	34	2	3.88	3.23	2.89
512-3548	102160-9	40	2	4.44	3.70	3.31
512-3549	1-102160-0	50	2	5.10	4.25	3.80
512-3550	1-102160-1	60	2	5.94	4.95	4.43
512-3551	1-102160-2	64	2	6.34	5.28	4.73

*Contact Plating: 1 = Brass or phosphor bronze (at AMP's option); tin, gold, or duplex plated; 2 = Phosphor bronze; tin, gold or duplex plated.

Fig. H

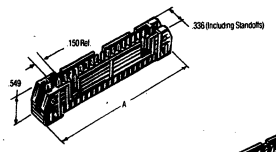
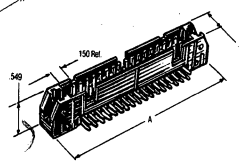


Fig. J



HDF Subminiature D Connectors And Strain Reliefs With Standard Mounting Holes

HDF-20 Low Profile Metal Shell Connectors

Stock No	Kit No.	No. of Pos.	Description	Finish*	Fig.	EACH 1-99	EACH 100-499
512-0155	747306-4	9	Plug	1	K	4.70	3.84
512-0056	747275-4	9	Cable Stabilizer	—	L	.28	.24
512-0165	747306-3	15	Plug	1	K	5.77	4.70
512-0068	747275-3	15	Cable Stabilizer	—	L	.31	.26
512-0175	747306-2	25	Plug	1	K	7.22	5.86
512-0076	747275-2	25	Cable Stabilizer	—	L	.39	.32
512-0185	747306-1	37	Plug	1	K	10.23	8.34
512-0088	747275-1	37	Cable Stabilizer	—	L	.52	.43
512-0160	747303-4	9	Receptacle	1	M	4.73	3.86
512-0056	747275-4	9	Cable Stabilizer	—	L	.28	.24
512-0170	747303-3	15	Receptacle	1	M	5.95	4.84
512-0068	747275-3	15	Cable Stabilizer	—	L	.31	.26
512-0180	747303-2	25	Receptacle	1	M	7.78	6.35
512-0076	747275-2	25	Cable Stabilizer	—	L	.39	.32
512-0190	747303-1	37	Receptacle	1	M	11.04	8.99
512-0088	747275-1	37	Cable Stabilizer	—	L	.52	.43

HDF Subminiature D Hardware Metal Shell And All-Plastic

512-3552	746881-1	—	Metal Screen Retainers	—	—	.76	.64
512-9070	205817-1	—	Female Screw Locks	—	—	1.32	1.19

Fig. K

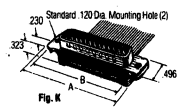


Fig. L

Fig. M

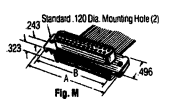


Fig. N

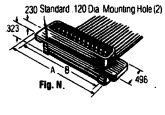
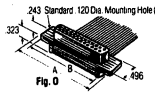


Fig. O

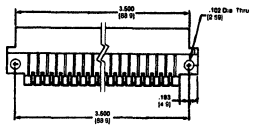


HDF-20 Low Profile All-Plastic Connectors

Stock No	Kit No.	No. of Pos.	Description	Finish*	Fig.	EACH 1-99	EACH 100-499
512-0055	747321-4	9	Plug	1	N	4.18	3.40
512-0056	747275-4	9	Cable Stabilizer	—	L	.28	.24
512-0065	747321-3	15	Plug	1	N	4.88	3.98
512-0068	747275-3	15	Cable Stabilizer	—	L	.31	.26
512-0070	747321-2	25	Plug	1	N	6.20	5.04
512-0076	747275-2	25	Cable Stabilizer	—	L	.39	.32
512-0085	757321-1	37	Plug	1	N	8.79	7.15
512-0088	747275-1	37	Cable Stabilizer	—	L	.52	.43
512-0060	747318-4	9	Receptacle	1	O	4.25	3.46
512-0056	747275-4	9	Cable Stabilizer	—	L	.28	.24
512-0067	747318-3	15	Receptacle	1	O	5.17	4.21
512-0068	747275-3	15	Cable Stabilizer	—	L	.31	.26
512-0080	747318-2	25	Receptacle	1	O	6.57	5.35
512-0076	747275-2	25	Cable Stabilizer	—	L	.39	.32
512-0090	747318-1	37	Receptacle	1	O	9.22	7.50
512-0088	747275-1	37	Cable Stabilizer	—	L	.52	.43

*Contact Plating: 1 = Phosphor bronze, duplex plated .000030 gold on mating end, tin-lead on termination end, with entire contact nickel underplated.

Type B Connectors .100 Grid, 2 Row, Standard Style

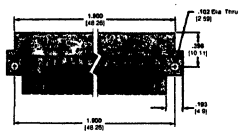


Pin Assembly With Solder Posts

Stock No.	Mfr.'s Type	No. of Pos.	Contacts*	EACH		
				1-9	10-24	25-49
512-2700	533248-1	64	1	17.30	15.73	14.42

*Contacts: 1 = Copper alloy, plated .000030 gold in contact area, tin-lead on posts; both over .000050 nickel underplate.

Type 1/2C Connectors, 100 Grid, 3 Row, Standard Style

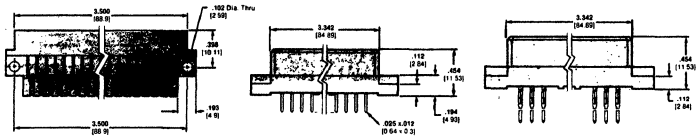


Pin Assembly With Solder Posts

Stock No.	Mfr.'s Type	No. of Pos.	Post Length	Positions Loaded	Rows Loaded	Contacts*	EACH		
							1-9	10-24	25-49
512-2701	532548-1	48	.104	1 Thru 16	A, B, C	1	4.66	4.24	3.88

*Contacts: 1 = Copper alloy, plated .000030 gold in contact area, tin-lead on posts; both over .000050 nickel underplate.

Type C Connectors .100 Grid, 3 Row Standard Style



Pin Assembly With Solder Posts

Stock No.	Mfr.'s Type	No. of Pos.	Post Length	Positions Loaded	Rows Loaded	Contacts*	EACH		
							1-9	10-24	25-49
512-2702	532505-1	96	.104	1 Thru 32	A, B, C	1	8.24	7.49	6.87
512-2703	532505-2	64	.104	1 Thru 32	A, C	1	6.42	5.84	5.35
512-2704	532505-3	32	.104	2, 4, 6, 30, 32	A, C	1	4.48	4.07	3.73
512-2705	533205-1	96	.180	1 Thru 32	A, B, C	1	9.06	8.24	7.55

Receptacle Assemblies With Solder Posts

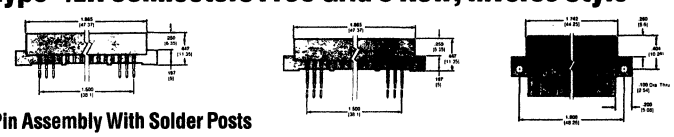
512-2706	532504-2	64	.180	1 Thru 32	A, C	1	7.26	6.60	6.05
512-2707	532504-3	32	.180	2,4,6,30,32	A, C	1	5.20	4.73	4.33
512-2708	534628-1	96	.669	1 Thru 32	A, B, C	1	12.16	11.05	10.13

Receptacle-Action Pin Posts-.093 to .125 P.C. Board Thickness

512-2709	534062-1	96	.669	1 Thru 32	A, B, C	2	12.16	11.05	10.13
512-2710	1-205912-4	96	.521	1 Thru 32	A, B, C	2	14.02	12.75	11.68
512-2711	1-215614-4	96	.669	1 Thru 32	A, B, C	2	14.02	12.75	11.68

*Contacts: 1 = Copper alloy, plated .000030 gold in contact area, tin-lead on posts; both over .000050 nickel underplate; 2 = .000030 gold in contact area and last .200 of post, gold flash on remainder, all over .000050 nickel underplate.

Type 1/2R Connectors .100 Grid 3 Row, Inverse Style



Pin Assembly With Solder Posts

Stock No.	Mfr.'s Type	No. of Pos.	Post Length	Positions Loaded	Rows Loaded	Contacts*	EACH		
							1-9	10-24	25-49
512-2712	532546-1	48	.190	1 Thru 16	A, B, C	1	4.16	3.78	3.47

Action Pin For .093/.125 P.C. Board Thickness

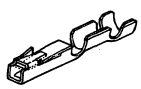
512-2713	533215-1	48	.250	1 Thru 16	A, B, C	1	4.44	4.04	3.70

Receptacle Assembly With Solder Posts

512-2714	532544-1	48	—	1 Thru 16	A, B, C	1	5.56	5.05	4.63

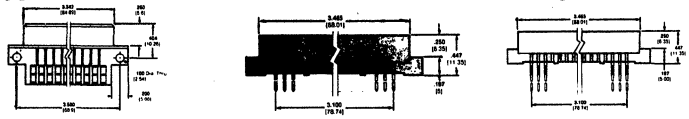
*Contacts: 1 = Copper alloy, plated .000030 gold in contact area, tin-lead on posts; both over .000050 nickel underplate.

Tooling



512-2715. 91156-2. Extraction tool ..... **EACH 65.83**
512-2716. 90301-2. Crimp tool..... **EACH 470.31**

Type R Connectors .100 Grid 3 Row, Inverse Style



Receptacle With Solder Posts

Stock No.	Mfr.'s Type	No. of Pos.	Post Length	Positions Loaded	Rows Loaded	Contacts*	EACH		
							1-9	10-24	25-49
512-2717	531796-1	96	.108	1 Thru 32	A, B, C	1	10.32	9.38	8.60
512-2718	531796-2	64	.108	1 Thru 32	A, C	1	7.84	7.13	6.53
512-2719	531797-1	96	.168	1 Thru 32	A, B, C	1	10.32	9.38	8.60
512-2720	531797-2	64	.168	1 Thru 32	A, C	1	7.84	7.13	6.53

Pin Assembly With Solder Posts

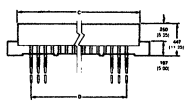
512-2721	532523-1	96	.190	1 Thru 32	A, B, C	1	7.62	6.93	6.35
512-2722	532523-2	64	.190	1 Thru 32	A, C	1	5.86	5.33	4.88

Action Pin For P.C. Boards .093 to .125 Thick

512-2723	533204-1	96	.250	1 Thru 32	A, B, C	1	7.62	6.93	6.35
512-2724	533216-1	96	.521	1 Thru 32	A, B, C	2	12.16	11.05	10.13
512-2725	531787-1	96	.733	1 Thru 32	A, B, C	1	8.24	7.49	6.87
512-2726	532525-1	96	.733	1 Thru 32	A, B, C	2	13.66	12.42	11.38
512-2727	533216-2	64	.521	1 Thru 32	A, C	2	8.94	8.13	7.45

*Contacts: 1 = Copper alloy, plated .000030 gold in contact area, tin-lead on posts; both over .000050 nickel underplate; 2 = .000030 gold in contact area and last .200 of post, gold flash on remainder, all over .000050 nickel underplate.

Expanded Connectors .100 Grid 3 Row, Inverse Style

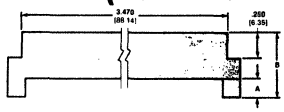


Pin Assemblies with Action Pin Posts for .250 Post Length

Stock No.	Mfr.'s Type	No. of Pos.	Positions Loaded	Rows Loaded	Circuit Identification	Contacts*	EACH		
							1-9	10-24	25-49
512-2728	534053-1	120	1 Thru 40	A, B, C	40	1	11.30	10.27	9.42

*Contacts: 1 = Copper alloy, plated .000030 gold in contact area, tin-lead on posts; both over .000050 nickel underplate.

Shrouds .100 Grid 3 Row (P.C. Board Thickness .125)



96 Position. For use with all 96 Position, 3 Row, Type C and Type R, Action Pin Posted Connectors mounted in .125(3.18), .093(2.36) and .062(1.57) thick printed circuit boards.

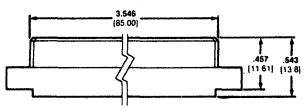
For Post Length .521

Stock No.	Mfr.'s Type	No. of Pos.	Dim.-In.		EACH		
			A	B	1-9	10-24	25-49
512-2729	533236-4	96	.100	.450	1.92	1.75	1.60

For Post Length .669

512-2730	533236-5	96	.250	.600	1.92	1.75	1.60

Type C Discrete Wire Connectors .100 Grid 3 Row, Inverse Style

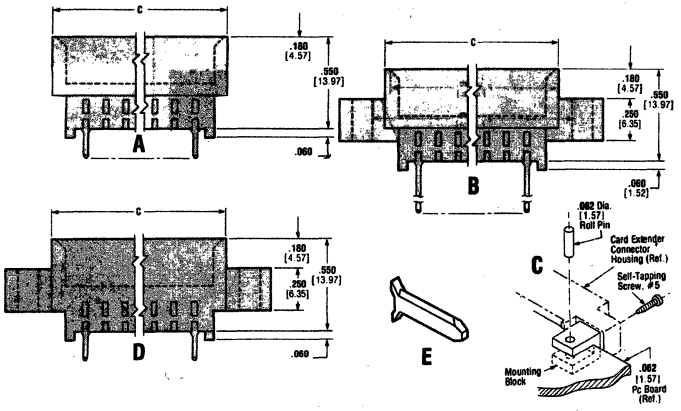


Type 925486-1. Housing Crimp Snap Receptacle with 96 positions.
512-2731 ..... **EACH 5.28**

Contacts

Type 530151-2. Contact .000098 Gold in Contact Area.
512-2732 ..... **EACH .41**
Type 530151-8. Contact .000031 Gold in Contact Area.
512-2733 ..... **EACH .23**

Standard Edge Connectors .100 and .125 Centerline Solder Posts



6

.100 Centerline Solder Posts (without Mounting Ears) (Fig. A)

Stock No.	Mfr.'s Type	No. of Pos.	Post Length	EACH 1-99	EACH 100-499
512-1890	5-530843-0	10	.125	1.62	1.24
512-1892	4-530843-9	10	.187	1.62	1.24
512-1894	530843-1	12	.125	5.00	4.00
512-1896	530843-2	15	.125	2.18	1.59
512-1898	1-530843-3	15	.187	2.18	1.59
512-1900	5-530843-3	17	.125	2.41	1.77
512-1902	530843-3	18	.125	2.73	2.35
512-1904	1-530843-4	18	.187	2.73	2.35
512-1906	5-530843-4	20	.125	2.75	2.03
512-1908	530843-4	22	.125	2.73	2.35
512-1910	1-530843-5	22	.187	2.97	2.47
512-1912	1-530843-6	25	.187	3.31	3.09
512-1914	530843-6	28	.125	3.65	3.40
512-1916	530843-7	30	.125	3.89	3.62
512-1918	1-530843-8	30	.187	3.89	3.62
512-1920	6-530843-5	31	.125	3.98	3.72
512-1922	6-530843-3	31	.187	3.98	3.72
512-1924	530843-8	36	.125	4.55	4.26
512-1926	1-530843-9	36	.187	4.55	4.26
512-1928	530843-9	40	.125	5.00	4.66
512-1930	2-530843-0	40	.187	5.00	4.66
512-1932	1-530843-0	43	.125	5.31	4.98
512-1934	2-530843-1	43	.187	5.31	4.98
512-1936	1-530843-1	50	.125	6.12	5.72
512-1938	5-530843-5	60	.125	7.25	6.76
512-1940	5-530843-6	60	.187	7.25	6.76

.100 Centerline Solder Posts (Mid-High Mounting Ears) (Fig. A)

Stock No.	Mfr.'s Type	No. of Pos.	Post Length	EACH 1-99	EACH 100-499
512-1973	4-531340-8	50	.187	7.20	6.48

.100 Centerline Solder Posts (without Mounting Ears) (Fig. A)

512-1974	2-530843-6	15	.125	2.09	1.88
512-1975	2-530843-8	22	.125	2.81	2.53
512-1976	2-530843-9	25	.125	3.13	2.82
512-1977	5-530843-7	60	.125	6.80	6.12

.100 Centerline Solder Posts (with Low Mounting Ears and Inserts) (Fig. D)

512-1978	530841-2	15	.125	2.57	2.31
512-1979	530841-5	25	.125	3.89	3.50
512-1980	1-530841-6	25	.187	3.89	3.50
512-1981	530841-7	30	.125	4.57	4.11
512-1982	1-530841-8	30	.187	4.57	4.11
512-1983	1-530841-9	36	.187	5.36	4.82
512-1984	1-530841-1	50	.125	7.20	6.48
512-1985	2-530841-2	50	.187	7.20	6.48

.100 Centerline Card Extender (Fig. B)

512-1986	530826-3	50	—	10.60	9.54

.125 Centerline Solder Posts (with Mid-High Mounting Ears) (Fig. D)

512-1987	4-531341-2	28	.187	4.50	4.05

.125 Centerline Solder Posts (without Mounting Ears) (Fig. A)

512-1988	530844-1	6	.125	1.49	1.34
512-1989	1-530844-2	6	.187	1.49	1.34
512-1990	1-530844-3	10	.187	2.03	1.83
512-1991	1-530844-5	18	.187	3.13	2.82
512-1992	1-530844-6	22	.187	3.68	3.31
512-1993	1-530844-7	28	.187	4.50	4.05
512-1994	1-530844-8	30	.187	4.79	4.31
512-1995	2-530844-2	50	.187	7.56	6.80

.125 Centerline Solder Posts (with Low Mounting Ears) (Fig. D)

512-1996	2-530842-2	50	.187	7.56	6.80

.125 Centerline Card Extenders (Fig. D)

512-1997	530384-2	36	—	8.71	7.84
512-1998	530384-3	50	—	11.05	9.95

Mounting Block Kit (Fig. C). Includes: 2 mounting blocks, 2 self-tapping screws, 2 roll pins.
512-1951. 531250-1. **1-99....EACH 1.37** **100-499.....EACH 1.23**

Intercontact Keying Plug (Fig. E)
512-1953. 650025-2 .....**EACH .11** **100-499.....EACH .10**

Board-to-Board Receptacle Assemblies .100 Centers

Side Entry Stackable End-to-End (Fig. F)

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions A—Inches	Plating*	EACH 1-99	EACH 100-499
512-1942	1-380949-2	2	.195	1	.14	.11
512-1944	1-380949-6	6	.595	1	.42	.31
512-1946	1-380949-8	8	.795	1	.57	.43

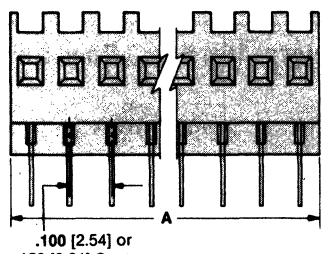
Headers .100 Centerline .025 Straight Square Posts (Non-Polarized) (Fig. G)

512-1948	640098-2	2	.200	1	.06	.05
512-1950	640098-3	3	.300	1	.10	.08
512-1952	640098-4	4	.400	1	.13	.11
512-1954	640098-5	5	.500	1	.16	.13
512-1956	640098-6	6	.600	1	.19	.16
512-1958	640098-8	8	.800	1	.25	.21
512-1960	1-640098-0	10	1.000	1	.32	.26

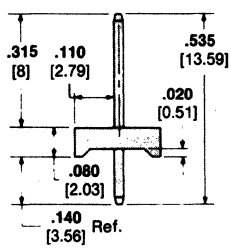
Headers .100 Centerline .025 Square Right Angle Posts (Non-Polarized) (Fig. H)

512-1962	640099-2	2	.200	1	.07	.06
512-1964	640099-4	4	.400	1	.13	.11
512-1966	640099-5	5	.500	1	.16	.13
512-1968	640099-6	6	.600	1	.20	.16
512-1970	640099-8	8	.800	1	.26	.22
512-1972	1-640099-0	10	1.000	1	.33	.27

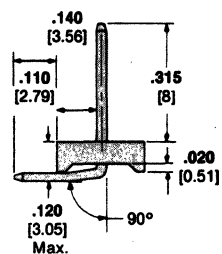
*1 = Copper Alloy, Pre-Tin Plated; Plating receptacles .022 thick tin-plated brass.



F



G



H

Code of Wire Sizes

16	12	8

Test Current

Contact Size	16	12	8
Amperes	13	23	46

Service		INST	A	D	E	B	C
Limiting Operating Voltages at seal level	DC	250	700	1250	1750	2450	4200
	AC (rms)	200	500	900	1250	1750	3000

Service Chart above shows Army-Navy ratings for aircraft use. INST service normally for low voltages and currents.

Effective Creepage (nominal)	Inch	1/16	1/8	3/16	1/4	5/16	1
	mm	1.57	3.18	4.75	6.35	7.92	25.40
Mechanical Spacing (nominal)	Inch		1/16	1/8	3/16	1/4	5/16
	mm		1.57	3.18	4.75	6.35	7.92

☒ Inactive for new military design but available for replacement or non-military purposes.

The following inserts are available with crimp type contacts. See page 178 for details.

10SL-3	14S-7	18-12	22-14
10SL-4	16S-1	18-19	24-2
12S-3	16S-8	18-20	28-11
14S-1	18-1	20-4	28-21
14S-2	18-4	20-7	
14S-5	18-11	20-27	

Connector Size—O.D. of Receptacle Coupling Threads

Conn. Size	O.D. In.	O.D. mm	Conn. Size	O.D. In.	O.D. mm	Conn. Size	O.D. In.	O.D. mm	Conn. Size	O.D. In.	O.D. mm
—	—	—	14S	7/8	22.22	18	1 1/8	28.57	24	1 1/2	38.10
10SL	5/8	15.87	16S	1	25.40	20	1 1/4	31.75	28	1 3/4	44.45
12SL	3/4	19.05	—	—	—	—	—	—	32	2 1/32	51.59
12S	3/4	19.05	16	1	25.40	22	1 3/8	34.92	36	2 1/4	57.15

6

1 contact

18-16 1 #12 Serv. - C

2 contacts

10SL-4 2 #16 Serv. - A

12S-3 Serv. - A 2 #16

☒ 14S-9 Ser. - A 2 #16

16S-4 Serv. - D 2 #16

☒ 16-11 Serv. - A 2 #12

☒ 18-3 2 #12 Serv. - D

3 contacts

10SL-3 3 #16 Serv. - A

14S-1 3 #16 Serv. - A

14S-7 3 #16 Serv. - A

☒ 16S-5 3 #16 Serv. - A

16-10 3 #12 Serv. - A

☒ 18-22 3 #16 Serv. - D

4 contacts

12SL-844* 4 #16 1/16" Spacing

☒ 14S-2 4 #16 Serv. - INST.

16-9 2 #12, 2 #16 Serv. - A

18-4 4 #16 Serv. - D

☒ 18-10 4 #12 Serv. - A

20-4 4 #12 Serv. - D

22-10 4 #16 Serv. - E

22-22 4 #8 Serv. - A

24-22 4 #8 Serv. - D

5 contacts

14S-5 5 #16 Serv. - INST.

16S-8 5 #16 Serv. - A

18-11 5 #12 Serv. - A

☒ 18-20 5 #16 Serv. - A

☒ 18-29 5 #16 Serv. - A

6 Contacts

14S-6 6 #16 Serv. - INST.

☒ 18-12 6 #16 Serv. - A

7 contacts

16S-1 7 #16 Serv. - A

18-9 5 #16, 2 #12 Serv. - INST.

20-15 7 #12 Serv. - A

24-2 7 #12 Serv. - D

24-10 7 #8 Serv. - A

24-27 7 #16 Serv. - E

8 contacts

18-8 1 #12, 7 #16 Serv. - A

20-7 8 #16 Serv. - D (ABHG) A (CDEF)

22-18 8 #16 Serv. - D (ABHFG) A (Others)

22-23 8 #12 Serv. - D (H) A (Others)

24-6 8 #12 Serv. - D (AGH) A (Others)

9 contacts

20-16 7 #16, 2 #12 Serv. - A

20-18 3 #12, 6 #16 Serv. - A

☒ 22-20 9 #16 Serv. - A

10 contacts

18-1 10 #16 Serv. - A (BCFG) INST. (Others)

18-19 10 #16 Serv. - A

11 contacts

20-33 11 #16 Serv. - A

12 contacts

☒ 24-19 12 #16 1/16" Spac

28-18 12 #16 Serv. - C (M), D (CHJKL) A (AB), INST. (CDEF)

14 contacts

20-27 14 #16 Serv. - A (EFJLMN) INST. (Others)

22-19 14 #16 Serv. - A

28-2 2 #12, 12 #16 Serv. - D

16 contacts

☒ 24-5 16 #16 Serv. - A

24-7 2 #12, 14 #16 Serv. - A

17 contacts

20-29 17 #16 Serv. - A

19 contacts

22-14 19 #16 Serv. - A

20 contacts

☒ 28-16 20 #16 Serv. - A

22 contacts

28-11 4 #12, 18 #16 Serv. - D

24 contacts

24-28 24 #16 Serv. - INST.

26 contacts

28-12 26 #16 Serv. - A

30 contacts

☒ 32-8 6 #12, 24 #16 Serv. - A

35 contacts

☒ 28-15 35 #16 Serv. - A

37 contacts

28-21 37 #16 Serv. - A

48 contacts

36-10 48 #16 Serv. - A

52 contacts

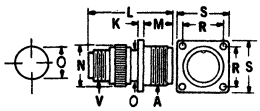
32-414* 52 #16 Serv. - A

MIL-C-5015 Type A & B

Receptacles

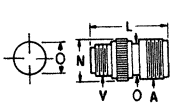
WALL

97-3100A



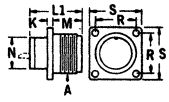
CABLE

97-3101A



BOX

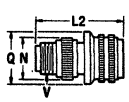
97-3102A



Mating Plugs

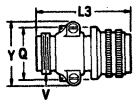
STRAIGHT

97-3106A



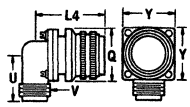
STRAIGHT (SPLIT)

97-3106B



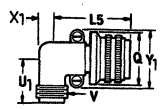
ANGLE

97-3108A



ANGLE (SPLIT)

97-3108B



Dimensions Table

Connector Size	A Coup. Threads	K	L	L1 MS 3102A	L2 3106A	L3 3106B	L4 3106B	L5 3108B	M	N	O MS 3100A 3101A	Q	R	S	U 3108A	U1 3108B	Y	X1 3108B	Y1 3108B	Fitting Th.
10SL	5/8-24	5/64	19/32	27/32	13/8	—	15/16	11/2	9/16	5/8	0.812	7/8	23/32	1	1	1	11/16	—	—	5/8-24
12S	3/4-20	5/64	115/32	61/64	17/16	—	13/8	19/16	9/16	25/32	0.812	1	13/16	13/32	1	1	11/16	1/2	—	5/8-24
12SL	3/4-20	5/64	—	27/32	131/64	—	113/64	—	—	—	—	1	—	—	1	11/16	11/16	—	—	3/4-20
14S	7/8-20	5/64	17/16	15/16	17/16	111/16	13/8	123/32	9/16	7/8	0.938	11/8	29/32	13/16	1	11/16	11/16	21/32	—	3/4-20
16S	1-20	5/64	131/64	15/16	129/64	111/16	11/2	13/4	9/16	1	1.062	11/4	31/32	19/32	11/8	11/8	15/16	—	11/2	7/8-20
16	1-20	1/8	157/64	111/32	157/64	—	115/16	21/8	3/4	1	1.062	11/4	31/32	19/32	11/8	11/8	15/16	—	11/2	7/8-20
18	11/8-18	1/8	2	111/32	2	21/16	115/16	213/32	3/4	11/8	1.188	111/32	11/16	13/8	11/8	13/16	15/16	—	141/64	1-20
20	11/4-18	1/8	21/8	111/32	21/8	21/8	21/16	25/32	3/4	11/4	1.312	115/32	15/32	11/2	15/16	15/16	15/8	—	113/16	13/16-18
22	13/8-18	1/8	21/8	111/32	21/8	21/8	21/16	213/32	3/4	13/8	1.438	119/32	11/4	15/8	15/16	15/16	15/8	—	115/16	13/16-18
24	11/2-18	1/8	21/4	111/32	21/4	29/32	215/32	25/8	13/16	11/2	1.562	1 23/32	13/8	13/4	11/2	17/16	2	—	21/16	17/16-18
28	13/4-18	1/8	21/4	111/32	21/4	29/32	215/32	25/8	13/16	13/4	1.812	131/32	19/16	2	11/2	17/16	2	—	25/16	17/16-18
32	2-18	1/8	23/8	17/16	23/8	25/16	211/16	213/16	7/8	21/32	2.062	27/32	13/4	21/4	125/32	13/4	21/2	—	29/32	13/4-18
36	21/4-16	1/8	23/8	17/16	23/8	211/32	211/16	227/32	7/8	21/4	2.312	215/32	115/16	21/2	125/32	115/16	21/2	—	227/32	2-18

Receptacles mate with plugs on the same line in the table below.

MS Receptacles

Number of Contacts	Shell Insert/ Size	MS3100A* EACH 1-9	MS3100A* EACH 10-49	MS3101A* EACH 1-9	MS3101A* EACH 10-49	MS3102A* EACH 1-9	MS3102A* EACH 10-49
3	10SL-3P	8.31	5.62	11.10	7.50	6.35	5.71
2	10SL-4P	7.77	5.26	10.61	7.17	5.86	5.27
2	12S-3P	7.48	5.05	8.82	5.96	4.94	3.68
2	12S-3S	7.56	5.11	8.92	6.03	5.19	3.85
4	12SL-844P	—	—	—	—	10.01	6.76
3	14S-1P	7.92	5.36	9.73	6.58	6.09	4.46
3	14S-1S	8.14	5.50	9.88	6.68	6.12	4.48
4	14S-2P	8.82	5.96	9.69	6.55	6.07	4.45
4	14S-2S	9.56	6.47	10.25	6.93	6.40	4.66
5	14S-5P	8.82	5.92	10.46	7.07	6.68	4.86
5	14S-5S	9.14	6.18	10.93	7.39	7.14	5.17
6	14S-6P	9.14	6.18	10.93	7.39	7.14	5.17
6	14S-6S	9.22	6.24	11.16	7.55	7.26	5.25
3	14S-7P	7.92	5.36	9.73	6.58	6.09	4.46
3	14S-7S	8.14	5.50	9.88	6.68	6.12	4.48
2	14S-9P	7.56	5.11	9.22	6.24	5.47	4.03
2	14S-9S	7.56	5.11	9.56	6.47	5.58	4.12
4	16-9P	12.52	8.47	12.97	8.77	8.25	5.92
4	16-9S	14.02	9.48	14.57	9.85	9.94	7.06
3	16-10P	10.93	7.39	11.18	7.56	7.61	5.25
3	16-10S	12.20	8.25	12.48	8.44	8.40	6.02
2	16-11P	11.46	7.75	11.74	7.93	7.26	5.25
2	16-11S	12.69	8.58	13.25	8.96	8.71	6.23
7	16S-1P	10.73	7.59	10.97	7.42	7.16	5.19
7	16S-1S	11.18	7.56	11.97	8.09	8.17	5.85
2	16S-4P	9.99	6.75	10.88	7.36	6.68	4.86
2	16S-4S	10.37	7.01	11.46	7.75	6.88	4.99
3	16S-5P	9.63	6.51	10.37	7.01	6.57	4.78
3	16S-5S	9.73	6.58	10.69	7.23	6.88	4.99
5	16S-8P	9.88	6.68	10.84	7.33	7.11	5.14
5	16S-8S	10.25	6.93	11.16	7.55	7.26	5.25
10	18-1P	12.50	8.45	14.10	9.53	9.37	6.67
10	18-1S	13.67	9.24	15.31	10.35	10.24	7.27
2	18-3P	11.16	7.55	12.97	8.77	7.66	5.52
2	18-3S	13.82	9.35	15.61	10.56	10.04	7.12
4	18-4P	10.18	6.88	11.69	7.91	7.11	5.02
4	18-4S	10.97	7.42	12.48	8.44	7.58	5.46
8	18-8P	12.50	8.45	14.10	9.53	9.37	6.67
8	18-8S	13.33	9.01	14.85	10.04	10.17	7.22
7	18-9P	13.33	9.01	15.06	10.18	9.46	6.74
7	18-9S	14.51	9.81	16.12	10.90	10.47	7.42
4	18-10P	12.20	8.25	14.05	9.84	8.77	6.27
4	18-10S	13.33	9.01	15.16	10.58	10.17	7.22
5	18-11P	12.20	8.25	14.05	9.84	8.77	6.27
5	18-11S	12.50	8.45	14.60	10.10	9.37	6.67
6	18-12P	11.31	7.65	13.35	9.37	8.05	5.79
6	18-12S	12.20	8.25	14.05	9.84	8.77	6.27
1	18-16P	12.27	8.29	14.36	10.05	8.40	6.02
1	18-16S	14.51	9.81	16.37	11.40	10.47	7.42
10	18-19P	16.87	11.40	18.79	13.04	13.64	9.56
10	18-19S	13.99	9.46	15.65	10.91	10.47	7.42
5	18-20P	12.25	8.28	14.18	9.93	8.25	5.92
5	18-20S	12.97	8.77	15.09	10.55	9.10	6.50
3	18-22P	11.16	7.55	13.38	9.38	7.66	5.52
3	18-22S	12.25	8.28	15.16	10.58	8.25	5.92

MS Mating Plugs

Shell Insert/ Size	Series 3106A* EACH 1-9	Series 3106A* EACH 10-49	Series 3106B* EACH 1-9	Series 3106B* EACH 10-49	Series 3108A EACH 1-9	Series 3108A EACH 10-49	Series 3108B* EACH 1-9	Series 3108B* EACH 10-49
10SL-3S	9.46	10.51	—	—	11.55	11.19	12.20	10.98
10SL-4S	8.97	8.07	—	—	16.04	10.84	11.69	10.57
12S-3S	8.01	5.75	—	—	16.87	11.40	9.81	6.98
12S-3P	7.58	5.46	—	—	16.83	11.38	9.75	6.92
12SL-844S	20.15	18.00	—	—	—	—	—	—
14S-1S	8.77	6.27	10.28	7.28	16.91	11.77	9.75	6.92
14S-1P	8.58	6.15	10.24	7.27	16.79	11.68	9.52	6.77
14S-2S	9.11	6.50	10.73	7.59	17.10	11.89	10.17	7.22
14S-2P	8.53	6.11	10.19	7.23	16.74	11.65	9.49	6.75
14S-5S	9.75	6.92	11.40	8.05	17.89	12.43	10.52	7.45
14S-5P	9.46	6.74	10.91	7.71	17.47	12.15	10.24	7.27
14S-6S	9.81	6.98	11.49	8.10	18.06	12.55	10.78	7.63
14S-6P	9.75	6.92	11.40	8.05	17.89	12.43	10.52	7.45
14S-7S	8.77	6.27	10.28	7.28	16.91	11.77	9.75	6.92
14S-7P	8.58	6.14	10.24	7.27	16.79	11.68	9.52	6.77
14S-9S	8.25	5.92	9.81	6.98	16.43	11.44	9.37	6.67
14S-9P	8.22	5.90	9.78	6.96	16.39	11.41	9.11	6.50
16-9S	13.15	9.66	—	—	24.29	16.76	16.56	11.53
16-9P	12.38	8.71	—	—	23.08	15.93	15.16	10.58
16-10S	12.01	8.46	—	—	21.42	14.83	14.46	10.10
16-10P	10.78	7.63	—	—	20.33	14.08	13.35	9.37
16-11S	12.72	8.93	—	—	23.25	16.04	15.34	10.70
16-11P	11.26	7.95	—	—	21.82	15.08	13.97	9.78
16S-1S	10.73	7.59	12.96	9.10	22.31	15.42	12.38	8.71
16S-1P	9.75	6.92	12.19	8.58	21.35	14.76	11.43	8.07
16S-4S	9.94	7.06	12.72	8.93	22.89	15.80	11.66	8.22
16S-4P	9.46	6.74	12.23	8.61	22.38	15.46	11.36	8.01
16S-5S	9.46	6.74	11.79	8.31	20.91	14.47	11.00	7.78
16S-5P	9.11	6.50	11.66	8.22	20.70	14.33	10.78	7.63
16S-8S	9.78	6.96	12.23	8.61	21.37	14.77	11.23	7.93
16S-8P	9.49	6.75	11.90	8.38	20.93	14.48	11.49	8.10
18-1S	13.64	9.56	15.65	10.91	25.23	17.39	16.26	11.32
18-1P	12.42	8.73	14.70	10.28	24.25	16.73	15.16	10.58
18-3S	13.64	9.56	16.10	11.23	26.81	18.45	16.63	11.58
18-3P	11.25	7.94	13.64	9.56	24.25	16.73	14.18	9.93
18-4S	10.91	7.71	12.96	9.10	22.78	15.73	13.70	9.60
18-4P	10.19	7.23	12.38	8.71	21.83	15.09	12.91	9.06
18-8S	13.35	9.37	15.60	10.88	25.08	17.29	16.06	11.19
18-8P	12.42	8.73	14.70	10.28	24.25	16.73	15.16	10.58
18-9S	14.05	9.84	16.56	11.53	27.33	18.81	17.36	12.07
18-9P	12.98	9.12	15.60	10.88	26.27	18.09	16.25	11.31
18-10S	13.35	9.37	15.60	10.88	25.08	17.29	16.06	11.19
18-10P	12.01	8.46	14.36	10.05	23.86	16.46	14.77	10.33
18-11S	12.42	8.73	14.70	10.28	24.25	16.73	15.16	10.58
18-11P	12.01	8.46	14.36	10.05	23.86	16.46	14.77	10.33
18-12S	12.01	8.46	14.36	10.05	23.86	16.46	14.77	10.33
18-12P	11.40	8.05	13.64	9.56	23.04	15.91	14.05	9.84
18-16S	14.05	9.84	16.56	11.53	27.33	18.81	17.36	12.07
18-16P	12.01	8.46	14.41	10.08	25.34	17.47	15.19	10.60
18-19S	13.70	9.60	16.02	11.16	25.00	17.57	16.43	11.44
18-19P	16.74	11.65	18.92	13.13	28.44	19.57	19.47	13.50
18-20S	12.73	8.95	15.18	10.60	25.99	17.90	15.91	11.08
18-20P	11.95	8.41	14.39	10.07	25.21	17.93	15.16	10.58
18-22S	11.95	8.41	14.39	10.07	25.21	17.39	15.16	10.58
18-22P	11.25	7.94	13.64	9.56	24.25	16.74	14.18	9.93

* To order connectors with cadmium finish (bright metal) instead of the military specification drab olive, include (639) at the end of the description. "639" at the end of the description specifies a bright cadmium shell. Bright finish shells are available in the following sizes: 10SL, 12S, 12SL, 14S, 16S, 18, 20, 22, 24 and 28.

MIL-C-5015 Type A & B

Ordering Information. The 97 Series Connectors are custom-assembled to customer specifications from Allied's large inventory of component parts. The following is required to order: **1 — Select the "insert" and configuration.** The inserts can be either male pin (indicated by a "P" in the assembled part description) or a female socket (indicated by a "S" in the assembled part description). Please note that while an identical size pin insert will mate with the socket, the shells will not mate unless a receptacle is selected to mate with a mating plug. Example: a 3102A-14S-2P doesn't mate with a 3102A-14S-2S because the shells won't mate, but a 3102A-14S-2P will mate with a 3106A-14S-2S. Also, a 3102A-14S-2P won't mate with a 3106A-14S-2P because both inserts have male pins. For safety reasons, the female socket needs to be the connector on the "hot" circuit. **2 — Select the required "Shell" type.** The Shells size (O.D.) and configurations are shown on the previous page. The size identification for the shell also identifies the size of the insert. Insert configurations and contact sizes are shown on the first page of this section. If a connector position other than standard is required, a table on the first page of the section lists available options. **3 — Select the needed contact arrangement.** Alternate positions for inserts are indicated on the first page of this section. Be careful to order the male pin and the female socket with the same alternate position indicator as a socket in the "x" position will mate with a plug in the "x" position, but will not mate with a plug in the "y" position. **4 — Select the desired shell finish — olive drab or bright cadmium.** Olive drab is standard. Bright cadmium finish is indicated by "(639)" at the end of the description. Example: 3102A-14S-2P (639) has a shell with a bright cadmium finish. The listing below has the receptacles and the mating plugs that mate on the same line. **5 — Select the needed accessory items.** Available accessories are listed on the pages in this section. All connectors except 97-3102A-XX need a cable clamp. Call the nearest Allied sales office for quantity pricing. See the previous page for available sizes.

See Preceding Page for Dimension Table

MS Receptacles

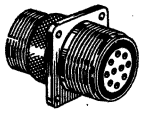
Number of Contacts	Shell Insert/ Size	MS3100A* EACH		MS3101A* EACH		MS3102A* EACH	
		1-9	10-49	1-9	10-49	1-9	10-49
5	18-29P	21.39	14.46	22.68	15.34	11.93	8.06
5	18-29S	21.39	14.46	24.35	16.46	13.46	9.10
4	20-4P	12.96	9.10	13.90	9.74	8.58	6.14
4	20-4S	14.77	10.33	15.63	10.90	10.28	7.28
8	20-7P	12.96	9.10	13.90	9.74	8.58	6.14
8	20-7S	14.15	9.90	14.89	10.40	9.75	6.92
7	20-15P	14.38	10.07	15.09	10.55	9.81	6.98
7	20-15S	19.05	13.22	19.93	13.81	14.70	10.28
9	20-16P	14.46	10.10	15.16	10.58	10.17	7.22
9	20-16S	15.31	10.69	16.10	11.23	10.91	7.71
9	20-18P	16.63	11.59	17.70	12.30	11.66	8.22
9	20-18S	18.29	12.70	19.04	13.21	13.38	9.38
14	20-27P	14.77	10.33	15.63	10.90	10.28	7.28
14	20-27S	16.10	11.23	16.91	11.71	11.68	8.23
17	20-29P	16.02	11.16	16.74	11.65	11.49	8.10
17	20-29S	17.56	12.20	18.29	12.70	12.96	9.10
11	20-33P	17.69	12.30	18.55	12.87	12.72	8.93
11	20-33S	18.08	12.57	18.94	13.14	12.98	9.12
4	22-10P	25.48	17.56	26.45	18.21	15.09	10.52
4	22-10S	26.37	18.16	27.69	19.05	16.25	11.31
19	22-14P	17.82	12.38	18.29	12.70	12.42	8.73
19	22-14S	20.13	13.94	20.83	14.42	14.89	10.40
8	22-18P	16.56	11.53	17.45	12.20	10.78	7.63
8	22-18S	16.74	11.65	17.69	12.30	10.91	7.71
14	22-19P	17.47	12.15	18.15	12.60	12.23	8.61
14	22-19S	17.82	12.38	18.29	12.70	12.42	8.73
9	22-20P	17.06	11.86	17.85	12.39	11.26	7.95
9	22-20S	17.85	12.39	18.61	12.93	11.95	8.41
4	22-22P	19.93	13.81	20.70	14.33	13.98	9.71
4	22-22S	24.75	17.07	25.46	17.54	18.79	13.04
8	22-23P	18.99	13.17	19.93	13.81	13.11	9.21
8	22-23S	24.10	16.62	24.99	17.23	18.29	12.70
7	24-2P	17.93	12.46	18.03	12.55	11.79	8.31
7	24-2S	21.43	14.83	21.53	14.89	15.34	10.70
16	24-5P	22.10	15.27	22.25	15.37	15.19	10.60
16	24-5S	24.74	17.07	24.77	17.09	17.84	12.39
8	24-6P	35.39	24.25	35.45	24.29	23.16	16.00
8	24-6S	45.62	31.16	45.81	31.30	33.89	23.25
16	24-7P	20.66	14.30	20.20	14.33	14.46	10.10
16	24-7S	22.25	15.37	22.31	15.42	16.06	11.20
7	24-10P	22.10	15.29	28.48	19.59	21.61	14.95
7	24-10S	32.57	22.34	32.66	22.41	26.81	18.45
12	24-19P	37.60	25.75	37.89	25.95	25.64	17.66
12	24-19S	39.74	27.20	39.81	27.23	28.01	19.26
4	24-22P	23.27	16.05	23.30	16.09	16.39	11.41
4	24-22S	28.63	19.68	28.70	19.72	21.82	15.08
7	24-27P	30.20	20.80	30.32	20.83	18.17	12.63
7	24-27S	31.05	21.32	31.55	21.66	18.99	13.17
24	24-28P	21.53	14.89	21.65	14.97	15.60	10.88
24	24-28S	24.25	16.73	24.36	16.80	18.15	12.60
14	28-2P	22.59	15.61	24.99	17.23	16.10	11.23
14	28-2S	23.93	16.52	26.31	18.13	17.69	12.30
12	28-9P	40.69	27.83	44.62	30.50	29.50	20.28
12	28-9S	44.37	30.32	48.39	33.04	33.90	22.70
22	28-11P	22.85	15.79	24.99	17.23	17.06	11.86
22	28-11S	27.46	18.90	29.46	20.25	21.65	14.97
26	28-12P	23.61	16.29	25.77	17.75	17.93	12.46
26	28-12S	25.08	18.90	29.46	20.25	21.65	14.97
35	28-15P	26.40	18.18	28.63	19.68	20.70	14.33
35	28-15S	30.26	20.79	32.50	22.30	24.58	16.94
20	28-16P	23.37	16.14	25.04	17.62	17.82	12.38
20	28-16S	23.61	16.29	25.77	17.75	17.87	12.46
12	28-18P	21.65	14.97	23.93	16.52	15.78	11.00
12	28-18S	23.34	16.11	25.99	17.90	17.06	11.86
37	28-21P	27.24	18.76	29.37	20.19	21.43	14.83
37	28-21S	30.65	21.05	32.90	22.57	25.08	17.29
30	32-8P	31.90	21.56	33.33	22.86	25.08	17.29
30	32-8S	31.94	21.91	33.73	23.13	25.50	17.57
52	32-414P	48.06	32.82	50.24	34.29	41.85	28.09
52	32-414S	63.89	43.51	65.96	44.91	56.62	38.60
48	36-10P	38.64	26.50	39.50	27.03	29.33	20.16
48	36-10S	41.73	28.53	42.60	29.13	32.23	22.12

MS Mating Plugs

Shell Insert/ Size	MS 3106A* EACH		MS 3106B* EACH		MS 3108A EACH		MS 3108B* EACH	
	1-9	10-49	1-9	10-49	1-9	10-49	1-9	10-49
18-29S	20.11	13.59	24.47	16.55	44.52	30.10	25.86	17.48
18-29P	18.70	12.64	22.73	15.36	41.43	28.01	25.86	17.48
20-4S	16.06	11.19	17.82	12.38	28.14	19.36	18.61	12.93
20-4P	14.38	10.07	16.06	11.19	26.40	18.18	16.79	11.68
20-7S	15.34	10.70	17.06	11.86	27.46	18.90	17.89	12.43
20-7P	14.38	10.07	16.06	11.19	26.40	18.18	16.79	11.68
20-15S	20.37	13.72	22.10	15.27	32.50	22.30	22.85	15.79
20-15P	15.63	10.99	17.10	11.89	27.61	19.00	18.06	12.55
20-16S	16.70	11.63	18.17	12.62	28.65	19.71	18.94	13.14
20-16P	15.65	10.91	17.21	11.97	27.74	19.09	18.15	12.60
20-18S	18.08	12.57	20.99	14.95	33.24	22.80	22.25	15.37
20-18P	18.09	12.56	19.95	13.82	31.60	21.69	20.83	14.42
20-27S	17.21	11.97	18.94	13.14	29.45	20.24	19.77	13.77
20-27P	16.06	11.19	17.82	12.38	28.14	19.36	19.61	13.58
20-29S	18.81	13.05	20.59	14.26	30.88	21.20	21.35	14.76
20-29P	17.08	11.88	18.81	13.05	29.33	20.16	19.61	13.58
20-33S	19.47	13.50	21.27	14.72	32.97	22.61	22.25	15.37
20-33P	18.94	13.14	20.83	14.42	32.66	22.41	21.65	14.97
22-10S	26.37	18.16	30.33	20.83	52.40	35.75	32.28	22.15
22-10P	25.48	17.56	29.50	20.28	51.12	34.88	31.55	21.66
22-14S	20.13	13.94	22.31	15.42	33.50	22.97	23.30	16.08
22-14P	17.82	12.38	19.77	13.73	31.12	21.37	20.83	14.42
22-18S	16.74	11.65	19.05	13.22	31.75	21.79	20.27	14.03
22-18P	16.56	11.53	18.94	13.14	31.58	21.68	20.03	13.88
22-19S	17.82	12.38	19.77	13.70	31.12	21.37	20.83	14.42
22-19P	17.47	12.15	19.61	13.58	30.65	21.05	20.66	14.30
22-20S	17.85	12.39	20.21	14.00	32.77	22.47	21.28	14.72
22-20P	17.06	11.86	19.47	13.50	31.97	21.95	20.70	14.33
22-22S	24.75	17.07	26.95	18.55	39.68	27.15	28.21	19.40
22-22P	19.93	13.81	22.25	15.37	34.95	23.96	23.27	16.05
22-23S	24.10	16.62	26.53	18.28	39.03	26.72	27.72	19.08
22-23P	18.99	13.17	21.68	14.74	34.04	23.34	22.59	15.61
24-2S	21.70	15.00	22.38	15.46	36.13	24.76	23.61	16.29
24-2P	18.17	12.62	19.34	13.41	32.57	22.34	20.13	13.94
24-5S	25.06	17.27	29.31	20.15	41.09	28.00	27.22	18.73
24-5P	22.38	15.46	26.66	18.36	38.54	26.38	24.58	16.95
24-6S	46.12	31.51	53.59	36.54	74.30	50.54	49.86	34.04
24-6P	35.85	24.57	43.38	29.64	63.82	43.47	39.60	27.10
24-7S	22.54	15.56	26.28	18.10	36.78	25.20	24.36	16.80
24-7P	20.91	14.47	24.75	17.07	35.15	25.12	22.86	15.79
24-10S	32.77	22.47	36.83	25.23	48.77	33.29	34.97	23.97
24-10P	28.70	19.72	32.97	22.62	44.78	30.60	30.83	21.17
24-19S	10.68	27.83	48.02	32.80	68.66	46.73	44.36	30.31
24-19P	38.16	26.13	45.62	31.16	66.17	45.05	42.04	28.75
24-22S	29.98	19.92	33.24	22.80	43.09	30.81	31.05	21.32
24-22P	23.76	16.40	27.99	19.25	39.83	27.25	25.83	17.80
24-27S	31.78	21.82	39.30	26.90	59.96	40.86	35.45	24.29
24-27P	30.88	21.20	38.16	26.13	58.64	39.96	34.50	23.60
24-28S	24.56	16.94	28.39	19.52	39.03	26.72	26.40	18.18
24-28P	21.83	15.09	25.50	17.57	36.24	24.83	23.86	16.46
28-2S	24.99	17.23	27.22	18.73	42.14	28.01	27.35	18.82
28-2P	23.34	16.11	25.65	17.68	39.24	26.86	25.99	17.90
28-9S	45.81	31.30	49.70	33.92	73.47	49.98	50.15	34.23
28-9P	42.28	29.90	45.92	31.38	69.82	47.52	46.59	31.82
28-11S	28.26	19.44	30.23	20.78	42.58	29.11	30.56	20.99
28-11P	23.57	16.27	25.57	17.62	37.84	25.91	25.77	17.75
28-12S	28.26	19.44	30.23	26.78	42.58	29.11	30.56	20.99
28-12P	24.49	16.88	23.70	16.35	38.64	26.45	26.66	18.36
28-15S	31.29	21.49	33.03	22.60	45.35	30.99	33.44	22.94
28-15P	27.24	18.76	29.33	20.16	41.37	28.29	29.45	20.24
28-16S	24.49	16.88	26.40	18.18	38.64	26.45	26.66	18.36
28-16P	24.25	16.73	26.27	18.09	38.39	26.28	26.40	18.18
28-18S	24.29	16.75	26.66	18.36	40.30	27.57	26.89	18.52
28-18P	22.59	15.61	24.77	17.09	38.54	26.38	25.06	17.27
28-21S	31.58	21.68	33.54	23.00	45.68	31.21	33.78	23.17
28-21P	27.98	19.25	29.95	20.57	42.17	28.88	30.23	20.78
32-8S	36.45	24.97	36.73	25.15	—	—	38.39	26.28
32-8P	36.01	24.67	36.25	24.83	—	—	37.87	25.93
32-414S	69.06	47.00	69.25	47.13	—	—	71.16	48.43
32-414P	53.13	36.31	53.51	36.49	—	—	55.41	37.90
36-10S	45.42	31.03	46.32	31.63	—	—	48.28	32.97
36-10P	42.47	29.04	43.20	29.53	—	—	45.35	30.99

*Available with bright metal shells. The MS Receptacles mate with the MS Plugs that are on the same line in the table above.

97 Series Rear Release Crimp Type



UL, CSA Recognized. High speed termination, closed entry. Reduces fatique failure at wire contact junction. Intermateable and intermountable with 97 Series and MIL-C-5015 type shell styles, both plugs and receptacles. Utilized Standard 97 Series bright cadium plated shells and insert configurations. Designed for use with stamped and formed type crimp contacts. The size 16 contact design features insulation crimp support. Use with standard hardware for 97 Series connector. Order accessories with (693) plating deviation to match connector plating. **Specifications: Standard Shell Finish:** Clear chromate over cadium plate. **Inserts:** Molded 94V-O UL rated material. **Contacts:** Copper Alloy formed, silver plated; gold plating also available. **Wire Sizes:** 12-30 AWG. UL File #E64911. CSA File #LR45516. **Operating Temperature Range:** – 55°C to + 125°C. **Contacts sold separately. (See Contacts and Tools below.)**

Receptacles

Number of Contacts	Shell Size and Style	97-4100A EACH		97-4101A EACH		97-4102A EACH	
		1-9	10-49	1-9	10-49	1-9	10-49
3	10SL-3P	7.63	5.16	10.59	7.16	5.60	3.79
2	10SL-4P	7.46	5.04	10.39	7.03	5.41	3.66
2	12S-3P	7.11	4.81	8.54	5.77	3.58	2.42
2	12S-3S	7.11	4.81	8.56	5.79	3.77	2.55
3	14S-1P	7.24	4.90	9.12	6.16	4.49	3.04
3	14S-1S	7.33	4.95	9.20	6.22	4.41	2.98
4	14S-2P	7.84	5.30	8.97	6.06	4.11	2.78
4	14S-2S	8.46	5.72	9.18	6.21	4.32	2.92
5	14S-5P	7.50	5.07	9.20	6.22	4.45	3.01
5	14S-5S	7.60	5.14	9.48	6.41	4.75	3.21
3	14S-7P	7.24	4.90	9.12	6.16	4.49	3.04
3	14S-7S	7.33	4.95	9.20	6.22	4.41	2.98
7	16S-1P	8.20	5.54	9.01	6.09	4.30	2.91
7	16S-1S	8.97	6.06	9.78	6.61	5.07	3.43
5	16S-8P	8.58	5.80	9.63	6.51	4.90	3.31
5	16S-8S	8.78	5.93	9.73	6.58	4.88	3.30
10	18-1P	9.56	6.47	11.25	7.60	5.64	3.82
10	18-1S	10.39	7.03	12.10	8.18	6.20	4.19
4	18-4P	9.27	6.26	10.84	7.33	5.26	3.56
4	18-4S	9.90	6.70	11.50	7.78	5.62	3.80
5	18-11P	10.65	7.20	12.16	8.22	6.35	4.29
5	18-11S	10.78	7.29	12.44	8.41	6.84	4.62
6	18-12P	9.76	6.60	11.46	7.75	5.62	3.80
6	18-12S	10.44	7.06	11.97	8.09	6.16	4.16
10	18-19P	14.63	9.89	16.49	11.15	10.84	7.33
10	18-19S	11.29	7.63	12.72	8.60	6.99	4.72
5	18-20P	11.08	7.49	12.72	8.60	6.16	4.16
5	18-20S	11.61	7.85	13.53	9.14	6.90	4.67
4	20-4P	11.42	7.72	12.44	8.41	6.60	4.46
4	20-4S	13.27	8.97	14.23	9.62	8.33	5.63
8	20-7P	10.69	7.23	11.72	7.92	5.88	3.97
8	20-7S	11.72	7.92	12.55	8.48	6.86	4.64
14	20-27P	10.86	7.34	11.80	7.98	5.92	4.00
14	20-27S	11.86	8.02	12.76	8.63	6.97	4.71
19	22-14P	12.69	8.58	13.21	8.93	6.75	4.56
19	22-14S	14.59	9.86	15.36	10.38	8.82	5.96
7	24-2P	16.00	10.81	16.15	10.92	9.24	6.25
7	24-2S	19.68	13.31	19.77	13.36	12.95	8.76
22	28-11P	16.83	11.38	19.21	12.99	10.42	7.04
22	28-11S	21.13	14.28	23.32	15.77	14.72	9.95
26	28-12P	17.06	11.53	19.47	13.16	10.80	7.30
26	28-12S	20.47	13.84	22.68	15.34	14.04	9.49
37	28-21P	17.79	12.02	20.13	13.61	11.42	7.72
37	28-21S	20.32	13.74	22.83	15.44	14.23	9.62

Mating Plugs

Shell Size and Style	97-4106A EACH		97-4106B EACH		97-4108B EACH	
	1-9	10-49	1-9	10-49	1-9	10-49
10SL-3S	8.73	5.90	—	—	11.63	7.86
10SL-4S	8.58	5.80	—	—	11.48	7.76
12S-3S	6.88	4.65	—	—	8.88	6.00
12S-3P	6.50	4.39	—	—	8.88	6.00
14S-1S	7.33	4.95	9.01	6.09	8.41	5.69
14S-1P	7.24	4.90	9.07	6.13	8.31	5.62
14S-2S	7.31	4.94	9.10	6.15	8.46	5.72
14S-2P	6.84	4.62	8.65	5.85	7.86	5.31
14S-5S	7.60	5.14	9.41	6.36	8.46	5.72
14S-5P	7.50	5.07	9.10	6.15	8.39	5.67
14S-7S	7.33	4.95	9.01	6.09	8.41	5.69
14S-7P	7.24	4.90	9.07	6.13	8.31	5.62
16S-1S	7.90	5.34	10.37	7.01	9.76	6.60
16S-1P	7.11	4.81	9.80	6.62	8.99	6.08
16S-8S	7.67	5.18	10.33	6.98	9.50	6.42
16S-8P	7.52	5.08	10.18	6.88	9.44	6.38
18-1S	9.95	6.72	12.16	8.22	12.82	8.67
18-1P	8.99	6.08	11.50	7.78	12.03	8.14
18-4S	9.31	6.29	11.57	7.82	12.38	8.37
18-4P	8.65	5.85	11.08	7.49	11.65	7.88
18-11S	10.18	6.88	12.69	8.58	12.97	8.77
18-11P	9.90	6.70	12.50	8.45	13.23	8.94
18-12S	9.71	6.57	12.31	8.32	12.78	8.64
18-12P	9.29	6.28	11.76	7.95	12.20	8.25
18-19S	10.56	7.14	13.10	8.86	13.57	9.17
18-19P	14.25	9.63	16.66	11.26	17.25	11.66
18-20S	10.88	7.36	13.61	9.20	14.40	9.73
18-20P	10.25	6.93	12.93	8.74	13.80	9.33
20-4S	14.65	9.91	16.61	11.23	17.49	11.82
20-4P	12.97	8.77	14.78	9.99	15.61	10.56
20-7S	13.06	8.83	14.89	10.07	15.89	10.74
20-7P	12.25	8.28	14.06	9.50	14.89	10.07
20-27S	13.08	8.84	15.00	10.14	15.91	10.76
20-27P	12.25	8.28	14.23	9.62	16.17	10.93
22-14S	14.59	9.86	16.98	11.48	18.13	12.25
22-14P	12.69	8.58	14.82	10.02	16.02	10.83
24-2S	19.96	13.49	20.68	13.98	22.05	14.90
24-2P	16.25	10.99	17.55	11.87	22.05	14.90
28-11S	22.02	14.89	24.22	16.37	24.58	16.62
28-11P	17.62	11.91	19.83	13.41	20.04	13.55
28-12S	21.36	14.44	23.56	15.93	23.90	16.16
28-12P	18.06	12.21	17.17	11.61	20.45	13.82
28-21S	21.39	14.46	23.52	15.90	23.90	16.16
28-21P	18.62	12.59	20.75	14.03	21.07	14.24

Contacts and Tools

Size 12-Silver Plated Contacts

Stock No.	Mfr.'s Type	Wire Sizes	EACH 1-4	EACH 5-9
714-3100	97-38-1216P-4(920) Pin	12-16	25.00	22.00
714-3110	97-38-1216S-4(920) Socket	12-16	28.00	25.00

Size 16-Silver Plated Contacts

714-3120	97-45-1622P-4(920) Pin	16-22	20.00	18.00
714-3130	97-45-1622S-4(920) Socket	16-22	22.00	20.00
714-3140	97-45-2026P-4(920) Pin	20-26	20.00	18.00
714-3150	97-45-2026S-4(920) Socket	20-26	22.00	20.00

Size 16-Silver Plated Short Socket Contacts*

714-3155	97-55-1622S-4(920) Socket	16-22	22.00	20.00
714-3156	97-55-2026S-4(920) Socket	20-26	22.00	20.00

*For size 10SL, 12S, 14S and 16S

Size 12-Gold Plated Contacts

Stock No.	Mfr.'s Type	Wire Sizes	EACH 1-4	EACH 5-9
714-3160	97-38-1216P-5(920) Pin	12-16	87.00	78.00
714-3170	97-38-1216S-5(920) Socket	12-16	93.00	83.00

Size 16-Gold Plated Contacts

714-3175	97-45-1622P-5(929) Pin	16-22	44.00	39.00
714-3180	97-45-1622S-5(920) Socket	16-22	49.00	44.00
714-3185	97-45-2026P-5(920) Pin	20-26	44.00	39.00
714-3190	97-45-2026S-5(920) Socket	20-26	49.00	44.00

Size 16-Gold Plated Short Socket Contacts*

714-3195	97-55-1622S-5(920) Socket	16-22	49.00	44.00
714-3197	97-55-2026S-5(920) Socket	20-26	49.00	44.00

*For size 10SL, 12S, 14S and 16S

Insertion/Extraction Tools

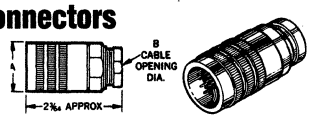
Stock No.	Mfr.'s Type	Contact Size	EACH
714-3192	356-253	16	2.60
714-3194	356-254	12	2.60

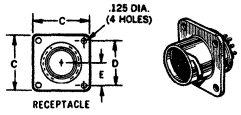
Hand Crimp Tools

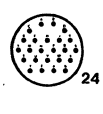
Stock No.	Mfr.'s Type	Contact Size	EACH
714-3196	357-578	12-22	150.40
714-3198	357-579	20-30	150.40

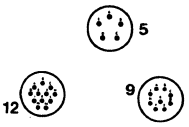
Series 165 MS-Type Miniature Solder Connectors

Pressure-proof and completely weather-proof miniature connectors. Widely used in instumentation and miniaturized electronic equipment. These highly reliable connectors are available in both small and large shell sizes providing enough variation for a wide range of applications. Contacts are gold over silver plating. Aluminum shells feature quick bayonet coupling. Small receptacles mount in 13/16″ hole; secure through four 1/8″ holes on 25/32″ centers. Large receptacles require 1-1/16″ hole with four 1/8″ holes on 1-5/16″ centers. Plugs are 2-1/16″ long. Small plugs are 57/64″ dia.; large plugs are 1-9/64″ in dia. Rated 500 volts rms, except *600 volts. All have strain relief clamps. Shells are aluminum with neutral-color chromium finish. Dielectric material is diallyl phthalate. All have 'O' ring seals. **Av. shipping wt.:** 3 oz.









Dimensions (Inches)

	A	B	C	D	E
Small	57/64	3/8	11/16	25/32	25/64
Large	19/64	21/32	15/16	31/32	31/64

Small Shell-5 No. 20 Contacts

Stock No.	Mfr.'s Type	Contacts and Ampere Rating	Description	EACH 1-9	EACH 10-49
714-5570	165-33	5 @ 7.5*	Male Plug	27.70	21.10
714-5573	165-34	5 @ 7.5*	Female Plug	34.42	26.22
714-5576	165-35	5 @ 7.5*	Male Receptacle	18.77	14.34
714-5579	165-36	5 @ 7.5*	Female Receptacle	25.52	19.44

Small Shell-9 No. 20 Contacts

714-5526	165-13	9 @ 7.5	Male Plug	28.62	21.81
714-5529	165-14	9 @ 7.5	Female Plug	38.03	28.98
714-5532	165-15	9 @ 7.5	Male Receptacle	20.29	15.46
714-5535	165-16	9 @ 7.5	Female Receptacle	29.63	22.58

Small Shell-12 No. 20 Contacts

Stock No.	Mfr.'s Type	Contacts and Ampere Rating	Description	EACH 1-9	EACH 10-49
714-5516	165-9	12 @ 7.5	Male Plug	32.55	24.80
714-5518	165-10	12 @ 7.5	Female Plug	43.24	32.94
714-5520	165-11	12 @ 7.5	Male Receptacle	24.42	18.61
714-5523	165-12	12 @ 7.5	Female Receptacle	34.67	26.42

Large Shell-24 No. 20 Contacts

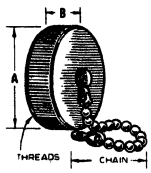
714-5550	165-25	24 @ 7.5	Male Plug	58.11	44.27
714-5559	165-28	24 @ 7.5	Female Receptacle	52.16	39.74

* UL Recognized

Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

MS Type 9760 Dust Caps

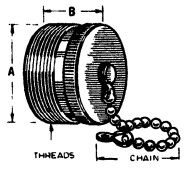
Receptacles



Provides protection against live circuits and keeps out dirt and dust when connector is not in use. Has internal threads especially designed for use with Series MS3100A, MS3101A and MS3102A receptacles. Beaded chain. A soft rubber disc sits on the connector shell forming a watertight joint. Cadmium olive drab finish. **Average shipping weight:** 2 oz.

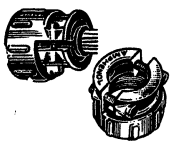
Stock No.	Mfr.'s Type	Fits Shell	Dimensions (Inches)			EACH	
			Threads	A	B	1-9	10-49
714-2538	9760-10	10S, 10SL	5/8-24	13/16	7/16	2.30	2.07
714-2540	9760-12	12S, 12SL	3/4-20	15/16	7/16	2.13	1.92
714-2542	9760-14	14, 14S	7/8-20	1 1/16	7/16	2.26	2.03
714-2544	9760-16	16, 16S	1-20	1 1/8	7/16	2.58	2.32
714-2546	9760-18	18	1 1/8-18	1 5/16	7/16	2.95	2.65
714-2548	9760-20	20	1 1/4-18	1 7/16	7/16	3.57	3.21
714-2550	9760-22	22	1 3/8-18	1 9/16	7/16	3.75	3.37
714-2552	9760-24	24	1 1/2-18	1 11/16	7/16	5.38	4.84
714-2554	9760-28	28	1 3/4-18	1 59/64	1/2	5.27	4.74

Plugs



Male caps and chains especially designed for Series MS3106 and MS3108 plugs. Have external threads and are used on all plugs where a coupling ring is provided. Provide excellent protection against live circuits in a wide variety of applications. Beaded chain. Cadmium olive drab finish. **Average shipping weight:** 2 oz.

Stock No.	Mfr.'s Type	Fits Shell	Dimensions (Inches)			EACH	
			Threads	A	B	1-9	10-49
714-2539	9760-10P	10S, 10SL	5/8-24	5/8	21/32	2.77	2.49
714-2541	9760-12P	12S, 12SL	3/4-20	3/4	27/32	5.46	4.91
714-2543	9760-14P	14, 14S	7/8-20	7/8	27/32	3.53	3.18
714-2545	9760-16P	16, 16S	1-20	1	27/32	4.02	3.62
714-2547	9760-18P	18	1 1/8-18	1 1/8	27/32	4.99	4.49
714-2549	9760-20P	20	1 1/4-18	1 1/4	27/32	9.05	8.14
714-2551	9760-22P	22	1 3/8-18	1 3/8	27/32	9.35	8.41
714-2553	9760-24P	24	1 1/2-18	1 1/2	27/32	11.16	10.04
714-2555	9760-28P	28	1 3/4-18	1 3/4	27/32	6.88	6.19



AN3057 Cable Clamps

Series 3057.

For jacketed cable or wires protected by tubing. Supports at plug or receptacle. Use with rubber bushing for firm grip. **Weight:** 3 1/2 oz.

Stock No.	Mfr.'s Type	Fits Shell	EACH		
			1-9	10-49	50-99
714-2500	97-3057-3	8S, 10S	5.22	4.70	4.18
714-2501†	97-3057-4	12S, 12SL	4.35	3.91	3.47
714-2503†	97-3057-6	14, 14S	4.43	3.99	3.55
714-2505†	97-3057-8	16, 16S	4.77	4.29	3.81
714-2507†	97-3057-10	18	4.00	3.60	3.20
714-2533†	97-3057-10-6*	18	4.60	4.14	3.68
714-2509†	97-3057-12	20, 22	4.45	4.00	3.55
714-2534†	97-3057-12-6*	20, 22	4.62	4.16	3.70
714-2511†	97-3057-16	24, 28	4.54	4.09	3.64
714-2513	97-3057-20	32	6.37	5.73	5.09
714-2515	97-3057-24	36	6.62	5.94	5.28

†To order the cable clamps in bright cadmium finish instead of supplied olive drab, replace the (2) (fourth digit in Stock Number) with (3). Example: 714-3501 is a Type 3057-4 with bright cadmium finish. *Step-down.

MS3420 Telescoping Boots

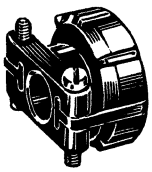
Amphenol Series 9779-513

Rubber bushing designed for MS3057A cable clamp. Protects wire bundles and unjacketed cables from possible damage by cable clamp. Telescope for use with cable too small in relation to connector used. **Shipping weight:** 1 1/2 oz.

Stock No.	Mfr.'s Type	Cable O.D.	EACH		
			1-9	10-49	50-99
714-2579	9779-513-3	0.130	0.46	0.41	0.36
714-2580	9779-513-4	0.220	0.53	0.48	0.43
714-2581	9779-513-6	0.312	0.55	0.49	0.44
714-2582	9779-513-8	0.437	0.46	0.41	0.36
714-2583	9779-513-10	0.562	0.46	0.41	0.36
714-2584	9779-513-12	0.625	0.53	0.48	0.43
714-2585	9779-513-16	0.750	0.69	0.62	0.56
714-2586	9779-513-20	0.937	1.09	0.98	0.87
714-2587	9779-513-24	1.250	1.09	0.98	0.87

6

MS3057A Cable Clamp Now M85049/41-XA (X-Size identifier)



Strong, lightweight. Both clamping halves float so that cable is always centered for maximum strain relief. MS3420 boot **(not included)** provides support and weatherproofing. Boots may be used for small cables (Order from Table above right). **Shipping weight:** 5 oz.

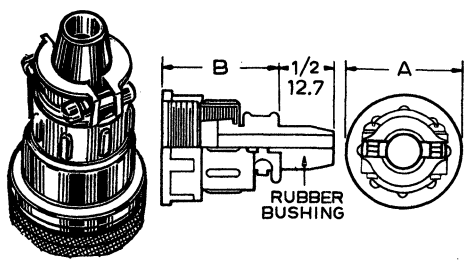
Stock No.	Mfr.'s Type	Fits Shell	EACH		
			1-9	10-49	50-99
714-2502†	97-3057-1004	10SL, 12S	2.89	2.60	2.31
714-2504†	97-3057-1007	12SL, 14S	3.03	2.73	2.43
714-2506†	97-3057-1008	16, 16S	3.27	2.94	2.61
714-2508†	97-3057-1010	18	2.77	2.49	2.21
714-2510†	97-3057-1012	20, 22	2.77	2.49	2.21
714-2512†	97-3057-1016	24, 28	2.95	2.65	2.35
714-2514	97-3057-1020	32	4.28	3.85	3.42
714-2516	97-3057-1024	36	4.28	3.85	3.42

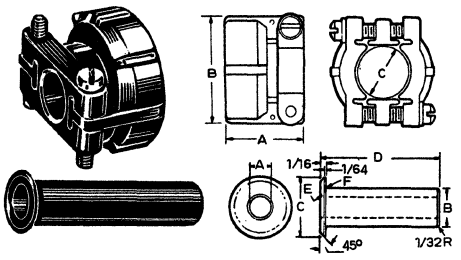
† To order the cable clamps in bright cadmium finish instead of supplied olive drab, replace the (2) (fourth digit in Stock Number) with (3). Example: 714-3502 is a Type 3057-4A with bright cadmium finish.

Waterproof Cable Clamps

The complete waterproof cable clamp assembly No. 9767 (for use with MS connectors) consists of an AN3057 Cable Clamp, a rubber bushing, washer and an AN3055 Adapter. It is available for all sizes MS and 97 plugs.

Stock No.	Mfr.'s Type	Max. Cable O. D. Inches	Connector Size	Weight Lbs. Per 100	Dimensions (Inches)			EACH		
					Threads	A	B	1-9	10-49	50-99
714-2000	9767-12-4	7/32	10SL, 12S, 12	3.82	5/8-24	25/32	1 17/32	11.27	7.62	6.72
714-2006	9767-14-6	7/32	12SL, 14S, 14	5.54	3/4-20	29/32	1 19/32	12.16	8.22	7.25
714-2008	9767-16-8	7/16	16S, 16	6.92	7/8-20	1 1/16	1 19/32	12.35	8.35	7.37
714-2010	9767-16-6	11/32	16S, 16	5.84	7/8-20	1 1/16	1 19/32	12.20	8.25	7.28
714-2015	9767-18-6	11/32	18	5.94	1-20	1 3/16	1 19/32	11.74	7.93	7.00
714-2020	9767-18-8	7/16	18	7.10	1-20	1 3/16	1 19/32	12.63	8.54	7.53
714-2025	9767-18-10	9/16	18	8.79	1-20	1 3/16	1 19/32	12.89	8.71	7.68
714-2030	9767-22-8	7/16	20, 22	7.27	1 3/16-18	1 3/8	1 19/32	13.04	8.81	7.77
714-2035	9767-22-10	9/16	20, 22	8.97	1 3/16-18	1 3/8	1 9/32	13.14	8.88	7.84
714-2045	9767-22-12	11/16	20, 22	12.65	1 3/16-18	1 3/8	1 21/32	14.80	10.01	8.83
714-2048	9767-28-12	11/16	24, 28	12.86	1 7/16-18	1 5/8	1 21/32	16.17	10.93	9.64
714-2050	9767-28-16	27/32	24, 28	14.95	1 7/16-18	1 5/8	1 25/32	15.85	10.71	9.45





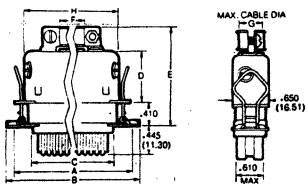
97 Series Cable Clamps With Rubber Bushing

For unjacketed cable and wires. Both clamping halves float for maximum strain relief. Two telescoping bushings are furnished with shells sizes 24 and larger.

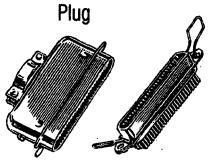
Stock No.	Mfr.'s Type	Shell Size	Max. Cable O. D. Inches	Dimensions (Inches)				EACH			
				Threads	A	B	C	1-9	10-49	50-99	100-Up
714-2560	97-3057-1004-1	10SL, 12S	5/16	5/8-24	0.795	0.842	5/16	3.54	3.19	2.84	2.49
714-2561	97-3057-1007-1	14S	7/16	3/4-20	0.850	0.995	7/16	3.58	3.22	2.86	2.50
714-2562	97-3057-1008-1	16, 16S	9/16	7/8-20	0.920	1.120	9/16	3.70	3.33	2.96	2.63
714-2563	97-3057-1010-1	18	5/8	1-20	0.920	1.216	5/8	3.19	2.87	2.55	2.23
714-2564	97-3057-1012-1	20, 22	3/4	1 3/16-18	0.927	1.403	3/4	3.29	2.96	2.63	2.30
714-2565	97-3057-1016-1	24, 28	15/16	1 7/16-18	1.015	1.683	15/16	4.22	3.80	3.48	3.16
714-2566	97-3057-1020-1	32	1 1/4	1 3/4-18	1.095	2.050	1 1/4	5.96	5.36	4.76	4.16
714-2567	97-3057-1024-1	36	1 3/8	2-18	1.156	2.245	1 3/8	6.40	5.76	5.12	4.48

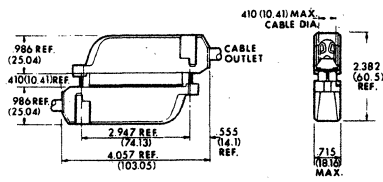
157 Series I.D.C. Termination

Current Capacity: 5 amps per contact. **Voltage Rating:** 700 VDC at sea level. **Operating Temperature:** −67°F to +221°F (−55°C to +105°C). **Wire Size:** 24 and 26 AWG, solid conductor. **Contacts:** Selectively gold plated copper flash on iron-copper base. **Dielectric:** Fiberglass-filled polyester. **Shells:** Zinc plated steel with clear chromate coating. Trapezoidal shape assures positive polarization.



Mated Plug and Receptacle





Cable-to-Panel Connectors

Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-99	EACH 100-249
720-5200	157-32140	14-Contact Plug	5.84	4.93	4.09
720-5210	157-42140	14-Contact Receptacle	4.23	3.57	2.96
720-5202	157-32240	24-Contact Plug	6.59	5.56	4.61
720-5212	157-42240	24-Contact Receptacle	4.84	4.08	3.39
720-5204	157-32360	36-Contact Plug	7.47	6.30	5.23
720-5214	157-42360	36-Contact Receptacle	5.17	4.37	3.62
720-5206	157-32500	50-Contact Plug	8.53	7.20	5.97
720-5216	157-42500	50-Contact Receptacle	5.88	4.96	4.12

Tools for 157 Series

Stock No.	Mfr.'s Type	Description	EACH
720-8006	356-251	Insertion/repair tool	126.25
720-8007	356-265	Basic terminating tool	643.50

Cable-to-Cable Connectors

Low profile plastic hood.

Cable-to-Cable Low Profile Plastic Hood

Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-99	EACH 100-249
720-5220	157-72500-3 (431)	50-Contact Plug	6.44	5.43	4.51
720-5225	157-82500-3 (431)	50-Contact Receptacle	5.99	5.06	4.20

Ultra low profile steel hood.

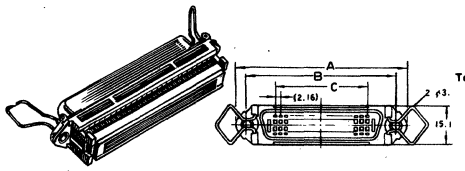
720-5230	157-72500-18	50-Contact Plug	8.06	6.80	5.64
720-5235	157-82500-18	50-Contact Receptacle	8.04	6.79	5.63

Low profile steel hood.

720-5240	157-72500-3	50-Contact Plug	6.92	5.84	4.85
720-5245	157-82500-3	50-Contact Receptacle	6.38	5.39	4.47

Amphenol® Microribbon Connectors

These connectors are intermatable amphenol 57 Series and 157 Series connectors. Special contact design allows the use of standard .050" flat ribbon cable for termination. **Contacts:** Copper alloy/gold plating. **Dielectric:** Polycarbonate resin (UL94V-0)/blue. Rated 250 VAC rms, 1 amp. **Test Voltage:** 500 VAC rms at sea level. **Operating Temperature:** −55°C to +105°C.



Amphenol Plugs

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99
715-9110	850-57F-30360-20	36	6.28	5.65
715-9112	850-57F-30500-20	50	7.44	6.70

Receptacles W/Spring Latch

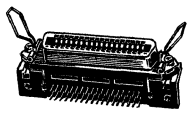
Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99
715-9114	850-57F-40360-20	36	6.36	5.72
715-9116	850-57F-40500-20	50	7.60	6.84

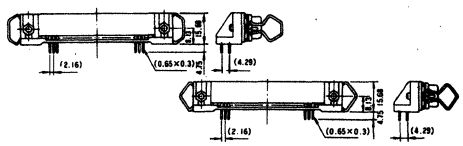
Metal Front Shell Receptacles

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99	EACH 100-249
715-9150	850-57FE-40360-20	36	8.35	7.63	5.72
715-9152	850-57FE-40500-20	50	9.40	8.69	6.52

Right Angle P/C Headers

Type 57L is all plastic. Type 57LE has a metal front shell. Intermatable with Amphenol 57 Series (solder termination). 157 Series (solderless termination), and 57F and 57FE Series (insulation displacement). **Contacts:** Copper alloy with gold plating. **Dielectric:** Blue polybutylene terephalate (PBT). **Front Shell (57LE only):** Brass/nickel plating. Rated 500 VAC rms, 3 amps. **Dielectric Withstand Voltage:** 1200 VAC rms at sea level.





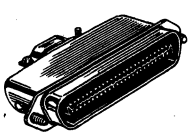
Series 57L

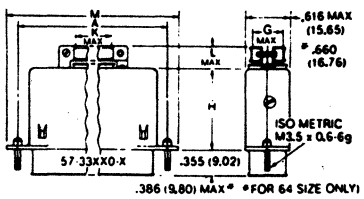
Stock No.	Mfr.'s Type	Contact Positions	EACH 1-24	EACH 25-99	EACH 100-499
715-9154	850-57L-40240-2700	24	6.00	5.40	4.29
715-9156	850-57L-40360-2700	36	7.52	6.77	5.37
715-9158	850-57L-40500-2700	50	8.24	7.42	5.89

Series 57LE

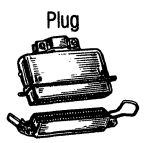
Stock No.	Mfr.'s Type	Contact Positions	EACH 1-24	EACH 25-99	EACH 100-499
715-9160	850-57LE-40240-2700	24	7.50	6.75	5.36
715-9162	850-57LE-40360-2700	36	9.40	8.46	6.71
715-9164	850-57LE-40500-2700	50	10.30	9.27	7.36

57-Series Connectors

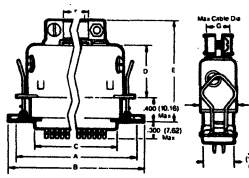




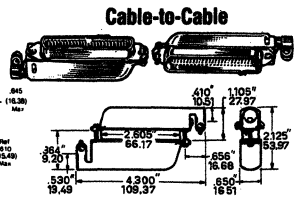
Copper alloy contacts, selectively plated gold-over-copper for excellent current carrying characteristics. UL94 VO rated diallyl phthalate dielectric per MIL-M14F Type MDG, for operation at up to 700 volts DC (sea level) without shorting or flashover. Zinc-plated steel outer shell, with clear chromate finish, for corrosion resistance. Trapezoidal-shape shell assures correct polarity. **Current Capacity:** 5 amps per contact. **Voltage Rating:** 700 volts DC at sea level. **Operating Temperature:** −55°C to +105°C (−67°F to +122°F). **Wire Sizes:** Solid — 22 gauge, max.; stranded — 24 gauge, maximum.



Cable-to-Panel



Mated Plug and Receptacle



Plugs — Top Cable Entry

Zinc plated shells for screw locking.

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99	EACH 100-249
720-1750	57-33240-1	24	9.17	7.74	6.42
720-1751	57-33360-1	36	11.33	9.56	7.93
720-1752	57-33500-1	50	8.02	6.77	5.62

Cable-to-Panel Connectors

Plugs with top cable entry. Receptacles with spring latches.

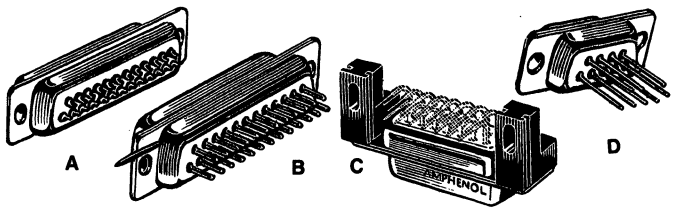
Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-99	EACH 100-249
720-1722	57-30140	14-Contact Plug	6.84	5.77	4.79
720-1726	57-40140	14-Contact Socket	5.01	4.23	3.51
720-1723	57-30240	24-Contact Plug	6.86	5.79	4.80
720-1727	57-40240	24-Contact Socket	5.43	4.58	3.80
720-1724	57-30360	36-Contact Plug	8.24	6.95	5.77
720-1728	57-40360	36-Contact Socket	5.86	4.94	4.10
720-1725	57-30500	50-Contact Plug	8.98	7.57	6.28
720-1729	57-40500	50-Contact Socket	7.10	5.99	4.97

Cable-to-Cable Connectors

720-1708	57-10500-7	50-Contact Plug	7.63	6.44	5.34
720-1719	57-20500-7	50-Contact Socket	8.07	6.81	5.65

17 Series D Subminiature

Low cost. Conforms to NFC 93-425, EIA standard RS-232-C — RS-449. Two-piece white thermoplastic insulator. UL94 VO rated. Five shell sizes (9, 15, 25, 37 and 50-contact types). Nonremovable contacts. Shell is steel yellow chromated over zinc. Contacts are screw machined (male brass, female bronze). Plating is gold over nickel. Normal voltage is 300 V_{eff} 50 Hz at a current rating of 7.5 A.



Fixed Contact Solder Cup — Male (Plug) Fig. A

Stock No.	Mfr.'s Type	Contacts	EACH 1-24	EACH 25-49	EACH 50-99
720-8029	17-DE9P	9	2.61	2.20	2.01
720-8030	17-DA15P	15	2.92	2.47	2.26
720-8031	17-DB25P	25	3.89	3.29	3.00
720-8032	17-DC37P	37	6.08	5.13	4.68
720-8033	17-DD50P	50	7.66	6.47	5.93

Fixed Contact Dip Solder — Male (Plug) PCB Fig. B

720-8039	17-DE9P-V	9	2.84	2.40	2.19
720-8040	17-DA15P-V	15	3.20	2.70	2.47
720-8041	17-DB25P-V	25	4.33	3.66	3.34
720-8042	17-DC37P-V	37	6.48	5.47	4.95
720-8043	17-DD50P-V	50	8.05	6.79	6.20

Fixed Contact Right Angle Dip — Male (Plug)* Fig. C

720-8049	17-DE9P-C	9	5.31	4.49	4.10
720-8050	17-DA15P-C	15	6.64	5.61	5.13
720-8051	17-DB25P-C	25	6.15	5.20	4.70
720-8052	17-DC37P-C	37	8.39	7.08	6.40
720-8053	17-DD50P-C	50	12.10	10.22	9.33

* Plastic bracket not included — see accessories below.

Fixed Contact Wire Wrap — Male (Plug) Fig. D

720-8059	17-DE9P-F179	9	4.62	3.91	3.57
720-8060	17-DA15P-F179	15	5.40	4.56	4.16
720-8061	17-DB25P-F179	25	7.24	6.11	5.58
720-8062	17-DC37P-F179	37	9.21	7.78	7.10
720-8063	17-DD50P-F179	50	11.90	10.05	9.17

Fixed Contact Solder Cup — Female (Receptacle) Fig. A

Stock No.	Mfr.'s Type	Contacts	EACH 1-24	EACH 25-49	EACH 50-99
720-8034	17-DE9S	9	3.31	2.80	2.55
720-8035	17-DA15S	15	4.04	3.41	3.12
720-8036	17-DB25S	25	5.73	4.84	4.42
720-8037	17-DC37S	37	8.59	7.26	6.63
720-8038	17-DD50S	50	11.27	9.51	8.68

Fixed Contact Dip Solder — Female (Receptacle) PCB Fig. B

720-8044	17-DE9S-V	9	3.75	3.17	2.88
720-8045	17-DA15S-V	15	4.64	3.92	3.58
720-8046	17-DB25S-V	25	6.59	5.57	5.10
720-8047	17-DC37S-V	37	9.78	8.26	7.54
720-8048	17-DD50S-V	50	12.70	10.72	9.79

Fixed Contact Right Angle Dip — Female* (Receptacle) Fig. C

720-8054	17-DE9S-C	9	6.23	5.26	4.86
720-8055	17-DA15S-C	15	7.66	6.47	5.90
720-8056	17-DB25S-C	25	8.17	6.90	6.30
720-8057	17-DC37S-C	37	11.36	9.59	8.76
720-8058	17-DD50S-C	50	14.17	12.75	12.04

* Plastic bracket not included — see accessories below.

Fixed Contact Wire Wrap — Female (Receptacle) Fig. D

720-8064	17-DE9S-F179	9	5.59	4.72	4.31
720-8065	17-DA15S-F179	15	7.04	5.97	5.44
720-8066	17-DB25S-F179	25	9.93	8.39	7.66
720-8067	17-DC37S-F179	37	13.20	11.15	10.18
720-8068	17-DD50S-F179	50	17.49	14.77	13.49

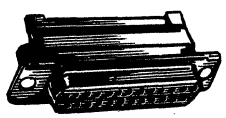
Accessories

Plastic Right Angle Brackets

Stock No.	Mfr.'s Type	For Sizes (Connector)	Contacts	EACH 1-99	EACH 100-499	EACH 500-999
720-8073	17-D4G819-01	E, A, B, C	9, 15, 25, 37	1.01	0.95	0.77

Plastic Right Angle Brackets

Stock No.	Mfr.'s Type	For Sizes (Connector)	Contacts	EACH 1-99	EACH 100-499	EACH 500-999
720-8074	17-D4G820-01	D	50	1.20	1.13	0.93



Metal Front Nosed, Insulation Displacement D-Sub Connectors

Dual insulation displacement contacts with gold over nickel plating (mating area). Termination with standard .050" pitch round-conductor flat ribbon cable with 28 AWG solid conductors or 28 and 26 AWG stranded conductors. Intermateable plugs and sockets also mate with industry standard D-Subminiature connectors above. **Current Rating:** 1.5 amp, 26 AWG; 1 amp, 28 AWG. **Dielectric Withstand Voltage:** 500 VAC rms.

Plugs

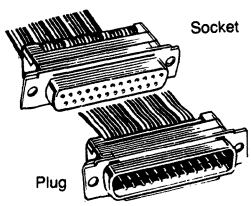
Stock No.	Mfr.'s Type	Contacts	EACH 1-99	EACH 100-499	EACH 500-999
715-9077	841-17-DEFR-A09P	9	2.90	2.50	2.19
715-9078	841-17-DAFR-A15P	15	3.78	3.40	2.70
715-9080	841-17-DBFR-A25P	25	4.56	4.10	3.26
715-9082	841-17-DCFR-A37P	37	6.56	6.00	4.69

Sockets

Stock No.	Mfr.'s Type	Contacts	EACH 1-99	EACH 100-499	EACH 500-999
715-9071	841-17-DEFR-A09S	9	2.99	2.64	2.31
715-9072	841-17-DAFR-A15S	15	4.40	3.96	3.14
715-9074	841-17-DBFR-A25S	25	5.26	4.73	3.76
715-9076	841-17-DCFR-A37S	37	7.48	6.73	5.34

IDC All Plastic D-Sub Connectors

SPECIFICATIONS. Voltage rating: 125 VAC (VDE 0100 group A); **Current rating:** 1A; **Dielectric withstanding voltage:** 780 V eff.; **Insulation resist.:** 1000 MΩ min. at 500 VDC; **Contact resist.:** 10 MΩ max. at 1A DC; **Applicable wire size:** No. 26 AWG solid, No. 28 AWG stranded. **Materials:** Contacts — phosphor bronze; Insert — 94 V-0 UL rated, glass filled polycarbonate.



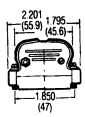
Plugs

Stock No.	Mfr.'s Type	EACH 1-99	EACH 100-499	EACH 500-999
715-9120	841-17-DEFR-B09P	3.56	3.20	2.54
715-9122	841-17-DAFR-B15P	3.18	2.86	2.27
715-9124	841-17-DBFR-B25P	3.92	3.53	2.80
715-9126	841-17-DCFR-B37P	5.66	5.09	4.04

Sockets

715-9128	841-17-DEFR-B09S	3.62	3.26	2.59
715-9130	841-17-DAFR-B15S	3.48	3.13	2.49
715-9132	841-17-DBFR-B25S	4.52	4.07	3.23
715-9134	841-17-DCFR-B37S	6.44	5.80	4.60

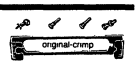
2-Piece Black Thermoplastic Molded Hood



Stock No.	Mfr.'s Type	Size	EACH 1-24	EACH 25-99	EACH 100-Up
720-0061	17-DB-51226-1A	25	2.62	2.20	1.75

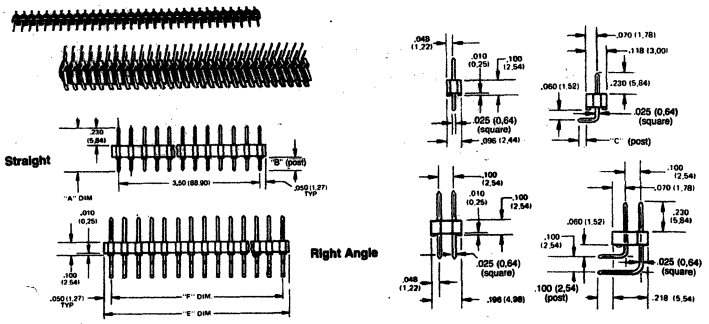
Slide Lock Assemblies

Two posts are required per connector



Stock No.	Mfr.'s Type	Size	EACH 1-24	EACH 25-49	EACH 50-99*
720-0080	17-D-51224-1	E	1.36	1.31	1.12
720-0082	17-D-51220-1	A	0.97	0.89	0.80
720-0084	17-D-51221-1	B	1.30	1.17	1.05
720-0086	17-D-51222-1	C	1.59	1.48	1.21
720-0088	17-D-51223-1	D	1.25	1.15	0.96
720-0091	17-D-53018-X	Post	3.18†	2.69†	2.22†

* Contact the closest sales office for quantity pricing. † Per Pack of 10.



Spectra-Strip® Unprotected Headers*

UL and CSA Recognized. **Contacts:** phosphor bronze with duplex plated 15 micro inch gold/tin..100″ contact spacing. **Insulation Material:** glass reinforced black thermoplastic. **Current Rating:** 1 amp. **Dielectric Withstand Voltage:** 7500 VAC rms. **Operating Temperature:** – 55°C to + 105°C. **Sold with 36 pins only.**

Standard Single Row Headers

Stock No.	Mfr.'s Type	Configuration	Dimensions A	Dimensions B	Dimensions C	EACH 1-49	EACH 50-99	EACH 100-499
715-9176	842-800-272-005	Straight (1x36)	.430″	.100″	—	1.44	1.26	1.03
715-9181	842-800-840-005	Right Angle (1x36)	—	—	.100″	1.60	1.44	1.14

Standard Double Row Headers

Stock No.	Mfr.'s Type	Configuration	Dimensions E	Dimensions F	EACH 1-49	EACH 50-99	EACH 100-499
715-9186	842-800-560-005	Straight (2x36)	3.60″	3.50″	2.88	2.59	2.06
715-9191	842-801-056-005	Right Angle (2x36)	3.60″	3.50″	2.88	2.59	2.06

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Spectra-Strip® Protected Headers

The 816 series protected headers are for applications requiring positive connect and fast disconnect capabilities. MIL-C 835031 21B/24A and 25A compatible and have snap-in polarization tabs. Solder plated tails avoid solder bath contamination. Lock and eject latches optional (no tooling required to install). UL and CSA recognized. **Insulation Material:** glass reinforced thermo-plastic. UL flammability rating, 94V-O. **Contact Material:** phosphore bronze. **Contact Area Plating:** 30 μ gold over nickel. **Current Rating:** 1 amp. **Withstanding Voltage:** 1000 V rms at sea level. **Temperature Rating:** – 55°C to + 105°C (– 67°F to + 221°F).

Straight Wire Wrap Tail

Tail Length: .62″. **Square tail:** .025″ diameter.

Stock No.	Mfr.'s Type	Contacts	EACH 1-49	EACH 50-99	EACH 100-499*
715-9210	842-816-1027-035	10	1.08	.97	.77
715-9211	842-816-1427-035	14	1.50	1.35	1.07
715-9212	842-816-1627-035	16	1.72	1.55	1.23
715-9213	842-816-2027-035	20	1.60	1.44	1.14
715-9214	842-816-2627-035	26	2.08	1.87	1.49
715-9215	842-816-3427-035	34	2.74	2.47	1.96
715-9216	842-816-4027-035	40	2.44	2.20	1.74
715-9217	842-816-5027-035	50	3.08	2.78	2.20

Straight Solder Tail .062″ PCB

Tail length: .10″. **Tail coined:** .028″ diameter.

715-9230	842-816-1020-035	10	.90	.81	.64
715-9231	842-816-1420-035	14	1.24	1.12	.89
715-9232	842-816-1620-035	16	1.42	1.28	1.01
715-9233	842-816-2020-035	20	1.34	1.21	.96
715-9234	842-816-2620-035	26	1.72	1.55	1.23
715-9235	842-816-3420-035	34	2.28	2.05	1.63
715-9236	842-816-4020-035	40	2.04	1.84	1.46
715-9237	842-816-5020-035	50	2.56	2.30	1.83

Straight Solder Tail for .125″ PCB

Tail length: .160″

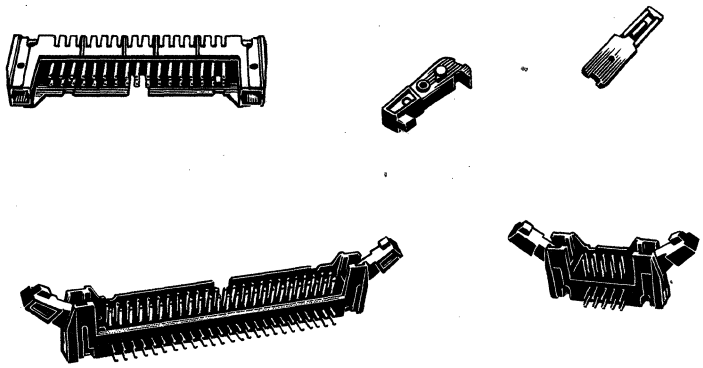
715-9260	842-816-1021-035	10	1.05	.98	.81
715-9261	842-816-1421-035	14	1.19	1.10	.91
715-9262	842-816-1621-035	16	1.26	1.17	.97
715-9263	842-816-2021-035	20	1.56	1.46	1.21
715-9264	842-816-2621-035	26	2.03	1.88	1.55
715-9265	842-816-3421-035	34	2.58	2.40	1.98
715-9266	842-816-4021-035	40	3.00	2.79	2.31
715-9267	842-816-5021-035	50	3.52	3.28	2.72

Right Angle Wire Wrap Tail

Tail length: .62″. **Square tail:** .025″ diameter.

715-9220	842-816-1029-035	10	1.08	.77	.72
715-9221	842-816-1429-035	14	3.62	3.37	2.79
715-9222	842-816-1629-035	16	1.72	1.55	1.23
715-9223	842-816-2029-035	20	1.60	1.44	1.14
715-9224	842-816-2629-035	26	2.08	1.87	1.49
715-9225	842-816-3429-035	34	2.74	2.47	1.96
715-9226	842-816-4029-035	40	2.44	2.20	1.74
715-9227	842-816-5029-035	50	3.08	2.78	2.20

*Contact the closest sales office for quantity pricing.
**For use with socket connectors without relief. †For use with socket connectors with strain relief.



Right Angle Solder Tail .062″ PCB

Tail length: .10″. **Tail coined:** .028″ diameter.

715-9240	842-816-1022-035	10	.90	.81	.64
715-9241	842-816-1422-035	14	1.24	1.12	.89
715-9242	842-816-1622-035	16	1.42	1.28	1.10
715-9243	842-816-2022-035	20	1.34	1.21	.96
715-9244	842-816-2622-035	26	1.72	1.55	1.23
715-9245	842-816-3422-035	34	2.28	2.05	1.63
715-9246	842-816-4022-035	40	2.04	1.84	1.46
715-9247	842-816-5022-035	50	2.56	2.30	1.83

Right Angle Solder Tail for .125″ PCB

Tail length: .160″

715-9270	842-816-1023-035	10	1.05	.98	.81
715-9271	842-816-1423-035	14	1.19	1.10	.91
715-9272	842-816-1623-035	16	1.26	1.17	.97
715-9273	842-816-2023-035	20	1.56	1.46	1.21
715-9274	842-816-2623-035	26	2.03	1.88	1.55
715-9275	842-816-3423-035	34	2.58	2.40	1.98
715-9276	842-816-4023-035	40	3.00	2.79	2.31
715-9277	842-816-5023-035	50	3.52	3.28	2.72

Accessories

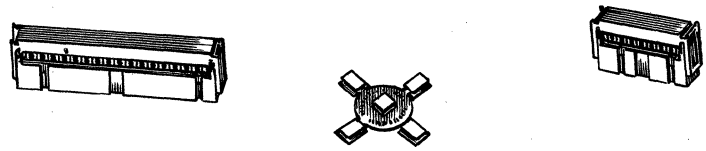
Stock No.	Mfr.'s Type	Description	EACH 1-49	EACH 50-99	EACH 100-499*
715-9250	842-800-1607-005	short latch**	.16	.14	.09
715-9251	842-800-1607-006	long latch†	.13	.12	.11
715-9252	842-800-1611-003	polarization tab (pk./100)	5.25	—	—

*Contact the closest sales office for quantity pricing.
**For use with socket connectors without strain relief. †For use with socket connectors with strain relief

IDC Socket Connectors

MIL-C 83503 compatible. .100x.100″ grid. Two slots for polarization (except 10 and 14 contact sizes). Duplex plated contacts for lower per line cost. Center polarizing position. UL and CSA recognized. **Insulation Material:** glass reinforced thermoplastic. UL flammability rating 94VC-O. **Contact Material:** beryllium copper. **Contact Area Plating:** 15 μ gold over nickel. **Wire Accommodation:** AWG 26 stranded; AWG 28 solid and stranded, AWG 30 solid. **Current Rating:** 1 amp. **Withstanding Voltage:** 1000 V rms at sea level—terminated. **Temp. Rating:** – 55°C to + 221°C.

Polarization Tabs.
715-9328. Model 842-800-1211-002 ..... **PK/100 7.45**



Connectors

Stock No.	Mfr.'s Type	Contacts	EACH 1-49	EACH 50-99	EACH 100-499*
715-9310	842-812-1022-134	10	.52	.47	.37
715-9311	842-812-1422-134	14	.74	.67	.53
715-9312	842-812-1622-134	16	.86	.77	.61
715-9313	842-812-2022-134	20	1.06	.95	.76
715-9314	842-812-2622-134	26	1.38	1.24	.99
715-9315	842-812-3422-134	34	1.90	1.71	1.36
715-9316	842-812-4022-134	40	2.30	2.07	1.64
715-9317	842-812-5022-134	50	2.70	2.43	1.93

*Contact the closest sales office for quantity pricing.

Accessories—Strain Reliefs

Stock No.	Mfr.'s Type	Size	EACH 1-49	EACH 50-99	EACH 100-499*
715-9320	842-800-1206-030	10	.20	.18	.15
715-9321	842-800-1206-031	14	.20	.18	.15
715-9322	842-800-1206-032	16	.20	.18	.15
715-9323	842-800-1206-033	20	.20	.18	.15
715-9324	842-800-1206-034	26	.20	.18	.15
715-9325	843-800-1206-035	34	.22	.20	.16
715-9326	843-800-1206-036	40	.22	.20	.16
715-9327	843-800-1206-037	50	.22	.20	.16

*Contact the nearest sales office for quantity pricing.

BNC Plugs and Jacks

Straight Plugs
Recognized under the component program of UL, Inc. Male contacts. **Weather-proof only when used in combination with other Amphenol BNC connectors. 50 ohm impedance. TFE insulation, except †rexolite insulation.

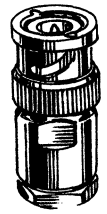
Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Coaxial Cable	EACH 1-24	EACH 25-99	EACH 100-499
713-9575	6775	UG-959	Std. clamp	A	8, 9	7.90	6.16	5.030
713-1041	31-202	UG-88C	MIL clamp 1	A	55, 58, 141, 142, 223, 400	2.18	1.70	1.390
713-1097	31-2202	UG-88D	MIL clamp 1	A	55, 58, 141, 142, 223, 400	8.23	6.42	5.240
713-1150	31-3202	UG-88E	MIL clamp 1	A	55, 58, 141, 142, 223, 400	2.89	2.26	1.840
713-8658	31-3301	M39012/16-0101	MIL clamp 11	A	55, 58, 141, 142, 223, 400	3.24	2.53	2.060
713-1003	31-2	UG-88	Std. clamp	A	58,141,142,400	2.64	2.06	1.680
713-1025	31-18	UG-88B	Std. clamp	A	58, 141, 142, 400	2.97	2.31	1.890
713-8660	36875	—	Quick crimp	D	55, 142, 223, 400	3.49	2.73	2.230
713-1082	31-326	M23329/3-02	MIL crimp I	D	55, 142, 223	3.99	3.11	2.540
713-1100	31-4320	M39012/16-0013	MIL crimp II	D	58, 141	3.62	2.83	2.310
713-8662	31-320	M23329/3-01	MIL crimp I	D	58, 141	3.28	2.56	2.090
713-9784	36775	—	Quick crimp	D	58, 141	3.37	2.63	2.150
713-1201	31-30220-1	—	Square Cut™	A	58, 141, 142, 400	5.73	4.47	3.654
713-1110	31-4700	—	FCP	B	58	3.53	2.75	2.250
713-1104	31-3212	—	MIL clamp 1	A	59	3.60	2.81	2.300
713-8004	31-4702	UG-260D	FCP	B	59	3.44	2.68	2.190
713-9819	68175-1005	—	Quick crimp	D	20 AWG 59	3.48	2.71	2.220
713-1017	31-12†	—	Std. clamp	A	59, 62,61, 140, 210, 302	2.88	2.19	1.790
713-1027	31-21†	UG-260	Std. clamp	A	59, 62, 71, 140, 210, 302	3.39	2.64	2.160
713-1059	31-212	UG-260A	MIL clamp 1	A	59, 62, 71, 140, 210, 302	2.46	1.92	1.570
713-1106	31-3302	UG-260B	MIL clamp 11	A	59, 62, 71, 140, 210, 302	3.48	2.71	2.220
713-1085	31-321	M39012/16-0102	MIL crimp I	D	59, 62, 71, 140, 210, 302	3.37	2.63	2.150
713-1203	31-30220-3	M23329/3-05	Square Cut	A	59, 62, 71, 140, 210	6.22	4.86	3.970
713-9818	68175	—	Quick crimp	D	59, 140, 210, 302	3.06	2.39	1.950
713-8001	31-359	—	Orig. crimp	C	59, 62, 140, 210, 302	8.81	6.87	5.610
713-1102	31-4321	—	MIL crimp II	D	59, 62, 140, 210, 302	3.95	3.08	2.520
713-9820	68175-1004	M39012/16-0015	Quick crimp	D	59, 62, 140, 210, 302	3.11	2.43	1.980
713-8003	31-4541	—	Quick trim	A	59, 62	3.93	3.07	2.510
713-1086	31-323	—	MIL clamp 1	A	180, 195	5.61	4.37	3.570
713-9781	36650	M23329/3-07	Quick crimp	D	180, 195	6.75	5.27	—
713-1080	31-242	—	MIL crimp I	D	179, 187, 316	7.01	5.47	4.470
713-1083	31-315	—	MIL crimp I	D	174, 188, 316	4.53	3.54	2.890
713-8002	31-371	—	Orig. crimp	C	174, 179, 187, 188, 316	8.81	6.87	5.610
713-9828	69475	—	MIL clamp 1	A	174, 179, 188, 316	4.95	3.86	3.160
713-9658	15875	—	Std. clamp	A	178, 196	4.79	3.73	3.050
713-1087	31-321-1000	—	Quick crimp	D	Alpha 9807/Belden 8281	3.80	2.97	2.420
713-8664	31-4542	—	Quick trim	A	Alpha 9805/Belden 9268	4.15	3.24	2.640

*Contact the closest sales office for quantity pricing.

Straight Jacks
Recognized under the component program of UL, Inc. Female contacts. **Each BNC connector is considered to be weatherproof when used only in combination with other Amphenol BNC connectors described in this catalog. 50 ohm impedance. TFE insulation.

713-1046	31-205	UG-89B	MIL clamp 1	F	55, 58, 141, 142, 223, 400	3.02	2.36	1.93
713-1007	31-5	UG-89	MIL clamp 1	F	58, 141, 142, 223, 400	4.66	3.64	2.97
713-9785	36800	—	Quick-crimp	G	58, 141	4.20	3.28	2.68
713-1111	31-4701	—	FCJ	E	58	5.42	4.23	3.46
713-1113	31-4703	—	FCJ	E	59, 62, 71, 140, 210	7.32	5.71	4.66
713-1018	31-15	UG-261	MIL clamp 1	F	59, 62, 71, 140, 210	4.97	3.88	3.17
713-1060	31-215	UG-261B	MIL clamp 1	F	59, 62, 71, 140, 210	3.93	3.07	2.51
713-8050	31-4328	M39012/17-0015	MIL crimp II	G	59, 62, 140, 210	5.30	4.13	3.38
713-9815	68150	—	Quick-crimp	G	59, 62, 140, 210	5.73	4.47	3.65
713-1081	31-244	—	MIL crimp 1	G	179, 187	7.01	5.47	4.47
713-1084	31-317	—	MIL crimp 1	G	174, 188	7.01	5.47	4.47

*Contact the closest sales office for quantity pricing.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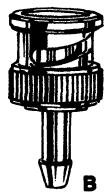
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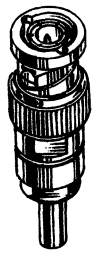
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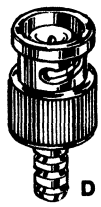
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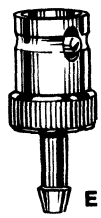
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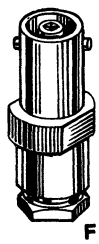
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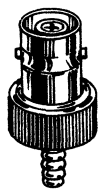
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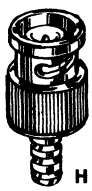
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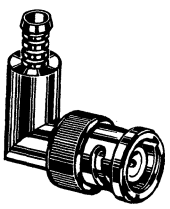
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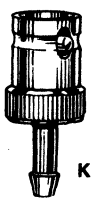

K

75 Ohm BNC Connectors

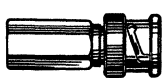
These connectors can be used in a variety of applications where true 75 ohm performance is needed to insure lower signal distortion. They may be matched with standard 50 ohm BNC without damage or intermittence.

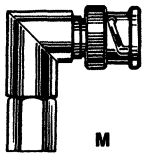
Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Coaxial Cable	EACH 1-24	EACH 25-99	EACH 100-499
713-8608	31-70008	—	Crimp-crimp	H	59	8.10	6.32	5.16
713-8613	31-70013	—	Crimp-crimp	H	179	5.77	4.50	3.65
713-8600	31-70000	—	Crimp-crimp	H	Alpha 9804/Belden 9248	8.08	6.31	5.09
Angle Plugs								
713-8610	31-70010	—	Crimp-crimp	J	59	15.49	12.08	9.87
713-8615	31-70015	—	Crimp-crimp	J	179	15.83	12.35	10.09
Straight Jacks								
713-8609	31-70009	—	Crimp-crimp	K	59	6.26	4.88	3.99
713-8614	31-70014	—	Crimp-crimp	K	179	6.83	5.33	4.35

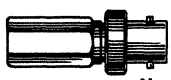
BNC Suretwist® Connectors

Specifications. Electrical Frequency Range: 0-300 MHz typical. **Voltage Rating:** 500 V peak. **Dielectric Withstanding Voltage:** 1500 V rms. **Material Body:** Zinc Die-cast. **Coupling Sleeve:** Brass. **Insulator:** Polyethylene. **Plating:** Contact—Tin Dip; Other Metal Parts—ASTROPLATE®. **ENVIRONMENTAL Thermal Limits:** – 67° to + 185°F(– 55° to + 85°C). Non-weatherproof.

Stock No.	Mfr.'s Type	Decription	Cable	Fig.	EACH 1-24	EACH 25-99	EACH 100-499
713-1137	31-5137	BNC plug	58, 58B	L	3.29	2.57	2.10
713-1153	31-5153	BNC angle plug	58, 58B	M	5.95	4.64	3.79
713-1139	31-5139	BNC jack	58, 58B	N	3.31	2.58	2.11
713-1136	31-5136	BNC plug	59, 59A; 62, 62A	L	2.95	2.30	1.88
713-1154	31-5154	BNC angle plug	59, 59A; 62, 62A	M	5.95	4.64	3.79
713-1138	31-5138	BNC jack	59, 59A; 62, 62A	N	3.31	2.58	2.11
713-1151	31-5151	BNC plug	Alpha 9207	L	3.75	2.93	2.39
713-1155	31-5155	BNC andle plug	Alpha 9207	M	6.17	4.81	3.93
713-1152	31-5152	BNC jack	Alpha 9207	N	3.75	2.93	2.39
713-1169	31-5369	BNC plug	RG62 Teflon	L	3.28	2.56	2.09
713-1170	31-5370	BNC jack	RG62 Teflon	N	3.50	2.75	2.25


BNC Plug L


M
BNC Angle Plug


BNC Jack N

Panel Jacks

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Cable	EACH 1-24	25-99	100-499
713-1014	31-11	UG-262	Std. clamp	A	59, 62, 71, 140, 210	21.37	16.68	—
713-1000	31-1	UG-291	Std. clamp	A	58, 141, 142, 400	9.25	7.21	5.89

75 Ohm Impedance Matching Panel Jacks

713-8612	31-70012	—	Crimp-crimp	A	59	7.15	5.58	5.46
713-8617	31-70017	—	Crimp-crimp	A	179	7.57	5.97	4.83

Rear-Mounted Bulkhead Jacks

713-1048	31-206	UG-909	Mil-clamp 1	B	58, 141, 142, 400	4.86	3.79	3.10
713-9861	95725	—	Quick-crimp	C	58, 141	9.68	7.55	6.17
713-8501	31-4343	M39012/19-0015	MIL crimp II	C	59, 62, 40, 210	8.88	6.93	5.66
713-9865	95750	—	Quick-crimp	C	59, 62, 140, 210	8.10	6.32	5.16
713-1088	31-318	—	MIL crimp 1	C	174, 188	6.86	5.35	4.37
713-8666	86350	—	Std. clamp	B	174, 179, 187, 188	8.94	6.97	5.70

75 Ohm Impedance Matching Bulkhead jacks

713-8611	31-70011	—	Crimp-crimp	C	59	8.57	6.69	3.46
713-8616	31-70016	—	Crimp-crimp	C	179	8.90	6.94	5.67

Panel Receptacles

713-1043	31-203	UG-290A	Solder cup	D	No. 3-56 tapped flange holes	2.58	2.02	1.65
713-1005	31-3	UG-290	Solder cup	D	No. 3-56 tapped flange holes	3.49	2.73	2.23
713-1092	31-817	UG-447	Solder cup	D	.109" flange holes	7.92	6.18	5.05

Front Mount Bulkhead Receptacles—Internal Tooth Lockwasher

713-1012	31-10	—	Solder cup	F	Isolated thermoplastic insulation	3.35	2.61	2.13
713-1099	31-2221	UG-1094A	Solder cup	E	Standard type	1.82	1.42	1.16
713-1073	31-221	UG-1094	Solder cup	E	Thin panel	1.55	1.21	.99
713-1079	31-236	UG-625B	Solder cup	E	Standard type	1.69	1.32	1.08
713-9571	5575	UG-625	Solder cup	E	Standard type	2.53	1.97	1.61
713-1078	31-239	UG-657A	Solder cup	E	Pressurized	4.91	3.83	3.13
713-1035	31-102	UG-657	Solder cup	E	Pressurized	3.51	2.74	2.24
713-1108	31-3375	M39012/21-0001	Solder cup	E	Gold plated contact	2.15	1.68	1.37

75 Ohm Impedance Matching Bulkhead Receptacle

713-8618	31-70018	—	Solder cup	E	Standard panel	3.60	2.81	2.30

Straight Adapters

713-1067	31-218	UG-491A	Plug-plug	G	—	5.51	4.30	3.51
713-1069	31-219	UG-914	Jack-jack	H	—	3.35	2.61	2.13

75 Ohm Impedance Matching Straight Adapter

713-8619	31-70019	—	Jack-jack	H	—	6.55	5.11	4.18

Angle Adpaters

713-1013	31-9	UG-306	Jack-plug	J	—	8.01	6.25	5.10
713-8668	31-209	UG-306A	Jack-plug	J	—	8.46	6.60	5.39

Bulkhead Adapters

Stock No.	Mfr.'s Type	MIL Type	Adapter Ends	Fig.	Description	EACH 1-24	25-99	100-499
713-1071	31-220H	UG-492A	Jack-jack	K	Pressurized/glass—TFE internal lockwasher	5.48	4.27	3.49
713-1072	31-220N	—	Jack-jack	K	Non-pressurized version	4.82	3.76	3.07
713-8670	31-2220	UG-492B	Jack-jack	K	Pressurized/glass—TFE external lockwasher	11.10	8.66	7.08
713-8005	31-3220	UG-492D	Jack-jack	K	Pressurized/glass—TFE external lockwasher/thick panel	7.53	5.88	4.80
713-9555	4525	—	Jack-jack	K	Standard/internal lockwasher	13.74	10.72	8.76
713-8028	31-4803	—	Jack-jack	K	Isolated from panel white molded thermoplastic insulation	8.04	6.28	5.13

75 Ohm Impedance Matching Bulkhead Adapter

713-8620	31-70020	—	Jack-jack	K	—	7.90	6.16	5.03

Tee Adpaters

713-1010	31-8	UG-274	Jack-plug-jack	L	Standard	7.59	5.92	4.84
713-1053	31-208	UG-274A	Jack-plug-jack	L	Beryllium outer contact	6.55	5.11	4.18

Male Cap

713-1008	31-6	CW-123	—	M	Standard weatherproof	2.58	2.02	1.65
713-1031	31-26	M39012/25-0006	—	M	Standard weatherproof	2.78	2.17	1.77
713-8674	31-17	CW-159	—	M	Shorting male constant	3.86	3.01	2.46

Accessories

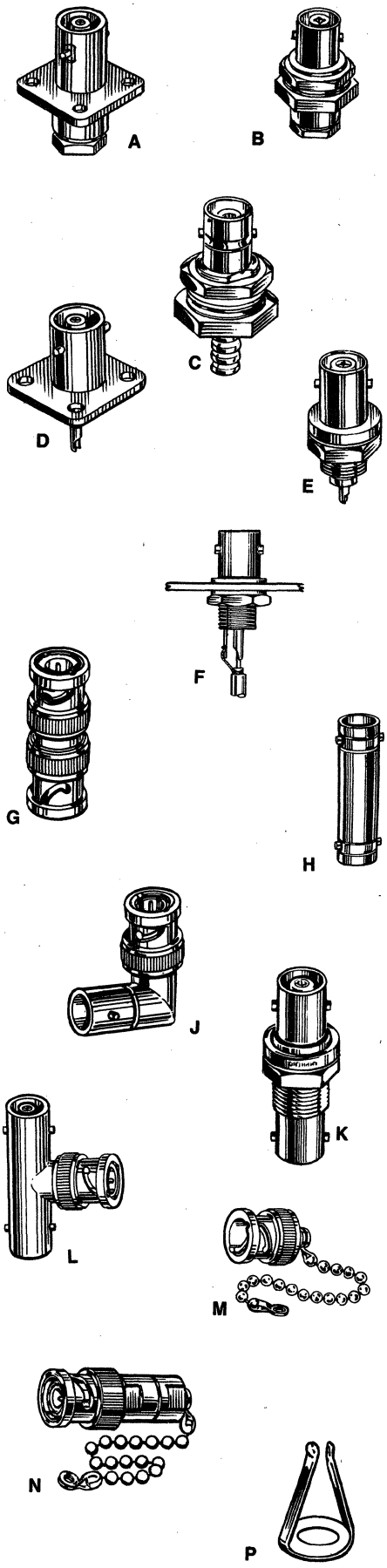
713-8676	31-759	—	—	P	Grounding lug, inside panel on front mount receptacles	.58	.46	.38

Resistor Terminated Cap

713-8672	46650-75	—	—	N	75 ohm terminator	9.37	7.31	5.97

Between Series Straight Adapter (Not Illustrated)

Stock No.	Mfr.'s Type	MIL Type	Description	EACH 1-24	25-99	100-499
713-1095	31-830	UG-201/U	BNC jack-N plug	9.90	7.72	6.31
713-1063	31-216	UG-201A/U	BNC jack-N plug	6.41	5.00	4.08
713-1033	31-28	UG-273/U	BNC jack-UHF plug	4.60	3.59	2.93
713-8008	14000	UG-83/U	N jack-UHF plug	11.61	9.06	7.40
713-1065	31-217	UG-349A/U	BNC plug-N jack	8.32	6.49	5.30
713-9500	2900	UG-255/U	BNC plug-UHF jack	6.17	4.81	3.93
713-8007	4400	UG-146/U	N plug-UHF jack	10.01	7.81	6.38



BNC Coaxial Connectors

Fig. A: Vertical BNC Receptacle (PCB)
.040" diameter post terminal. .125" long. Zinc body, bright tin/lead over copper base finish. Gold plated contact, TFE insulation.
713-7160. Model 31-5329. 1-24 ..... **EACH 3.86**
25-99 ..... **EACH 2.98** **100-499** ..... **EACH 2.46**

N Coaxial Connectors

Type N Straight Plugs
Medium size. Threaded coupling. Up microwave frequencies. Male contacts. Weatherproof. 50 ohm impedance. TFE insulation.

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Cable	EACH 1-24	25-99	100-499
713-3345	82-340	M39012/01-B0007	MIL-crimp-1	B	8, 213	**8.81**	**6.87**	**5.61**
713-3311	82-61	UG-21B	MIL-clamp-1	B	8, 9, 213, 214, 225	**5.71**	**4.46**	**3.64**
713-8014	82-96	UG-21C	MIL-clamp-1	B	8, 9, 213, 214, 225	**6.50**	**5.07**	**4.14**
713-8015	82-202	UG-21D	MIL-clamp-1	B	8, 9, 213, 214, 225	**5.01**	**3.91**	**3.19**
713-8016	82-312	UG-1185	CC clamp	B	8, 9, 213, 214, 225	**5.21**	**4.06**	**3.32**
713-8678	34000*	UG 536	STD-clamp	B	58, 141, 142	**9.30**	**7.26**	**5.93**
713-9762	34025	UG-536B	MIL-clamp	B	58, 141, 142	**4.68**	**3.65**	**2.98**
713-9765	34525	UG-603A	MIL-clamp 1	B	59, 62, 71, 140, 210	**5.84**	**4.56**	**3.72**

Type N Straight Jacks—Female contacts.

713-3313	82-63	UG-23B	MIL-clamp 1	C	8, 9, 87, 213, 214, 225	**6.46**	**5.04**	**4.12**
713-9772	35025	—	MIL-clamp 1	C	58, 141, 142	**18.42**	**14.37**	**11.74**
713-9780	36500	UG-602*	STD clamp	C	59, 62, 71, 140, 210	**20.84**	**16.26**	—

Type N Female Panel Receptacles

713-8017	82-24	UG-58	Standard	D	—	**4.24**	**3.31**	**2.70**
713-3336	82-97	UG-58A	Standard	D	—	**3.99**	**3.11**	**2.54**

Type N Female Front Mounted Bulkhead Receptacle

713-3378	82-811	UG-680	Standard	E	—	**11.34**	**8.85**	**7.23**

Type N Adapters—50 ohms impedance. TFE insulation.

713-3315	82-65	UG-29A	jack-jack	G	—	**7.81**	**6.09**	**4.98**
713-3340	82-100	UG-57B	plug-plug	F	—	**7.39**	**5.77**	**4.71**
713-3330	82-101	UG-29B	jack-jack	G	—	**7.01**	**5.47**	**4.47**

Type N Angle Adapter

713-3314	82-64	UG-27A	mitre body/jack-plug	H	—	**15.54**	**12.13**	**9.10**
713-8020	82-213	UG-27C	cubic body/plug-jack	H	—	**17.00**	**13.26**	**10.83**

Type N Bulkhead Adapter

713-3316	82-66*	UG-30	jack-jack†	J	—	**14.36**	**11.20**	**9.15**

*Copolymer of styrene insulation. †Pressurized.

UHF Connectors

Non-constant impedance. Non-weatherproofed. Mica-filled phenolic insulation. **Peak voltage rating:** 500 V. Operates satisfactorily up to 300 MHz.

Straight Plugs—Male Contacts

Stock No.	Mfr.'s Type	MIL Type	Cable Term.	Fig.	For RG/U Cable	EACH 1-24	25-99	100-499
713-3518	83-1SP	PL-259	UG Std. Silver plated	L	8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	**2.26**	**1.76**	**1.44**
713-3519	83-1SP-1050	PL-259	UG Std. Nickel plated	L	8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	**1.46**	**1.14**	**.93**
713-3562	83-822†	PL-259A	UG Std.	L	8, 9, 11, 13, 63, 87, 149, 213, 214, 216, 225	**2.38**	**1.86**	**1.57**
713-3537	83-58FCP	—	FCP clamp	K	58, 141	**1.95**	**1.52**	**1.24**
713-3505	83-58SP	—	Braid crimp	N	58, 141	**2.77**	**2.16**	**1.76**
713-3556	83-776	UG-203	Clamp set screw	M	58, 141	**7.77**	**6.06**	**4.95**
713-8009	83-59SP	—	Braid crimp	N	59, 62, 140, 210	**2.77**	**2.16**	**1.76**
713-3550	83-750	UG-111	UG Std.	L	59, 62, 71, 140, 210	**3.57**	**2.78**	**2.27**

Panel Receptacles

713-3514	83-1R	SO-239	Standard	P	—	**1.47**	**1.15**	**.94**
713-3559	83-798	SO-239A	TFE insulation	P	—	**3.08**	**2.40**	**1.96**

Bulkhead Receptacle

713-8010	83-875	—	Front mount*	—	—	**5.75**	**4.49**	**3.67**
713-8680	83-878	—	Rear mount‡	Q	—	**2.00**	**1.56**	**1.28**
713-3565	83-875-1002	—	Front mount‡	—	—	**3.66**	**2.85**	**2.33**

Adapters—Polystyrene Insulation

713-3512	83-1J	PL-258	Straight/jack-jack	R	—	**2.57**	**2.00**	**1.64**
713-3507	83-1F	UG-363	Bulkhead/jack-jack	S	—	**7.50**	**5.85**	**4.78**
713-3503	83-1AP	UG-646	Angle/jack-plug	T	—	**4.31**	**3.37**	**2.75**
713-3535	83-58	M-359A	Angle/plug-jack	—	—	**8.41**	**6.56**	**5.36**
713-3523	83-1T	M-358	Tee/jack-plug-jack	U	—	**6.13**	**4.79**	**3.91**

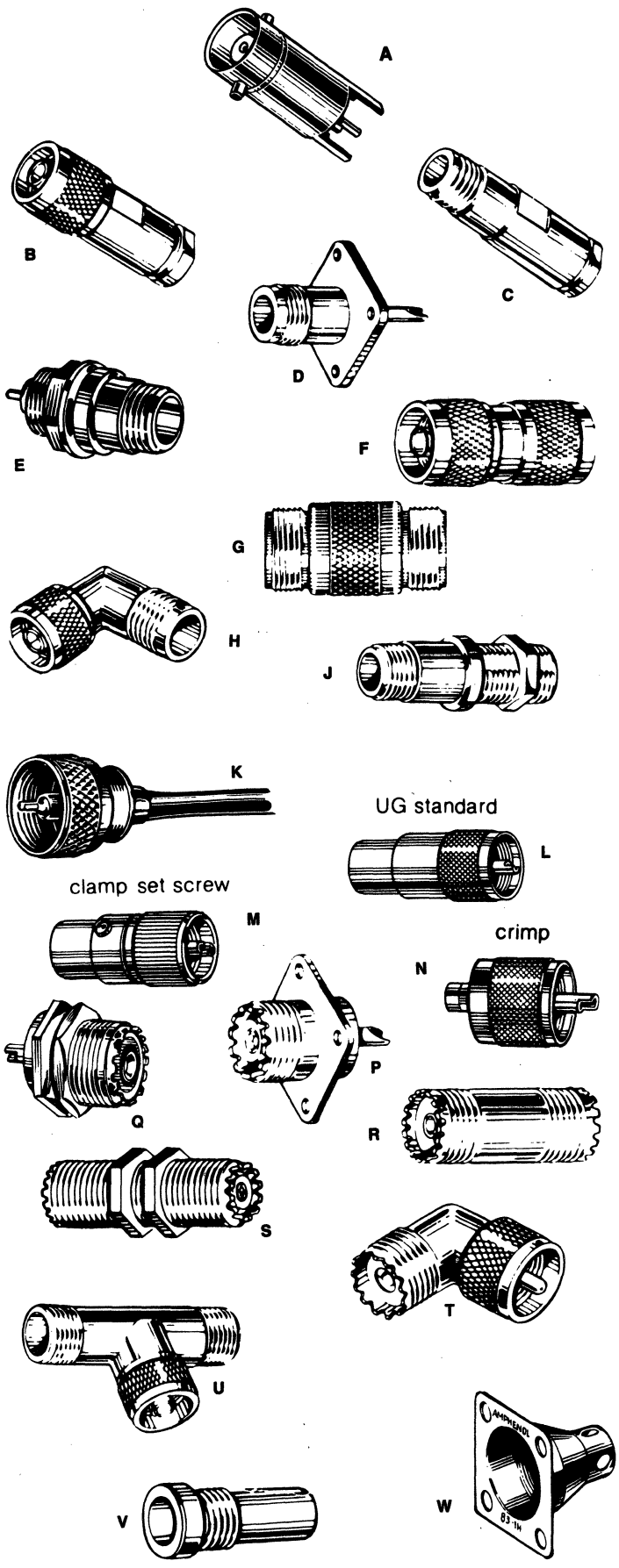
Reducing Adapters

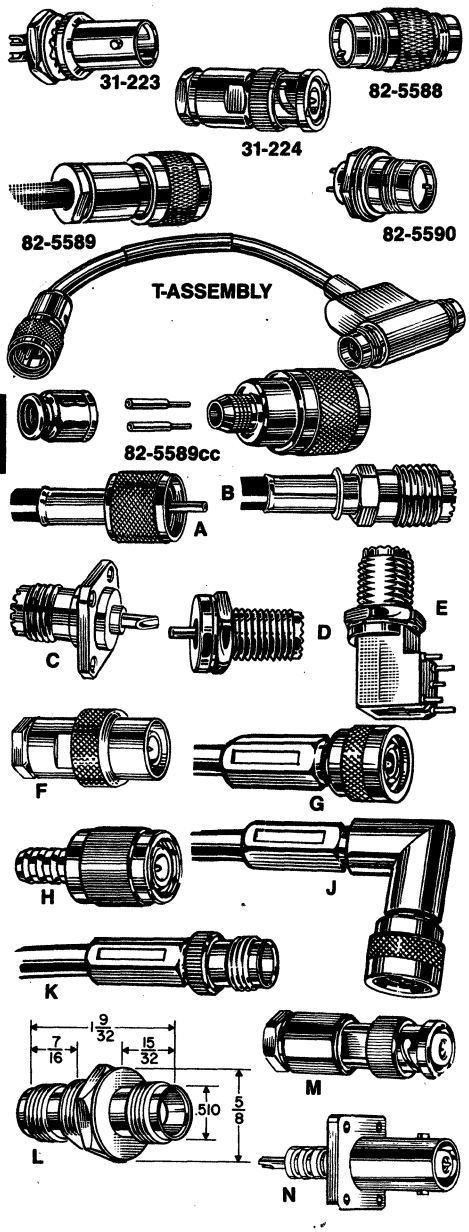
713-3547	83-185	UG-175	—	V	55, 58, 141, 142	**.47**	**.37**	**.30**
713-3545	83-168	UG-176	—	V	59, 62, 71, 140, 210	**.53**	**.41**	**.34**

Hood
For use with panel receptacles 83-1R, 83-1RTY, 83-716, 83-798.

713-8011	83-765	UG-177	—	W	58, 141	**1.55**	**1.21**	**.99**

*Copolymer of styrene insulation. †TFE insulation. ‡Micafilled phelonic.





Twin Coaxial Connectors

Straight Plugs

Stock No.	Mfr.'s Type	Mating & Polarization	Construction	Contacts	EACH 1-24	EACH 25-99	EACH 100-499
713-1076	31-224	Polarized, BNC	V-groove clamp	1 male, 1 female	5.88	4.59	3.75
713-3449	82-5749	Keyed 90°	V-groove clamp	Twin male	15.29	11.93	9.74
713-1097	31-2226	Polarized BNC	TFE insulation V-groove clamp	1 male, 1 female	8.23	6.42	5.24
713-8025	82-5589	Keyed 90°	V-groove clamp	Twin male	7.37	5.75	4.70
713-8030	82-5589CC	—	Crimp-crimp	Twin male	7.74	6.04	4.93
713-8031	82-10588CC	—	Bag of contacts for 82-5589CC	—	27.86—PK/50		

Front-Mounted Bulkhead Receptacles

713-1075	31-223	Polarized, BNC	—	1 female, 1 male	11.41	8.90	7.27
713-1096	31-2225	Polarized, BNC	TFE insulation	1 female, 1 male	10.57	8.25	6.74
713-8026	82-5590	Keyed 90°	Noryl insulation	Twin female	13.20	10.30	8.41

Straight Adapter

713-8027	82-5588	Keyed 90°	Noryl insulation	Twin female	14.63	11.42	9.33

T-Assemblies

Tee-shaped jack-to-jack at one end for connection to the network and a twinax plug for mating with a monitor or related peripheral equipment at the other end

713-4100	95-555-11101	—	IBM std monochrome assembly	—	65.00	58.00	41.18
713-4102	95-555-11102	—	Same-with overmolded ferrite sleeve	—	70.00	63.27	46.20

Miniature-UHF Connectors

50 Ohm impedance nominal, Polypropylene insulation, 335RMS, 0-25 MHz

Stock No.	Mfr.'s Type	Fig.	Description	For RG/U Cables	Termination	EACH 1-24	EACH 25-99	EACH 100-499
713-3214	81-114	A	Plug	Belden 9258	Crimp	1.95	1.52	1.24
713-3215	81-115	A	Plug	58, 58A, 58B, 58C	Crimp	1.77	1.38	1.13
713-3216	81-116	B	Jack	58, 58A, 58B, 58C	Crimp	2.46	1.92	1.57
713-3217	81-117	B	Jack	58, 58A, 58B, 58C	Crimp	2.68	2.09	1.71
713-3218	81-118	C	Panel recept.	—	Solder Cup	2.91	2.27	1.86
713-3220	81-120	D	Bulkhead recept.	—	Solder Cup	4.10	3.20	2.58
713-3219	81-119-1002	E	RT angle bulkhead recept.	—	PCB	4.19	3.27	2.67

TNC Connectors

Non-Constant impedance 500 Volts, 0-300 MHz

Stock No.	Mfr.'s Type	Fig.	Description	For RG/U Cables	EACH 1-24	EACH 25-99	EACH 100-499
713-8006	77175	F	Plug, Mil clamp 1	55, 56, 141, 132, 223, 400	9.94	7.75	6.33
713-8650	79875	F	Plug, Mil clamp 1	55, 58, 141, 142, 223, 400	7.21	5.62	4.59
713-8645	31-5245	G	Suretwist® plug	58, 58B	3.64	2.84	2.32
713-8654	36825	H	Plug quick crimp	58, 141	5.94	4.09	3.34
713-8642	31-5242	J	Suretwist® angle plug	58, 58B	6.04	4.71	3.85
713-8652	31-5061	F	Plug, quick trim	59, 62	5.33	4.16	3.40
713-9826	69350	H	Plug, quick crimp	59, 62, 140, 210	3.93	3.07	2.51
713-8643	31-5243	G	Suretwist® plug	59, 59A, 62, 62A	3.57	2.78	2.27
713-8640	31-5240	J	Suretwist® angle plug	59, 59A, 62, 62A	6.04	4.71	3.85
713-1160	31-5371	G	Suretwist® plug	RG62 Plenum	3.40	2.66	2.17
713-8644	31-5244	G	Suretwist® plug	Alpha 9807	3.75	2.93	2.39
713-8641	31-5241	J	Suretwist® angle plug	Alpha 9807	6.26	4.88	3.99
713-8656	73475	H	Plug, Mil clamp 1	174, 179, 187, 188	8.43	6.57	5.37
713-8647	31-5247	K	Suretwist® jack	58, 58B	3.31	2.58	2.21
713-8648	31-5248	K	Suretwist® jack	59, 59A, 62, 62A	3.31	2.58	2.21
713-8646	31-5246	K	Suretwist® jack	Alpha 9807	3.75	2.93	2.39
713-8029	31-4804	L	Bulkhead jack-jack isolated	—	14.98	11.69	9.55

MHV (High Voltage) Connectors

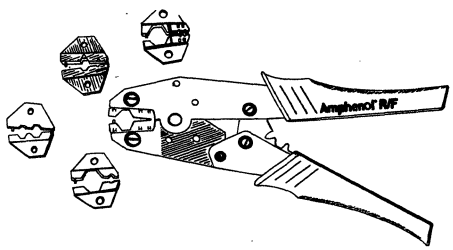
Similar to BNC, but do not intermate, Weatherproof, non-constant impedance. For applications up to 5000 volts at frequencies up to 50 MHz.

Stock No.	Mfr.'s Type	MIL Type	Fig.	Description	For RG/U Cables	EACH 1-24	EACH 25-99	EACH 100-499
713-9770	29100	—	M	Straight plug	58, 141, 142	8.94	6.97	5.70
713-8012	28000	UG-932	M	Straight plug	59, 62, 71	5.21	4.06	3.32
713-8013	27000	UG-931	N	Rear mounted panel receptacle	—	5.39	4.20	3.43

Crimp Tools

Econohex™ Crimp Tool and Dies—Feature Exchangeable/Replaceable Dies

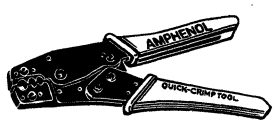
Stock No.	Mfr.'s Type	Description	For RG/U Cables	EACH
713-6100	227-987	handle without dies	—	70.46
713-6207	227-983	handle with die 227-1417	twin-ax	123.85
713-6105	227-1420	die set only	8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393	41.80
713-6106	227-1419	die set only	55, 58, 59, 62, 140, 141, 142, 142B, 210, 223, 302, 303, 400	41.80
713-6107	227-1418	die set only	122, 161, 174, 179, 180, 187, 188, 195, 316	41.80
713-6108	227-1417	die set only	twin-ax	53.15



Tri-Hex Quick Crimp Tool

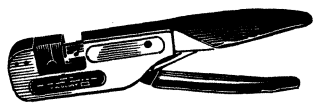
Heavy-duty steel construction. Full-cycle, reinforced ratchet control. Can be used on BNC/TNC/UHF/MHV/SMA connectors for RG/U cables 55, 58, 59, 62, 140, 141, 142, 210, 223, 303, and 400. Stands up to in-the-field use.

713-6205. Model 227-962. Tri-hex quick crimp tool ..... **EACH 137.76**



Twin-Hex Quick Tool System

Stock No.	Mfr.'s Type	MIL Type	For Connector Series	For RG/U Type	EACH
713-6200	227-944	M22520/5-01	Frame (dies not included)	—	195.00
713-6209	227-1221-09	M22520-09	BNC, TNC, SMA	174, 179B, 186A, 187A, 316	90.50
713-6208	227-1221-03	M22520/5-03	SMA	174, 179B, 186A, 187A, 316	90.50
713-6210	227-1221-11	M22520/5-11	BNC, TNC, MHV, UHF, SMA	55, 58, 141, 142, 223, 303, 400	90.50
713-6220	227-1221-13	M22520/5-13	BNC, TNC, UHF, SMA	59, 62, 140, 210	90.50
713-6225	227-1221-25	M22520/5-25	N, SC	8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393	90.50
713-6230	227-980-1	—	75-Ohm BNC	59	136.71
713-6231	227-980-2	—	75-Ohm BNC	179	130.20
713-6235	227-1414	—	82-5589CC	Alpha 9818	94.33
713-6234	227-1409	—	Mini-UHF	58, 58A, 58B, 58C	104.60

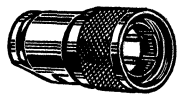


BNC Plugs

Crimp center conductor. Crimp braid with cable strain relief. Attractive wrap-around crimp sleeve flange; **Nominal Impedance:** 50 Ohms. **Working Voltage:** 500 Volts, RMS at Sea Level; **Insulation Resistance:** 500 Megohms Min.; **Dielectric Withstanding Voltage:** 1500 Volts, RMS at Sea Level VSWR 1.3 Max at 4 GHz.

Stock No.	Mfr.'s Type	For Cables	EACH 1-9	EACH 10-24
716-0258	CPMC-88-1	RG-58	2.90	2.67
716-0259	CPMC-88-2	RG-59, RG-62	2.90	2.67

Keyed Twinax Plugs



Impedance: 95 Ohms Nominal. **Frequency Range:** 0-200 MHz. (Usage to 500 MHz with caution). **Voltage Rating:** 500 Volts Peak **Material:** Contact — Brass, silver plated; **Other Metal Parts:** Brass non-tarnish finish; **Insulator:** Copolymer.

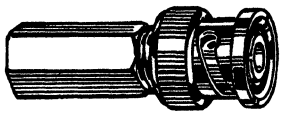
Stock No.	Mfr.'s Type	EACH 1-9	EACH 10-24
716-0450	CP-TX-60	6.85	6.30
716-0455	CP-TX-62	7.85	7.22

Coaxial Baluns

Cambridge Products' Balun is a miniature, maintenance free transformer which allows you to connect from coaxial cable to either a (2) wire twisted pair or an RJ-11 telephone-type line cord. As a set, they are used to connect between the main frame computer and peripheral equipment.

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
716-1000	CP-BLN-50-BP	BNC Plug	25.00	22.50
716-1005	CP-BLN-50-TP	TNC Plug	25.15	22.65
716-1010	CP-BLN-50-BJ	BNC Jack	25.00	22.50
716-1015	CP-BLN-50-TJ	TNC Jack	25.15	22.65

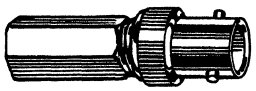
BNC Twist-On Connectors



Features patented twist-on cable attachment. No solder or special tools necessary. One-piece construction; utilizes patented self-contained, self-energizing contact.

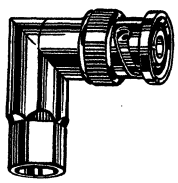
Male Plugs

Stock No.	Mfr.'s Type	Style	For Cables	EACH 1-9	EACH 10-24	EACH 25-99	EACH 100-Up
716-0881	CPFI-UG-88-1	BNC	RG-58	3.20	2.92	2.62	2.41
716-0882	CPFI-UG-88-2	BNC	RG-59, RG-62	3.20	2.92	2.62	2.41
716-0883	CPFI-UG-88-3	BNC	Beldon 8281	3.40	3.13	2.86	—
716-0885	CPFI-UG-88-5	BNC	RG-6	3.40	3.13	2.86	—



Female Jacks

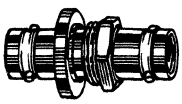
716-0981	CPFI-UG-89-1	BNC	RG-58	3.20	2.95	2.71	—
716-0982	CPFI-UG-89-2	BNC	RG-59, RG-62	3.20	2.95	2.71	—



Male Right Angle Plugs

716-0911	CPFI-RA-1	BNC	RG-58	5.65	5.20	4.78	—
716-0912	CPFI-RA-2	BNC	RG-59, RG-62	5.65	5.20	4.78	—

BNC Adapters

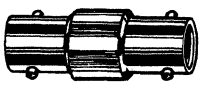


BNC Bulkhead Jack-Jack

Made of brass (QQ-B-626, Alloy 360, 1/2 hard), beryllium copper (Alloy No. 25), zamack (QQ-2-363-Comp A), and polyethylene (MIL-P-22748, Class A, Grade 5).

Panel Mount Female-Female, 1/2" "D" Mounting Hole

Stock No.	Mfr.'t Type	Description	EACH 1-9	EACH 10-24	EACH 100-Up
716-0411	CP-AD556	BNC Bulkhead Jack-Jack	5.25	4.83	4.35

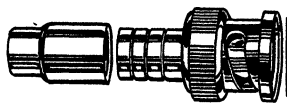


BNC Jack-Jack

Female-Female Splice, 1.275" Length

716-0412	CP-AD555	BNC Jack-Jack	3.00	2.70	2.50

BNC Crimp-On Connectors



Features patented one-step termination with stain relief. No crimping center contact or solder needed. Two-piece connector construction; utilizes patented self-contained, self-energizing contact. Same electrical characteristics as BNC twist-on connectors.

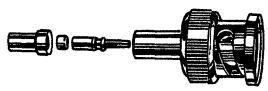
Male Plugs

Stock No.	Mfr.'s Type	For Cables	EACH 1-9	EACH 10-24	EACH 25-99	EACH 100-Up
716-8810	CP-88-1	RG-58	3.10	2.85	2.62	2.41
716-8820	CP-88-2	RG-59, RG-62	3.10	2.85	2.62	2.41

Female Jacks

716-8910	CP-89-1	RG-58	3.10	2.85	2.62	2.41

BNC Mini Coaxial Crimp-On Connectors

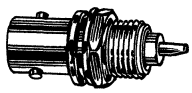


Features crimp center conductor and crimp braid with cable strain relief. Same electrical characteristics as TNC twist-on connectors.

Stock No.	Mfr.'s Type	For Cables	EACH 1-9	EACH 10-24	EACH 25-99	EACH 100-Up*
716-0274	CPM-88-19	RG-174, RG-188	2.85	2.62	2.41	—
716-0279	CPM-88-20	RG-179	2.95	2.71	2.50	—

* Contact the Allied sales office nearest to you for price and delivery.

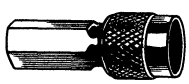
BNC Bulkhead Receptacles



Made of Brass (QQ-B-626, Alloy 360, 1/2 hard), beryllium copper (Alloy No), zamack (QQ-2-363-Comp A), and polyethylene (MIL-P-22748, Class A, Grade 5). Same electrical characteristics as BNC twist-on connectors, no VSWR. Derlin insulation.

Stock No.	Mfr.'s Type	Style	Length	EACH 1-9	EACH 10-24	EACH 25-99	EACH 100-Up
716-1094	CP-1094-A-LN-S-D	BNC	1.187"	1.05	0.97	0.89	0.82
716-1095	CP-1094U-LN-S-D	BNC	1.062"	1.09	0.99	0.91	0.84

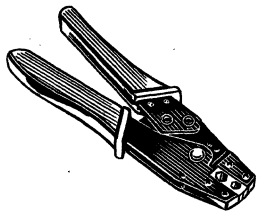
TNC Twist On Connectors



Stock No.	Mfr.'s Type	Style	For Cables	EACH 1-9	EACH 10-24	EACH 25-99	EACH 100-Up*
716-0681	CPFI-T1	TNC	RG-58	3.72	3.42	3.15	—
716-0682	CPFI-T2	TNC	RG-59, RG-62	3.72	3.42	3.15	—

* Contact the Allied sales office nearest to you for price and delivery.

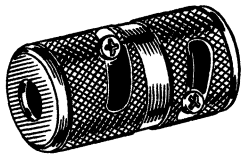
Controlled Cycle Hand Crimp Tool



Features interchangeable tool steel dies and controlled ratchet crimp cycle.

Stock No.	Mfr.'s Type	For Cables	EACH 1-4	EACH 5-Up
716-1998	CTR-CP-88-1	RG-58	102.50	94.30
716-2001	CTR-CP-88-1	RG-59, RG-62	102.50	94.30
716-2002	CTR-CPM-88-174	RG-174	102.50	94.30

Cablematic Coaxial Wire Stripper

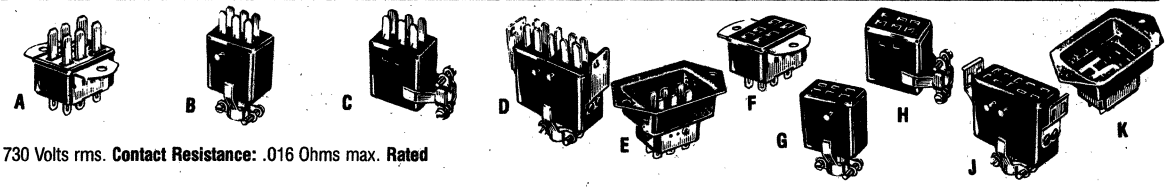


Easy to use, provides fast simple coaxial wire stripping. Insert wire, rotate tool, and pull.

716-2004. Model RG-58. 1-4 ..... **EACH 21.95**
5-Up ..... **EACH 20.19**

716-2005. Model RG-59. 1-4 ..... **EACH 21.95**
5-Up ..... **EACH 20.19**

300 Series



UL recognized file No. E19071. Rated 730 Volts rms. **Contact Resistance:** .016 Ohms max. **Rated Current:** 10 Amps.

Plugs With Angle Brackets (Fig. A)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3000	P-302-AB	2	0.96	0.73	0.67	0.57
750-3002	P-303-AB	3	1.03	0.78	0.73	0.61
750-3004	P-304-AB	4	1.12	0.83	0.78	0.67
750-3006	P-306-AB	6	1.45	1.09	1.01	0.87
750-3008	P-308-AB	8	1.67	1.27	1.17	1.00
750-3012	P-312-AB	12	1.85	1.39	1.29	1.11

Plugs With Cable Clamp In Top (Fig. B)

750-3200	P-302-CCT	2	1.79	1.35	1.25	1.07
750-3202	P-303-CCT	3	1.95	1.48	1.37	1.17
750-3204	P-304-CCT	4	2.19	1.66	1.53	1.33
750-3206	P-306-CCT	6	2.38	1.81	1.67	1.44
750-3208	P-308-CCT	8	2.62	1.98	1.83	1.58
750-3210	P-310-CCT	10	2.71	2.05	1.90	1.63
750-3212	P-312-CCT	12	2.89	2.18	2.02	1.73
750-3214	P-315-CCT	15	4.47	3.39	3.13	2.69
750-3216	P-318-CCT	18	4.60	3.48	3.22	2.77
750-3218	P-321-CCT	21	5.52	4.18	3.87	3.34
750-3220	P-324-CCT	24	6.50	4.92	4.55	3.92

Plugs With 90° Cable Clamp (Fig. C)

750-3100	P-302-CCE	2	1.90	1.44	1.33	1.14
750-3102	P-303-CCE	3	2.02	1.52	1.40	1.21
750-3104	P-304-CCE	4	2.31	1.74	1.62	1.39
750-3106	P-306-CCE	6	2.54	1.92	1.78	1.52
750-3108	P-308-CCE	8	2.69	2.04	1.88	1.62
750-3112	P-312-CCE	12	2.99	2.27	2.09	1.80

Plugs — Cable Clamp In Top With Locks (Fig. D)

750-3300	P-302-CCT-L	2	3.25	2.46	2.28	1.96
750-3302	P-303-CCT-L	3	3.68	2.78	2.58	2.22
750-3304	P-304-CCT-L	4	3.59	2.72	2.51	2.16
750-3306	P-306-CCT-L	6	3.80	2.87	2.67	2.29
750-3308	P-308-CCT-L	8	3.98	3.02	2.78	2.39
750-3310	P-310-CCT-L	10	4.37	3.31	3.06	2.63
750-3312	P-312-CCT-L	12	4.72	3.57	3.30	2.84

Plugs With Deep Bracket For Recessed Mounting (Fig. E)

750-3400	P-304-DB	4	2.76	2.08	1.93	1.66
750-3402	P-306-DB	6	2.90	2.19	2.03	1.74
750-3404	P-308-DB	8	3.09	2.34	2.16	1.86
750-3406	P-312-DB	12	3.87	2.95	2.72	2.34

Sockets With Angle Brackets (Fig. F)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3001	S-302-AB	2	0.99	0.75	0.69	0.59
750-3003	S-303-AB	3	1.23	0.93	0.85	0.74
750-3005	S-304-AB	4	1.28	0.97	0.91	0.77
750-3007	S-306-AB	6	1.69	1.28	1.19	1.01
750-3009	S-308-AB	8	2.01	1.51	1.40	1.21
750-3013	S-312-AB	12	4.63	3.50	3.24	2.79

Sockets With Cable Clamp In Top (Fig. G)

750-3201	S-302-CCT	2	1.90	1.44	1.33	1.14
750-3203	S-303-CCT	3	2.20	1.67	1.56	1.33
750-3205	S-304-CCT	4	2.25	1.69	1.57	1.35
750-3207	S-306-CCT	6	2.55	1.93	1.79	1.53
750-3209	S-308-CCT	8	3.08	2.34	2.16	1.86
750-3211	S-310-CCT	10	3.48	2.64	2.44	2.09
750-3213	S-312-CCT	12	3.97	3.00	2.77	2.38
750-3215	S-315-CCT	15	5.63	4.27	3.96	3.40
750-3217	S-318-CCT	18	6.04	4.56	4.22	3.64
750-3219	S-321-CCT	21	6.88	5.21	4.82	4.14
750-3221	S-324-CCT	24	7.32	5.56	5.14	4.42

Sockets With 90° Cable Clamp (Fig. H)

750-3101	S-302-CCE	2	1.97	1.49	1.38	1.18
750-3103	S-303-CCE	3	2.20	1.67	1.56	1.33
750-3105	S-304-CCE	4	2.38	1.81	1.67	1.44
750-3107	S-306-CCE	6	2.73	2.07	1.92	1.65
750-3109	S-308-CCE	8	3.08	2.34	2.16	1.86
750-3113	S-312-CCE	12	3.97	3.00	2.77	2.38

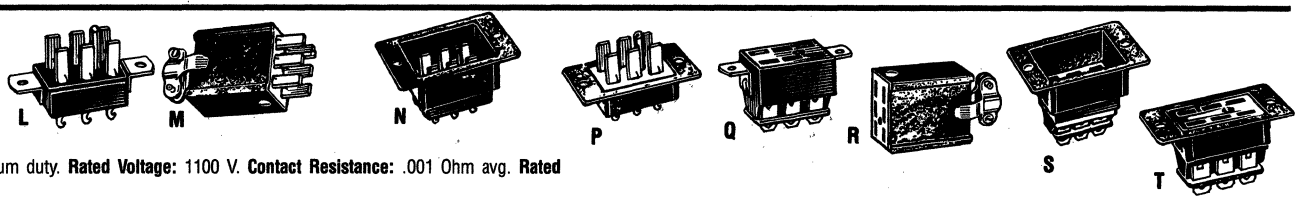
Sockets — Cable Clamp In Top With Keepers (Fig. J)

750-3301	S-302-CCT-K	2	3.32	2.52	2.33	2.00
750-3303	S-303-CCT-K	3	3.97	3.00	2.77	2.38
750-3305	S-304-CCT-K	4	3.84	2.91	2.69	2.31
750-3307	S-306-CCT-K	6	4.20	3.19	2.96	2.53
750-3309	S-308-CCT-K	8	4.74	3.59	3.32	2.85
750-3311	S-310-CCT-K	10	6.68	5.07	4.70	4.04
750-3313	S-312-CCT-K	12	5.61	4.26	3.93	3.39

Sockets With Deep Brackets For Recessed Mounting (Fig. K)

750-3401	S-304-DB	4	3.00	2.28	2.09	1.81
750-3403	S-306-DB	6	3.43	2.60	2.40	2.07
750-3405	S-308-DB	8	3.75	2.85	2.63	2.27
750-3407	S-312-DB	12	4.89	3.70	3.42	2.95

400 Series



Designed for medium duty. **Rated Voltage:** 1100 V. **Contact Resistance:** .001 Ohm avg. **Rated Current:** 15 Amps.

Plugs With Angle Brackets (Fig. L)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3052	P-404-AB	4	2.76	2.09	1.94	1.66
750-3054	P-406-AB	6	3.09	2.35	2.17	1.86
750-3056	P-408-AB	8	3.74	2.83	2.62	2.26

Plugs With Cable Clamp On Top (Fig. M)

750-3250	P-402-CCT	2	6.54	4.96	4.57	3.94
750-3252	P-404-CCT	4	5.73	4.34	4.02	3.45
750-3254	P-406-CCT	6	6.51	4.93	4.56	3.92
750-3256	P-408-CCT	8	6.77	5.13	4.74	4.08
750-3258	P-410-CCT	10	7.85	5.94	5.50	4.74
750-3260	P-412-CCT	12	8.16	6.18	5.72	4.91

Plugs With Deep Brackets For Recessed Mounting (Fig. N)

750-3354	P-406-DB	6	4.89	3.71	3.43	2.96
750-3356	P-408-DB	8	5.19	3.93	3.65	3.13
750-3360	P-412-DB	12	6.46	4.89	4.52	3.89

Plugs With Shallow Brackets For Flush Mounting (Fig. P)

750-3452	P-404-SB	4	3.37	2.55	2.36	2.03
750-3454	P-406-SB	6	4.18	3.18	2.95	2.53
750-3456	P-408-SB	8	4.72	3.58	3.31	2.84
750-3460	P-412-SB	12	5.98	4.54	4.19	3.62

Sockets With Angle Brackets (Fig. Q)

Stock No.	Mfr.'s Type	Number of Contacts	EACH			
			1-24	25-49	50-99	100-249
750-3053	S-404-AB	4	3.52	2.68	2.48	2.13
750-3055	S-406-AB	6	4.42	3.36	3.09	2.67
750-3057	S-408-AB	8	5.59	4.24	3.92	3.38

Sockets With Cable Clamp On Top (Fig. R)

750-3251	S-402-CCT	2	5.94	4.51	4.17	3.59
750-3253	S-404-CCT	4	6.92	5.23	4.84	4.16
750-3255	S-406-CCT	6	7.96	6.05	5.58	4.80
750-3257	S-408-CCT	8	9.14	6.92	6.41	5.50
750-3259	S-410-CCT	10	9.86	7.48	6.92	5.94
750-3261	S-412-CCT	12	11.42	8.65	8.01	6.88

Sockets With Deep Brackets For Recessed Mounting (Fig. S)

750-3355	S-406-DB	6	6.34	4.81	4.46	3.83
750-3357	S-408-DB	8	7.62	5.79	5.36	4.60
750-3361	S-412-DB	12	9.82	7.45	6.88	5.91

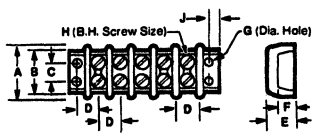
Sockets With Shallow Brackets For Flush Mounting (Fig. T)

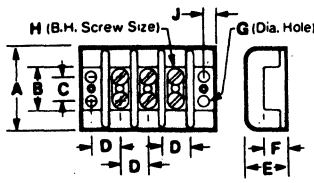
750-3453	S-404-SB	4	4.42	3.36	3.09	2.67
750-3455	S-406-SB	6	5.23	3.97	3.68	3.15
750-3457	S-408-SB	8	10.79	8.19	7.58	6.51
750-3461	S-412-SB	12	8.62	6.54	6.06	5.20

Barrier Terminal Blocks

Barrier

Interposing barriers between each terminal position yields substantially higher electrical ratings and provides an additional safeguard against shorting from frayed wires. The wide size range of "Jones" barrier terminal blocks, plus the several termination options and the available accessories permit flexibility of end use applications.





Electrical Specifications

Series	Max. Volts RMS Without Marker Strip	Max. Volts RMS With Market Strip	Max. Current In Amps	Max. Watts Per Terminal
140	1100	2000	15	3750
141	1100	2400	20	5000
142	1600	2600	30	7500

Dimensions

	Series 140		Series 141		Series 142	
	In.	MM	In.	MM	In.	MM
A	.875	22.23	1.125	28.58	1.312	33.34
B	.688	17.46	.875	22.23	1.062	26.99
C	.313	7.94	.422	10.72	.500	12.70
D	.375	9.53	.438	11.11	.563	14.29
E	.406	10.32	.500	12.70	.625	15.88
F	.250	6.35	.313	7.94	.375	9.53
G	.160	4.06	.175/.185	4.45/4.70	.209	5.31
H	5/40		6/32		8/32	
J	.141	3.57	.156	3.97	.203	5.16

Series 140

With Binding Head screw, for up to #16 solid wire.

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-4002	2-140	2	0.71	0.54	0.49	0.42
750-4003	3-140	3	0.84	0.63	0.59	0.50
750-4004	4-140	4	0.91	0.68	0.63	0.55
750-4005	5-140	5	1.04	0.79	0.73	0.63
750-4006	6-140	6	1.32	0.99	0.92	0.79
750-4007	7-140	7	1.42	1.08	0.99	0.85
750-4008	8-140	8	1.62	1.23	1.14	0.97
750-4009	9-140	9	1.86	1.40	1.30	1.12
750-4010	10-140	10	2.06	1.57	1.45	1.25
750-4012	12-140	12	2.37	1.80	1.66	1.43
750-4014	14-140	14	2.67	2.17	2.01	1.72
750-4015	15-140	15	2.93	2.21	2.04	1.75
750-4016	16-140	16	3.12	2.37	2.19	1.88
750-4018	18-140	18	3.37	2.55	2.36	2.03
750-4020	20-140	20	3.84	2.91	2.69	2.32
750-4024	24-140	24	4.58	3.47	3.22	2.76
750-4025	25-140	25	4.83	3.67	3.39	2.91

Series 140-Y

With Y terminal, for up to #16 solid wire.

750-4102	2-140-Y	2	0.88	0.66	0.61	0.53
750-4103	3-140-Y	3	1.07	0.81	0.75	0.64
750-4104	4-140-Y	4	1.36	1.03	0.95	0.82
750-4106	6-140-Y	6	1.88	1.43	1.32	1.13
750-4108	8-140-Y	8	2.37	1.79	1.66	1.43
750-4110	10-140-Y	10	2.85	2.16	2.00	1.71
750-4112	12-140-Y	12	3.84	2.91	2.70	2.32
750-4114	14-140-Y	14	4.28	3.24	3.00	2.59
750-4116	16-140-Y	16	4.45	3.38	3.12	2.69
750-4120	20-140-Y	20	5.54	4.20	3.89	3.35

Series 141

With Binding Head Screw, for up to #14 solid wire.

750-4302	2-141	2	0.71	0.54	0.49	0.42
750-4303	3-141	3	1.25	0.95	0.88	0.75
750-4304	4-141	4	1.25	0.95	0.88	0.75
750-4305	5-141	5	1.42	1.08	0.99	0.85
750-4306	6-141	6	1.62	1.23	1.14	0.97
750-4307	7-141	7	2.00	1.51	1.39	1.21
750-4308	8-141	8	2.10	1.59	1.47	1.27
750-4310	10-141	10	2.48	1.87	1.73	1.49
750-4312	12-141	12	2.96	2.24	2.07	1.78
750-4314	14-141	14	3.54	2.68	2.48	2.13
750-4315	15-141	15	3.80	2.88	2.67	2.30
750-4316	16-141	16	3.98	3.02	2.78	2.39
750-4318	18-141	18	4.20	3.19	2.96	2.54
750-4320	20-141	20	4.97	3.76	3.48	3.00

Series 142

Accommodates up to #10 solid wires.

750-4602	2-142	2	1.15	0.88	0.81	0.69
750-4603	3-142	3	1.38	1.06	0.97	0.83
750-4604	4-142	4	1.61	1.22	1.12	0.96
750-4605	5-142	5	2.32	1.75	1.63	1.38
750-4606	6-142	6	3.34	2.53	2.34	2.01
750-4607	7-142	7	3.65	2.76	2.55	2.20
750-4608	8-142	8	3.80	2.88	2.67	2.30
750-4609	9-142	9	5.83	4.42	4.09	3.51
750-4610	10-142	10	6.13	4.65	4.30	3.70
750-4612	12-142	12	6.44	4.87	4.51	3.87
750-4614	14-142	14	7.58	5.75	5.33	4.56
750-4615	15-142	15	7.60	5.77	5.34	4.58
750-4616	16-142	16	8.12	6.16	5.70	4.89

The 500 Series Jones barrier terminal blocks have high barriers and are designed for applications where electrical and mechanical performance requirements are especially critical. Bottoms are closesd so insulating strips are not required. UL Recognized.

Dimensions

	Series 540		Series 541		Series 542	
	In.	MM	In.	MM	In.	MM
A	1.125	28.58	1.375	34.93	1.625	41.28
B	5.940	15.08	.750	19.05	.875	22.23
C	.313	7.94	.422	10.72	.500	12.70
D	.375	9.53	.438	11.11	.563	14.29
E	.609	15.48	.688	17.46	.875	22.23
F	.328	8.33	.375	9.53	.500	12.70
G	.160	4.06	.175/.185	4.45/4.70	.209	5.31
H	5/40 × 3/16		6/32 × 1/4		8/32 × 5/16	
J	.141	3.57	.156	3.97	.203	5.16

Series 540

Creepage distance: 1/2". 2300 V rms/15 A.

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-5402	2-540	2	2.76	2.08	1.94	1.66
750-5403	3-540	3	3.67	2.77	2.58	2.21
750-5404	4-540	4	4.52	3.43	3.18	2.73
750-5406	6-540	6	5.17	3.92	3.63	3.11
750-5408	8-540	8	7.33	5.56	5.14	4.42
750-5410	10-540	10	7.88	5.97	5.53	4.76
750-5412	12-540	12	9.21	6.98	6.46	5.55
750-5414	14-540	14	11.42	8.66	8.01	6.89
750-5415	15-540	15	18.48	14.01	12.97	11.15
750-5416	16-540	16	19.35	14.68	13.59	11.69

Series 541

Creepage Distance: 5/8". 2800 V rms/20 A.

750-5504	4-541	4	2.58	1.95	1.81	1.56
750-5506	6-541	6	7.84	5.93	5.50	4.73
750-5507	7-541	7	8.16	6.18	5.73	4.91
750-5508	8-541	8	8.19	6.20	5.75	4.93
750-5510	10-541	10	14.66	11.11	10.29	8.85
750-5512	12-541	12	15.01	11.38	10.53	9.05

Series 542

Creepage distance: 3/4". 4000 V rms/30 A.

750-5604	4-542	4	6.97	5.28	4.89	4.20
750-5606	6-542	6	9.32	7.06	6.54	5.61
750-5608	8-542	8	13.38	10.15	9.39	8.08
750-5610	10-542	10	14.16	10.74	9.94	8.55
750-5612	12-542	12	14.81	11.24	10.40	8.95

Solder Terminals

Optional terminals for use with barrier blocks. Refer to ordering information below for type and terminal block cross-reference.

Stock No.	Mfr.'s Type	For Use With	EACH			
			1-24	25-49	50-99	100-249
750-7650	3/4W-140	140/540	0.29	0.22	0.20	0.18
750-7651	W-140	140/540	0.29	0.22	0.20	0.18
750-7652	Y-140	140/540	0.29	0.22	0.20	0.18
750-7653	3/4W-141	141/541	0.41	0.30	0.28	0.24
750-7654	W-141	141/541	0.41	0.30	0.28	0.24
750-7655	Y-141	141/541	0.48	0.35	0.33	0.29
750-7656	3/4W-142	142/542	0.56	0.43	0.40	0.33
750-7657	W-142	142/542	0.56	0.43	0.40	0.33
750-7658	Y-142	142/542	0.56	0.43	0.40	0.33

Marker Strips

Marker strips identify terminal positions on barrier terminal blocks and insulate exposed portions of terminals from a conductive mounting surface. Marker strips for Series 140 are 1/32" thick, flame-retardent material and mount under the terminal strip. **Shipping wt.:** 2 oz. 1/8" white numerals standard.

Series 140

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-5702	MS-2-140	2	0.45	0.33	0.32	0.27
750-5703	MS-3-140	3	0.45	0.33	0.32	0.27
750-5704	MS-4-140	4	0.45	0.33	0.32	0.27
750-5705	MS-5-140	5	0.45	0.33	0.32	0.27
750-5706	MS-6-140	6	0.45	0.33	0.32	0.27
750-5707	MS-7-140	7	0.56	0.41	0.38	0.33
750-5708	MS-8-140	8	0.56	0.41	0.38	0.33
750-5710	MS-10-140	10	0.60	0.45	0.41	0.36
750-5712	MS-12-140	12	0.60	0.45	0.41	0.36
750-5714	MS-14-140	14	0.69	0.53	0.48	0.41
750-5715	MS-15-140	15	0.69	0.53	0.48	0.41
750-5716	MS-16-140	16	0.78	0.60	0.56	0.47
750-5718	MS-18-140	18	0.78	0.60	0.56	0.47
750-5720	MS-20-140	20	0.96	0.73	0.68	0.59

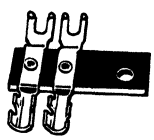
Series 141

750-5902	MS-2-141	2	0.45	0.33	0.32	0.27
750-5903	MS-3-141	3	0.45	0.33	0.32	0.27
750-5904	MS-4-141	4	0.45	0.33	0.32	0.27
750-5905	MS-5-141	5	0.56	0.41	0.38	0.33
750-5906	MS-6-141	6	0.56	0.41	0.38	0.33
750-5907	MS-7-141	7	0.56	0.41	0.38	0.33
750-5908	MS-8-141	8	0.66	0.48	0.45	0.39
750-5910	MS-10-141	10	0.60	0.45	0.41	0.36
750-5912	MS-12-141	12	0.69	0.53	0.48	0.41
750-5914	MS-14-141	14	0.78	0.60	0.56	0.47
750-5915	MS-15-141	15	0.89	0.68	0.61	0.54
750-5916	MS-16-141	16	0.89	0.68	0.61	0.54
750-5918	MS-18-141	18	1.12	0.84	0.78	0.68
750-5920	MS-20-141	20	1.33	1.01	0.93	0.80

Series 142

750-6002	MS-2-142	2	0.45	0.33	0.32	0.27
750-6003	MS-3-142	3	0.45	0.33	0.32	0.27
750-6004	MS-4-142	4	0.56	0.41	0.38	0.33
750-6005	MS-5-142	5	0.56	0.41	0.38	0.33
750-6006	MS-6-142	6	0.56	0.41	0.38	0.33
750-6007	MS-7-142	7	0.66	0.48	0.45	0.39
750-6008	MS-8-142	8	0.66	0.48	0.45	0.39
750-6009	MS-9-142	9	0.77	0.59	0.54	0.45
750-6010	MS-10-142	10	0.78	0.60	0.56	0.47
750-6012	MS-12-142	12	0.89	0.68	0.61	0.54
750-6014	MS-14-142	14	1.12	0.84	0.78	0.68
750-6015	MS-15-142	15	1.12	0.84	0.78	0.68
750-6016	MS-16-142	16	1.26	0.95	0.89	0.75

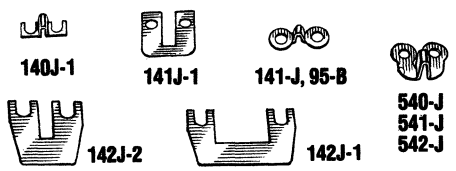
Fanning Strips



160 Series

- Fits 140 Series
- Barrier Blocks
- 3/8" Terminal Centers

Stock No.	Mfr.'s Type	Terminals	EACH			
			1-24	25-49	50-99	100-249
750-6310	10-160-L	10	4.44	3.36	3.12	2.67
750-6312	12-160-L	12	5.88	4.46	4.12	3.54
750-6320	20-160-L	20	9.31	7.05	6.52	5.61

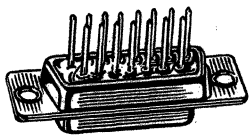


Jumpers

For making connection between adjacent terminals. Model 142-J-1 connects two alternate terminals. All jumpers are bras with a nickel-plated finish.

Stock No.	Mfr.'s Type	For Use With	EACH			
			1-24	25-49	50-99	100-249
750-7661	140J-1	140	0.18	0.13	0.12	0.10
750-7662	141-J	141	0.21	0.15	0.14	0.12
750-7663	141J-1	141	0.29	0.22	0.20	0.16
750-7664	95B	142	0.66	0.49	0.46	0.40
750-7665	142J-1	142/542	0.29	0.22	0.20	0.16
750-7666	142J-2	142/542	0.18	0.13	0.12	0.10
750-7667	540J	540	1.26	0.95	0.89	0.76
750-7668	541J	541	1.30	0.98	0.91	0.78
750-7669	542J	542	1.45	1.10	1.01	0.87

Basic D, D-Subminiature Connectors



This economical series is ideal for commercial applications. **Insulator Material:** Two-piece nylon. **Contact Material:** Machine copper alloy with gold over nickel contact plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** – 65°F to + 250°F. Non-removable contacts.

Solder Pot Contacts With Standard Shell

Stock No.	Mfr.'s Type	Description	Contacts	EACH 1-24	25-49	50-99	100-249
750-6700	DE-9P	Plug	9	2.48	1.88	1.74	1.50
750-6701	DE-9S	Socket	9	3.49	2.65	2.45	2.11
750-6702	DA-15P	Plug	15	3.46	2.62	2.43	2.09
750-6703	DA-15S	Socket	15	5.11	3.87	3.58	3.08
750-6704	DB-25P	Plug	25	3.76	2.85	2.64	2.27
750-6705	DB-25S	Socket	25	5.26	3.99	3.69	3.17
750-6706	DC-37P	Plug	37	6.99	5.30	4.90	4.22
750-6707	DC-37S	Socket	37	11.46	8.69	8.04	6.92
750-6708	DD-50P	Plug	50	9.20	6.98	6.46	5.56
750-6709	DD-50S	Socket	50	15.10	11.45	10.60	9.12

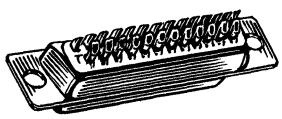
Wire Wrap

750-6710	DE-9P-F179	Plug	9	3.55	2.69	2.49	2.14
750-6711	DE-9S-F179	Socket	9	5.12	3.89	3.60	3.09
750-6712	DA-15P-F179	Plug	15	5.10	3.87	3.58	3.09
750-6713	DA-15S-F179	Socket	15	6.98	5.30	4.90	4.22
750-6714	DB-25P-F179	Plug	25	7.19	5.46	5.05	4.34
750-6715	DB-25S-F179	Socket	25	10.87	8.25	7.63	6.56
750-6716	DC-37P-F179	Plug	37	10.04	7.62	7.05	6.06
750-6717	DC-37S-F179	Socket	37	15.48	11.74	10.86	9.35
750-6718	DD-50P-F179	Plug	50	13.26	10.05	9.30	8.00
750-6719	DD-50S-F179	Socket	50	20.37	15.45	14.30	12.30

PC Contacts (For 1/8" Boards)

750-6720	DE-9PV	Plug	9	3.72	2.82	2.61	2.24
750-6721	DE-9SV	Socket	9	5.31	4.03	3.73	3.21
750-6722	DA-15PV	Plug	15	5.71	4.33	4.00	3.44
750-6723	DA-15SV	Socket	15	7.74	5.87	5.43	4.67
750-6724	DB-25PV	Plug	25	9.04	6.85	6.34	5.46
750-6725	DB-25SV	Socket	25	12.94	9.82	9.08	7.81
750-6726	DC-37PV	Plug	37	13.18	10.00	9.25	7.96
750-6727	DC-37SV	Socket	37	18.60	14.11	13.06	11.23
750-6728	DD-50PV	Plug	50	14.85	11.26	10.42	8.96
750-6729	DD-50SV	Socket	50	25.16	19.08	17.66	15.19

Basic D, Dataphone Connectors



A high reliability connector designed specifically for use on data signal calling devices. **Insulation Material:** Two-piece diallyl phthalate per MIL-M-14 type GDI-30. **Contact Material:** Copper alloy with gold over copper plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** – 65°F to + 275°F.

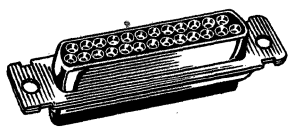
Stock No.	Mfr.'s Type	Description	Contacts	EACH 1-24	25-49	50-99	100-249
750-6730	DA-19603-403	Plug	15	10.02	7.60	7.02	6.04
750-6731	DA-19603-404	Socket	15	13.39	10.15	9.39	8.09
750-6990	DA-51225-1	Hood	15	2.28	1.72	1.60	1.36
750-6734	DB-19604-432	Plug	25	11.94	9.04	8.37	7.20
750-6735	DB-19604-433	Socket	25	25.47	19.32	17.87	15.38
750-6992	DB-51226-1A	Hood	25	2.54	1.93	1.78	1.53

Basic D, Series 3 Commercial and Military Connectors

Series 1 connectors consist of monoblock glass fiber-filled diallyl phthalate insulation material. **Contact Termination:** Non-removable solder pot. **Contact Material:** Copper alloy with gold over copper plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** – 65°F to 300°F.

Stock No.	Mfr.'s Type	Description	Contacts	EACH 1-24	25-49	50-99	100-249
750-6738	DEM-9P	Plug	9	5.56	4.22	3.90	3.36
750-6739	DEM-9S	Socket	9	8.02	6.08	5.62	4.84
750-6740	DAM-15P	Plug	15	8.09	6.13	5.68	4.87
750-6741	DAM-15S	Socket	15	11.87	9.00	8.33	7.17
750-6742	DBM-25P	Plug	25	12.30	9.33	8.62	7.43
750-6743	DBM-25S	Socket	25	18.78	14.24	13.17	11.34
750-6744	DCM-37P	Plug	37	17.26	13.09	12.12	10.42
750-6745	DCM-37S	Socket	37	26.85	20.36	18.85	16.20
750-6746	DDM-50P	Plug	50	22.47	17.05	15.77	13.57
750-6747	DDM-50S	Socket	50	35.51	26.92	24.93	21.43

Basic D, Series 3 Commercial and Military Connectors



High-reliability connectors with improved heat resistance. An outstanding feature of these connectors is the crimp, snap-in, rear release contacts. They are ideal for field repair and replacement. **Insulation material:** Monoblock glass fiber-filled diallyl per MIL-M-14, type GDI-30-F. **Contact Material:** Copper alloy with gold over copper plating. **Current Rating:** 5 Amps. **Operating Temperature:** – 65°F to + 300°F. Military connectors have all the same features and meet the requirements of MIL-C-24308.

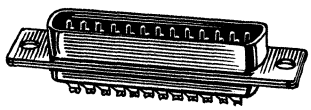
Series 3 Commercial Grade Connectors

Stock No.	Mfr.'s Type	Description	Contacts	EACH 1-24	25-49	50-99	100-249
750-6748	DEMA-9P	Plug	9	15.15	11.48	10.63	9.14
750-6749	DEMA-9S	Socket	9	15.54	11.78	10.91	9.38
750-6750	DAMA-15P	Plug	15	21.36	16.20	15.00	12.90
750-6751	DAMA-15S	Socket	15	21.87	16.58	15.34	13.20
750-6752	DBMA-25P	Plug	25	32.18	24.40	22.59	19.43
750-6753	DBMA-25S	Socket	25	32.78	24.85	23.01	19.79
750-6754	DCMA-37P	Plug	37	44.88	34.04	31.50	27.10
750-6755	DCMA-37S	Socket	37	45.61	34.59	32.01	27.53
750-6756	DDMA-50P	Plug	50	57.84	43.87	40.59	34.92
750-6757	DDMA-50S	Socket	50	58.70	44.52	41.20	35.43

Series 3 Military Grade Connectors

750-6758	M24308/4-1F	Plug	9	7.94	6.02	5.56	4.79
750-6759	M24308/2-1F	Socket	9	10.25	7.77	7.19	6.18
750-6760	M24308/4-2F	Plug	15	10.77	8.17	7.57	6.51
750-6761	M24308/2-2F	Socket	15	14.60	11.07	10.24	8.81
750-6762	M24308/4-3F	Plug	25	15.53	11.78	10.91	9.38
750-6763	M24308/2-3F	Socket	25	21.85	16.56	15.33	13.19
750-6764	M24308/4-4F	Plug	37	21.16	16.05	14.85	12.78
750-6765	M24308/2-4F	Socket	37	30.48	23.11	21.38	18.41
750-6766	M24308/4-5F	Plug	50	32.96	24.99	23.12	19.90
750-6767	M24308/2-5F	Socket	50	45.59	34.58	31.99	27.52

Basic D II Connectors



The low cost version with all the performance characteristics of the Basic D Series. (They cost less because they have stamped instead of machined contacts.) Ideal for commercial applications where cost is a factor. **Insulation Material:** Two-piece nylon. **Contact Material:** Copper alloy (stamped) with gold over nickel plating. **Voltage Rating:** 1250 VAC rms at sea level. **Current Rating:** 5 Amps. **Temperature Range:** – 65°F to + 250°F.

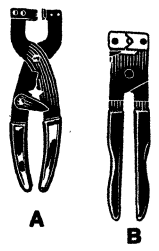
Basic D II Plugs

Stock No.	Mfr.'s Type	Contacts	EACH 1-24	25-49	50-99	100-249
750-6768	DE-9PII	9	1.91	1.44	1.34	1.14
750-6770	DA-15PII	15	2.66	2.02	1.86	1.61
750-6772	DB-25PII	25	2.89	2.19	2.03	1.75
750-6774	DC-37PII	37	5.38	4.08	3.78	3.25
750-6776	DD-50PII	50	7.10	5.38	4.99	4.27

Basic D II Sockets

750-6769	DE-9SII	9	2.70	2.04	1.88	1.63
750-6771	DA-15SII	15	3.93	2.98	2.76	2.38
750-6773	DB-25SII	25	4.05	3.08	2.84	2.44
750-6775	DC-37SII	37	8.84	6.71	6.20	5.34
750-6777	DD-50SII	50	11.65	8.84	8.18	7.03

Hand Tools and Stay Bands

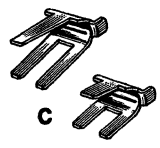


UNI Clinch D Single Wire Hand Insertion Tool (Fig. A) Type SD-UC. Designed to insert one 24-26 AWG wire at a time. Uni Clinch D is used as a field repair tool by field service engineers.
750-6778 ..... **EACH 25.86**

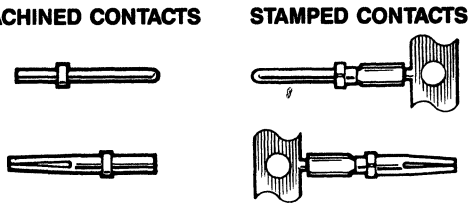
Super D Manual Stay Band Tool (Fig. B) Type SD-MSBT. Designed for applying the steel stay band/strain relief to the cable before termination of wires to the Super D Connector, the manual Stay Band tool applies both Stay Band sizes to the full range of cable sizes.
750-6779 ..... **EACH 53.34**

Super Stay Bands (Fig. C)

Stock No.	Mfr.'s Type	Contacts	EACH
750-6780	SD-9-15-SB	9	.07
750-6781	SD-9-15-SB	15	.07
750-6782	SB-25-37-SB	25	.09
750-6783	SB-25-37-SB	37	.09



Econo D Connectors



The D*C series has a two-piece insulator as well as crimp, snap-in-rear-relase contacts that can be inserted by hand. An economical connector ideal for commercial applications where field replacement of contacts is required at a lower cost than high-reliability connectors. **Insulator Material:** Two-piece thermoplastic polyester UL-94-V0 rated. **Voltage Rating:** 1000 VAC rms at sea level. **Current Rating:** 5 Amps. **Operating Temperature:** – 65°F to + 125°F. The D*U version is UL recognized with the same specs as D*C series. **Contact Material:** Copper alloy (machined), cadmium copper (stamped) with gold over nickel plating.

All contacts in this column sold each in multiples of 100.

Econo D Machined Contacts

Stock No.	Mfr.'s Type	Description	EACH	
			100-4999	5000-Up
750-6784	030-1952-000	Pin	.13	.10
750-6785	030-1953-000	Socket	.22	.15

Econo D Stamped Contacts

750-6786	030-1960-005	Pin	.12	.10
750-6787	030-1957-005	Socket	.16	.12

D*C Connectors with Machined Contacts

Stock No.	Mfr.'s Type	Description	Contacts	EACH			
				1-24	25-49	50-99	100-249
750-6788	DEC-9P	Plug	9	3.27	2.47	2.29	1.97
750-6789	DEC-9S	Socket	9	4.27	3.24	3.00	2.58
750-6790	DAC-15P	Plug	15	4.56	3.46	3.19	2.75
750-6791	DAC-15S	Socket	15	6.34	4.81	4.45	3.82
750-6792	DBC-25P	Plug	25	6.80	5.15	4.77	4.11
750-6793	DBC-25S	Socket	25	9.61	7.28	6.75	5.79
750-6794	DCC-37P	Plug	37	9.62	7.29	6.76	5.87
750-6795	DCC-37S	Socket	37	13.67	10.36	9.59	8.25
750-6796	DDC-50P	Plug	50	12.40	9.40	8.70	7.48
750-6797	DCC-50S	Socket	50	17.85	13.53	12.52	10.77

Connectors Less Contacts

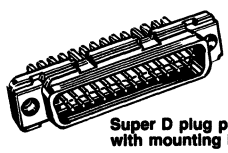
750-6798	DEC-9PFO	Plug	9	1.42	1.08	.99	.85
750-6799	DEC-9SFO	Socket	9	1.42	1.08	.99	.85
750-6800	DAC-15PFO	Plug	15	1.48	1.12	1.03	.89
750-6801	DAC-15SFO	Socket	15	1.48	1.12	1.03	.89
750-6802	DBC-25PFO	Plug	25	1.69	1.28	1.18	1.01
750-6803	DBC-25SFO	Socket	25	1.69	1.28	1.18	1.01
750-6804	DCC-37PFO	Plug	37	2.05	1.56	1.44	1.24
750-6805	DCC-37SFO	Socket	37	2.05	1.56	.144	1.24
750-6806	DDC-50PFO	Plug	50	2.15	1.63	1.50	1.29
750-6807	DDC-50SFO	Socket	50	2.15	1.63	1.50	1.29

D*U Connectors Less Contacts

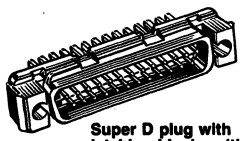
750-6808	DEU-9P-FO	Plug	9	1.42	1.08	.99	.85
750-6809	DEU-9S-FO	Socket	9	1.42	1.08	.99	.85
750-6810	DAU-15P-FO	Plug	15	1.48	1.12	1.03	.89
750-6811	DAU-15S-FO	Socket	15	1.48	1.12	1.03	.89
750-6812	DBU-25P-FO	Plug	25	1.69	1.28	1.18	1.01
750-6813	DBU-25S-FO	Socket	25	1.69	1.28	1.18	1.01
750-6814	DCU-37P-FO	Plug	37	2.05	1.56	1.44	1.24
750-6815	DCU-37S-FO	Socket	37	2.05	1.56	1.44	1.24
750-6816	DDU-50P-FO	Plug	50	2.15	1.63	1.50	1.29
750-6817	DDU-50S-FO	Socket	50	2.15	1.63	1.50	1.29

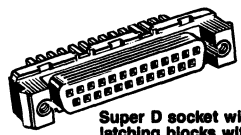
Super D Plastic Connectors

Exclusive new plastic D-Subminiature connector. Available in 9, 15, 25 and 37 contact sizes. Connectors available with plain mounting holes, with threaded bushings, with latch blocks, and with latch blocks and threaded bushings. Connectors are captivated in two-piece, snap-on grey hoods. Hoods are available with latches or with filter ends. **Contact Material:** Copper base alloy. **Contact Plating:** Gold on contact mating area and gold on contact terminating area, with copper underplate. **Termination:** Insulation displacement with one of three TRW Cinch terminating tools. Stranded wire 24-26 AWG with .045″ diameter max. PVC insulation is displaced and wire is driven into termination to form four positive contacts on each conductor. **Metal Stay Band/Strain Relief:** .036″ (9.14 mm) steel. **Polarization:** D or keystone shape insures one way mating. **Hoods:** Molded phenylene oxide. **Wire Strain Relief:** One required for 9 contact size. Two required for other sizes. **Withstanding Voltage Rating:** 1000 volts rms AC—sea level. 1400 volts DC. **Current Rating:** 3 amps. **EIA Standard:** Surpasses EIA STD. RS449 for 9 and 37 contacts interface for DTE and DCE equipment. Also meets RS232 for 25 contact size. **MIL-C-24308:** Super D is designed to meet applicable performance requirements of MIL-C-24308. UL Recognized.


Super D plug plain with mounting hole

Super D socket with bushing


Super D plug with latching blocks with mounting hole


Super D socket with latching blocks with bushing

Plain Flange

Plugs with Mounting Holes

Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
750-6818	TE-9P	9	2.40	1.81	1.67	1.44
750-6820	TA-15P	15	3.30	2.49	2.31	1.99
750-6822	TB-25P	25	4.70	3.56	3.30	2.83
750-6824	TC-37P	37	6.50	4.91	4.55	3.91

Sockets

750-6826	TE-9S	9	2.22	1.68	1.57	1.34
750-6828	TA-15S	15	2.98	2.26	2.08	1.79
750-6830	TB-25S	25	4.22	3.19	2.96	2.54
750-6832	TC-37S	37	5.85	4.43	4.09	3.52

Plugs with 4-40 Threaded Bushings

750-6819	TE-9P-TB	9	3.54	2.69	2.48	2.13
750-6821	TA-15P-TB	15	4.41	3.35	3.09	2.66
750-6823	TB-25P-TB	25	5.85	4.43	4.09	3.52
750-6825	TC-37P-TB	37	7.61	5.77	5.34	4.59

Sockets

750-6827	TE-9S-TB	9	3.35	2.53	2.34	2.02
750-6829	TA-15S-TB	15	4.11	3.11	2.87	2.47
750-6831	TB-25S-TB	25	5.41	4.09	3.79	3.27
750-6833	TC-37S-TB	37	6.94	5.26	4.86	4.18

Flange with Latching Blocks

Plugs with Mounting Holes

Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
750-6834	TE-9P-LB	9	2.42	1.83	1.69	1.45
750-6836	TA-15P-LB	15	3.29	2.49	2.30	1.99
750-6838	TB-25P-LB	25	4.72	3.58	3.32	2.85
750-6840	TC-37P-LB	37	6.52	4.93	4.57	3.93

Sockets

750-6842	TE-9S-LB	9	2.26	1.71	1.59	1.36
750-6844	TA-15S-LB	15	3.01	2.28	2.11	1.81
750-6846	TB-25S-LB	25	4.27	3.25	3.00	2.58
750-6848	TC-37S-LB	37	5.88	4.45	4.13	3.54

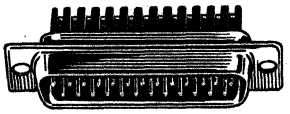
Plugs with 4-40 Threaded Bushings

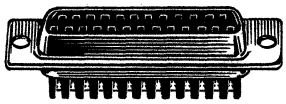
750-6835	TE-9P-LB-1	9	3.87	2.94	2.72	2.34
750-6837	TA-15P-LB-1	15	4.81	3.64	3.37	2.89
750-6839	TB-25P-LB-1	25	6.18	4.69	4.34	3.73
750-6841	TC-37P-LB-1	37	8.08	6.12	5.67	4.87

Sockets

750-6843	TE-9S-LB-1	9	3.69	2.79	2.58	2.22
750-6845	TA-15S-LB-1	15	4.52	3.43	3.17	2.73
750-6847	TB-25S-LB-1	25	5.74	4.36	4.03	3.46
750-6849	TC-37S-LB-1	37	7.30	5.53	5.12	4.41

Super D Metal Shell Connectors





IDC Connectors
Used for grounding in applications using shielded cable. **Insulator:** molded glass-filled polyester UL94V-0. **Contact Material:** copper based alloy. **Contact Plating:** gold on contact mating area and gold on contact terminating area with copper underplate. **Termination:** insulation displacement with same tools as the Super D Connector system except an additional nest is required. Stranded wire 24-26 AWG with .045″ diameter max. PVC insulation is displaced and wire is driven into termination to form four positive contacts on each conductor. **Withstanding Voltage Rating:** 100 volts RMS AC at sea level; 1400 volts DC. **Current Rating:** 3 amps.

Indented Front Shell Without Notches (Plug Only)

Stock No.	Mfr.'s Type	Size	EACH			
			1-24	25-49	50-99	100-249
750-6850	TES-9PTI	9	3.56	2.70	2.50	2.14
750-6852	TAS-15PTI	15	4.92	3.73	3.46	2.97
750-6854	TBS-25PTI	25	6.04	4.58	4.24	3.65
750-6856	TCS-37PTI	37	7.90	5.98	5.54	4.77

Plugs—Tin Finish

750-6858	TE-9P-SH	9	2.98	2.26	2.08	1.79
750-6860	TA-15P-SH	9	3.87	2.94	2.72	2.34
750-6862	TB-25P-SH	15	5.28	4.01	3.71	3.18
750-6864	TC-37P-SH	15	7.05	5.34	4.93	4.24

Sockets—Tin Finish

750-6859	TE-9S-SH	25	2.82	2.13	1.98	1.69
750-6861	TA-15S-SH	25	3.56	2.71	2.50	2.14
750-6863	TB-25S-SH	37	4.81	3.64	3.32	2.89
750-6865	TC-37S-SH	37	6.41	4.85	4.49	3.86

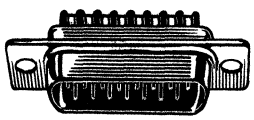
Plugs Without Indentions or Notches

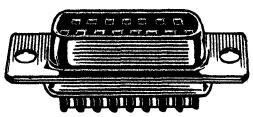
750-6866	TES-9PT	9	3.54	2.69	2.48	2.13
750-6868	TAS-15PT	15	4.54	3.43	3.17	2.73
750-6870	TBS-25PT	25	6.03	4.57	4.23	3.64
750-6872	TCS-37PT	37	7.89	5.97	5.53	4.76

Sockets Without Indentions or Notches

750-6867	TES-9ST	9	3.38	2.55	2.38	2.04
750-6869	TAS-15ST	15	4.47	3.39	3.13	2.70
750-6871	TBS-25ST	25	5.52	4.19	3.87	3.34
750-6873	TCS-37ST	37	7.24	5.49	5.08	4.37

Super Solder D Connectors





D-Subminiature connectors in yellow chromate D-Subminiature metal shells or with bright tin finish on shells. Solder type termination. Connector uses same black hoods, add-on latching blocks, hood and mounting screws as in the Super D Adapter System. **Insulator Material:** Diallyl phthalate, black. **Contact Material:** copper alloy. **Contact Plating:** gold over copper. **Operating Temperature:** – 65°C to + 125°C. **Withstanding Voltage:** 1100 VAC rms (at sea level). **Current Rating:** 3 amps.

Plugs-Yellow Chromate Finish

Stock No.	Mfr.'s Type	Size	EACH			
			1-24	25-49	50-99	100-249
750-6875	TE-9PS	9	8.22	6.23	5.77	4.95
750-6877	TA-15PS	15	9.85	7.47	6.92	5.94
750-6879	TB-25PS	25	12.80	9.70	8.98	7.73
750-6881	TC-37PS	37	15.86	12.03	11.13	9.58

Sockets-Yellow Chromate Finish

750-6883	TE-9SS	9	7.67	5.81	5.38	4.62
750-6885	TA-15SS	15	9.01	6.83	6.32	5.44
750-6887	TB-25SS	25	11.38	8.63	7.98	6.87
750-6889	TC-37SS	37	13.80	10.46	9.68	8.33

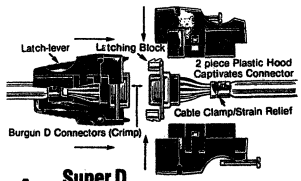
Plugs-Tin Finish

750-6874	TE-9PTS	9	8.81	6.67	6.18	5.31
750-6876	TA-15PTS	15	10.20	7.73	7.16	6.15
750-6878	TB-25PTS	25	13.28	10.06	9.31	8.01
750-6880	TC-37PTS	37	16.40	12.43	11.51	9.90

Sockets-Tin Finish

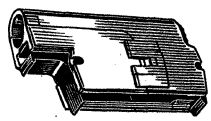
750-6882	TE-9STS	9	8.79	6.66	6.17	5.30
750-6884	TA-15STS	15	9.48	7.19	6.64	5.72
750-6886	TB-25STS	25	11.98	9.08	8.40	7.23
750-6888	TC-37STS	37	14.49	10.98	10.17	8.74

Super D Adapter System, Wire Covers, Plastic Hoods and Strain Relief

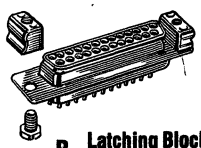


A Super D Adapter System

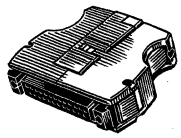
C Super D Hood With Latches



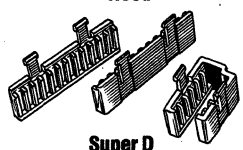
E Super D Hoods Gray Plastic Right Angle Hood



B Latching Blocks for Adapter System



D Super D Hood Without Latches



F Super D (Strain Relief) Wire Covers

Adapter System
Specially designed black, two-piece, snap-on plastic hoods, with and without latches, for captive metal shell D-connectors. Add-on metal latching blocks are screw mounted on two connector mounting flanges to accept the latch locks.

With Latches (Fig. A)

Stock No.	Mfr.'s Type	Size	EACH			
			1-24	25-49	50-99	100-249
750-6890	SDH-9BL	9	1.72	1.31	1.21	1.03
750-6891	SDH-15BL	15	1.79	1.35	1.25	1.08
750-6892	SDH-25BL	25	1.97	1.49	1.37	1.18
750-6893	SDH-37BL	37	2.08	1.59	1.46	1.26

Without Screws (Fig. A)

750-6894	SDH-9BF	9	1.61	1.22	1.12	.96
750-6895	SDH-15BF	15	1.63	1.24	1.14	.98
750-6896	SDH-25BF	25	1.75	1.33	1.23	1.06
750-6897	SDH-37BF	37	1.87	1.42	1.31	1.13

Hood with Latches (Fig. B)

750-6900	SDH-9GL	9	1.72	1.31	1.21	1.03
750-6902	SDH-15GL	15	1.79	1.35	1.25	1.08
750-6904	SDH-25GL	25	1.97	1.49	1.37	1.18
750-6906	SDH-37GL	37	2.08	1.59	1.46	1.26

Hood without Latches (Fig. C)

750-6908	SDH-9GF	9	1.61	1.22	1.12	.96
750-6910	SDH-15GF	15	1.63	1.24	1.14	.98
750-6912	SDH-25GF	25	1.75	1.33	1.23	1.06
750-6914	SDH-37GF	37	1.87	1.42	1.31	1.13

Right Angle Plastic Hood (Fig. D)

750-6916	SDH-9RGL	9	5.04	3.81	3.52	3.04
750-6918	SDH-15RGL	15	5.07	3.84	3.56	3.06
750-6920	SDH-25RGL	25	5.27	4.01	3.71	3.19
750-6922	SDH-37RGL	37	5.35	4.05	3.74	3.22

Strain Relief Wire Covers (Fig. E)

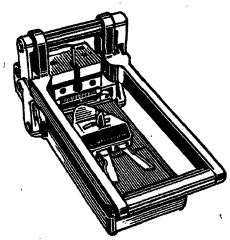
750-6924	SD-WC9†	9	.39	.29	.27	.23
750-6926	SD-WC15*	15	.39	.29	.27	.23
750-6928	SD-WC25*	25	.39	.29	.27	.23
750-6930	SD-WC37*	37	.39	.29	.27	.23

† = 1 piece cover. * = 2 piece cover.

Latching Blocks (Fig. F)

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
750-6898	SD-LB-060-080	Sems Screws for .060″-.080″ Panels	1.91	1.45	1.33	1.15
750-6899	SD-LB-125	Sems Screws for .125″ Panels	1.91	1.45	1.33	1.15

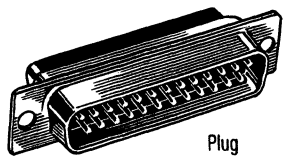
Certi Clinch D Field Termination Tool



Type SD-CC. Designed for mass termination of individual wires, eliminating wire stripping, soldering and crimping. It handles all four Super D sizes, is readily portable and requires no set-up time and little operator time. Rugged, all metal construction affords trouble-free long life.
750Q6931.....**EACH 551.99**
Type SD-CCN. Conversion nest converts SD-CC Certi-Clinch D to SD-CCWN.
750-6932.....**EACH 55.85**

Econo D* A Subminiature Connectors

These subminiature connectors feature crimp-type insulation-grip contact providing increased holding power. Evenly distributed crimp pressure provides consistent termination integrity making them more reliable than conventional rear-relase crimp, snap-in contacts. **Insulator Material:** Two-piece glass-filled thermo plastic. **Contact Material:** Stamped copper alloy/with gold over nickel contact plating. **Voltage Rating:** 1000 VAC, 5 Amps rms at sea level. **Operating Temperature:** – 65°F to + 125°F. For ordering accessories, the second letter in Mfr.'s Type is SHELL SIZE.



Plug

Socket

D* A Plugs Less Contacts

Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
750-6934	DEA-9PFO	9	1.36	1.02	.95	.81
750-6936	DAA-15PFO	15	1.55	1.16	1.08	.93
750-6938	DBA-25PFO	25	1.79	1.35	1.25	1.08
750-6940	DCA-37PFO	37	2.08	1.59	1.46	1.26
750-6942	DDA-50PFO	50	2.12	1.61	1.48	1.28

D* A Sockets Less Contacts

750-6935	DEA-9SFO	9	1.36	1.02	.95	.81
750-6937	DAA-15SFO	15	1.55	1.16	1.08	.93
750-6939	DBA-25SFO	25	1.79	1.35	1.25	1.08
750-6941	DCA-37SFP	37	2.08	1.59	1.46	1.26
750-6943	DDA-50SFO	50	2.12	1.61	1.48	1.28

Contacts for D* A Connectors (Reel of 300)

Stock No.	Mfr.'s Type*	Description	Wire Size	EACH	
				1-9	10-Up
750-6954	DGP-3-1	Plug	AWG-20-26	30.00	28.20
750-6955	DGS-3-1	Socket	AWG-20-26	36.00	33.60
750-6956	DGP-3-3	Plug	AWG-28-30	30.00	28.20
750-6957	DGS-3-3	Socket	AWG-28-30	36.00	33.60

Tinned Shell Plugs Less Contacts, Without Indents and Notches

Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
750-6944	DEA-9PTFO	9	1.61	1.22	1.12	.97
750-6946	DAA-15PTFO	15	1.79	1.35	1.26	1.08
750-6948	DBA-25PTFO	25	2.03	1.55	1.43	1.23
750-6950	DCA-37PTFO	37	2.34	1.77	1.64	1.40
750-6952	DDA-50PTFO	50	2.36	1.79	1.66	1.43

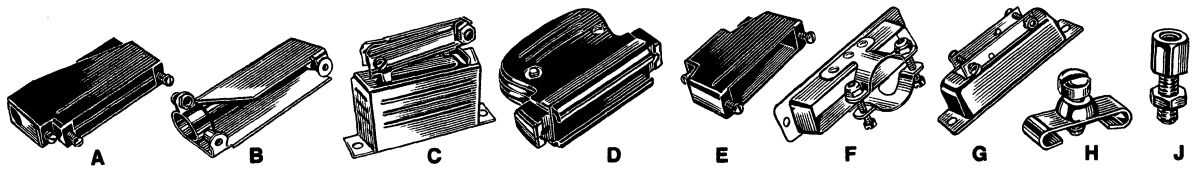
Tinned Shell Sockets Less Contacts, Without Indents and Notches

750-6945	DEA-9STFO	9	1.61	1.22	1.12	.97
750-6947	DAA-15STFO	15	1.79	1.35	1.26	1.08
750-6949	DBA-25STFO	25	2.03	1.55	1.43	1.23
750-6951	DCA-37STFO	37	2.34	1.77	1.64	1.40
750-6953	DDA-50STFO	50	2.36	1.79	1.66	1.43

Tinned Shell Plugs Less Contacts, With Indents and Without Notches

750-6958	DEA-9PTIFO	9	1.62	1.23	1.13	.97
750-6960	DAA-15PTIFO	15	1.80	1.36	1.26	1.09
750-6962	DBA-25PTIFO	25	2.29	1.73	1.61	1.37
750-6964	DCA-37PTIFO	37	2.35	1.78	1.65	1.42
750-6966	DDA-50PTIFO	50	2.38	1.80	1.67	1.44

D-Subminiature Connector Accessories



A B C D E F G H J

90° Plastic Junction Shell (Fig. A)

Stock No.	Mfr.'s Type	Shell Size	EACH			
			1-24	25-49	50-99	100-249
750-6970	DB-51213-1	B	2.42	1.83	1.69	1.46

Right Angle Junction Shell (Fig. B)

750-6972	DA-19977-1	A	2.72	2.06	1.91	1.64
750-6974	DB-19977-2	B	2.95	2.24	2.06	1.78
750-6976	DC-19977-3	C	3.06	2.32	2.15	1.84
750-6978	DD-19977-4	D	3.12	2.36	2.19	1.88
750-6879	DE-19977-5	E	3.39	2.58	2.38	2.04

Deep Straight Clamp Junction Shell (Fig. C)

750-6980	DA-24658	A	3.98	3.01	2.78	2.39
750-6982	DB-24659	B	3.24	2.45	2.28	1.96
750-6984	DC-24660	C	3.39	2.58	2.38	2.04
750-6986	DD-24661	D	3.79	2.87	2.66	2.29
750-6988	DE-24657	E	4.06	3.08	2.85	2.44

Data Phone Hoods (Fig. D)

750-6990	DA-51225-1	A	2.28	1.72	1.60	1.36
750-6992	DB-51226-1	B	2.54	1.93	1.78	1.53

Plastic Straight Junction Shell (Fig. E)

Stock No.	Mfr.'s Type	Shell Size	EACH			
			1-24	25-49	50-99	100-249
750-6994	DA-51210-1	A	2.18	1.65	1.52	1.31
750-6996	DB-51212-1	B	2.12	1.61	1.48	1.28
750-6998	DE-51218-1	E	2.05	1.56	1.44	1.24

Round Clamp Junction Shell (Fig. F)

750-7010	DA-20961	A	7.20	5.46	5.05	4.35
750-7012	DB-20962	B	3.28	2.48	2.30	1.97

Straight Clamp Junction Shell (Fig. G)

750-7014	DA-19678-1*	A	2.03	1.53	1.42	1.23
750-7016	DB-19678-2*	B	2.36	1.79	1.65	1.43
750-7018	DC-19678-3**	C	2.91	2.20	2.04	1.75
750-7020	DD-19678-4**	D	3.16	2.40	2.22	1.91

*Requires 2 cable locking screws. **Requires 3 cable locking screws.

Screw Lock Assemblies (Fig. H & J)

Stock No.	Mfr.'s Type	Shell Size	Fig.	EACH			
				1-24	25-49	50-99	100-249
750-7000	D-20419-0	A, B, C, E	H	.46	.34	.32	.27
750-7002	D-20419-16	A, B, C, E	H	.81	.62	.57	.49
750-7004	D-20420-0	D	H	.73	.55	.50	.44
750-7006	D-20420-12	D	H	.96	.73	.67	.58
750-7008	D-20418-2	All	J	.84	.64	.59	.50

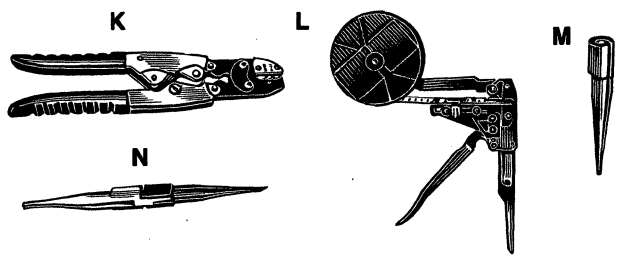
Tools

Fig. K. #BT-20-HC Hand Crimp Tool. For terminating loose crimp and poke contacts.
750-7022 ..... **EACH 146.43**

Fig. L. Two types of transport for connector chains available in 20-30 AWG for B type crimping.
750-7024. #GHC-B (20-26 AWG) ..... **EACH 311.57**
750-7026. #GHC-B1 (28-30 AWG) ..... **EACH 311.57**

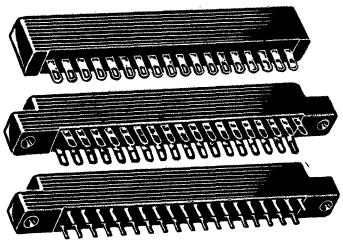
Fig. M. #CET-20-11 Extraction Tool. For extracting high reliability crimp and poke contacts.
750-7028 ..... **EACH .68**

Fig. N. Military and Commercial Insertion/Extraction Tools. For inserting/extracting crimp and poke contacts after termination.
750-7030. Military Type #CIET-20-HD ..... **EACH 1.86**
750-7032. Commercial Type #CIET-20-HDB ..... **EACH 1.25**



K L M N

Cardcon® Edge Connectors



For .062" thickness single and double-sided PC boards. Blue glass-filled polyester 94 V-O insulator. Meets requirements of MIL-C-21097. **Contact Style:** Semi-bellows bifurcated. **Contact Material:** Spring brass alloy 260. **Contact Plating:** Gold on contact area and gold flash on tail with copper underplate. **Termination:** Solder eyelet; dip solder with either .200" (5.08 mm) or .140" (3.56 mm) between row spacing. Available with or without mounting ears and .128" holes. **Test Voltage:** 1800 VAC rms at sea level. **Current:** 5 Amps.

.156" Contact-to-Contact Spacing, Dip Solder Tails. Double Readout, w/mounting ears .200" Row Spacing, Tails .156" long.

Stock No.	Mfr.'s Type*	Contacts	EACH			
			1-24	25-49	50-99	100-Up
750-1256	50-12SN-1	6	1.11	0.83	0.77	0.67
750-1257	50-20SN-1	10	1.61	1.22	1.12	0.97
750-1258	50-24SN-1	12	1.98	1.49	1.39	1.19
750-1259	50-30SN-1	15	2.29	1.73	1.60	1.38
750-1260	50-36SN-1	18	2.58	1.96	1.81	1.56
750-1261	50-44SN-1	22	2.72	2.06	1.91	1.64
750-1262	50-48SN-1	24	2.86	2.17	2.01	1.73
750-1263	50-50SN-1	25	3.00	2.28	2.10	1.81

* Board retention PC tails allow wave soldering.

.156" Contact-to-Contact Spacing, Dip Solder Tails. Double Readout w/mounting ears .140" Row Spacing, Tails .125" long.

750-1264	50-20SN-2	10	1.61	1.22	1.12	0.97
750-1265	50-24SN-2	12	1.98	1.49	1.39	1.19
750-1266	50-30SN-2	15	2.29	1.73	1.60	1.38
750-1267	50-36SN-2	18	2.58	1.96	1.81	1.56
750-1268	50-44SN-2	22	2.72	2.06	1.91	1.64
750-1269	50-48SN-2	24	2.86	2.17	2.01	1.73

.156" Contact-to-Contact Spacing, Dip Solder Tails. Double Readout, no mounting ears .200" Row Spacing, Tails .156" long.

750-1270	50-12SN-3	6	1.68	1.27	1.17	1.01
750-1271	50-20SN-3	10	2.42	1.83	1.69	1.45
750-1272	50-24SN-3	12	2.71	2.01	1.90	1.63
750-1273	50-30SN-3	15	3.40	2.58	2.39	2.05
750-1274	50-36SN-3	18	3.54	2.68	2.48	2.13
750-1275	50-44SN-3	22	3.93	2.98	2.75	2.36
750-1276	50-48SN-3	24	4.40	3.33	3.08	2.65
750-1277	50-50SN-3	25	4.52	3.43	3.17	2.73

.156" Contact-to-Contact Spacing, Dip Solder Single Readout, w/mounting ears, tails .156" long.

750-1278	50-6SN-5	6	1.56	1.17	1.09	0.94
750-1279	50-10SN-5	10	1.71	1.31	1.21	1.03
750-1280	50-12SN-5	12	2.09	1.59	1.46	1.26
750-1281	50-15SN-5	15	2.53	1.92	1.78	1.53
750-1282	50-18SN-5	18	3.35	2.53	2.34	2.02
750-1283	50-22SN-5	22	3.66	2.77	2.56	2.21
750-1284	50-24SN-5	24	4.02	3.05	2.82	2.42
750-1285	50-25SN-5	25	4.36	3.30	3.06	2.63

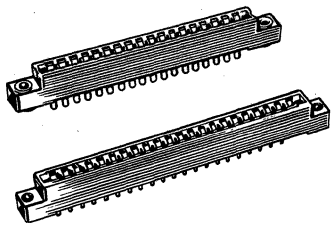
.156" Contact-To-Contact Spacing, Solder Eyelet — Single Readout, w/mounting ears.

750-1286	50-6SN-7	6	1.56	1.17	1.09	0.94
750-1287	50-10SN-7	10	1.74	1.32	1.22	1.04
750-1288	50-12SN-7	12	2.09	1.59	1.46	1.26
750-1289	50-15SN-7	15	2.53	1.92	1.78	1.53
750-1290	50-18SN-7	18	3.35	2.53	2.34	2.02
750-1291	50-22SN-7	22	3.74	2.83	2.63	2.26
750-1292	50-24SN-7	24	4.05	3.07	2.84	2.44
750-1293	50-25SN-7	25	4.37	3.31	3.07	2.64

.156" Solder Eyelet — Double Readout, .200" Row Spacing

750-1294	50-12SN-9	12	1.12	0.84	0.78	0.68
750-1295	50-20SN-9	20	1.43	1.09	1.00	0.87
750-1296	50-24SN-9	24	1.60	1.21	1.12	0.96
750-1297	50-30SN-9	30	1.83	1.39	1.28	1.10
750-1298	50-36SN-9	36	2.45	1.85	1.71	1.47
750-1299	50-44SN-9	44	2.83	2.13	1.98	1.70
750-1300	50-48SN-9	48	2.97	2.25	2.08	1.79
750-1301	50-50SN-9	50	3.10	2.35	2.17	1.86

Commercial Edge Connectors



Feature .156" contact-to-contact spacing. .200" row spacing on double row versions. Dip solder tails are .156" in length. These connectors will accept single or double sided .062" (1.59 mm) thick PC boards. **Current rating:** 5 Amps.

Single Readout

Solder Eyelet

Stock No.	Mfr.'s Type*	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1100	50-6A-20	6	1.96	1.47	1.37	1.17
750-1105	50-10A-20	10	2.17	1.65	1.52	1.31
750-1110	50-12A-20	12	2.63	1.99	1.83	1.58
750-1119	50-15A-20	15	3.17	2.41	2.24	1.92
750-1124	50-18A-20	18	4.18	3.16	2.93	2.51
750-1137	50-22A-20	22	4.68	3.54	3.28	2.82
750-1140	50-25A-20	25	5.46	4.14	3.83	3.30

5/32" Dip Solder

750-1101	50-6B-10	6	1.96	1.47	1.37	1.17
750-1102	50-10B-10	10	2.14	1.63	1.51	1.30
750-1103	50-15B-10	15	3.17	2.41	2.24	1.92
750-1104	50-18B-10	18	4.18	3.16	2.93	2.51
750-1106	50-22B-10	22	4.58	3.48	3.20	2.76
750-1107	50-25B-10	25	5.46	4.14	3.83	3.30

Double Readout

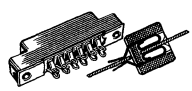
Solder Eyelet

750-1199	50-12A-30	6	1.40	1.05	0.98	0.83
750-1166	50-20A-30	10	1.79	1.36	1.25	1.08
750-1167	50-24A-30	12	2.00	1.51	1.40	1.21
750-1168	50-30A-30	15	2.29	1.74	1.61	1.38
750-1169	50-36A-30	18	3.07	2.32	2.14	1.84
750-1170	50-44A-30	22	3.53	2.68	2.47	2.12
750-1171	50-50A-30	25	3.87	2.94	2.72	2.34

5/32" Dip Solder

750-1172	50-12B-10	6	1.39	1.05	0.97	0.83
750-1173	50-20B-10	10	2.01	1.52	1.40	1.21
750-1174	50-24B-10	12	2.48	1.87	1.74	1.48
750-1175	50-30B-10	15	2.86	2.17	2.01	1.73
750-1176	50-36B-10	18	3.22	2.45	2.27	1.95
750-1177	50-44B-10	22	3.41	2.58	2.39	2.05
750-1178	50-50B-10	25	3.76	2.85	2.64	2.27

Double Readout Card Extender Edge Connector



For inter-connecting two or more .156" (3.962 mm) contact center 1/16" (.1558 mm) PC Boards. Glass fiber-filled diallyl phthalate per MIL-M-14, type SDG-F insulator. **Contact Style:** Bifurcated bellows of beryllium copper and gold contact plating. Solder eyelet termination. **Rated:** 830 VAC; 5 Amps rms at sea level.

Stock No.	Mfr.'s Type*	Contact Position	EACH			
			1-24	25-49	50-99	100-Up
750-1050	50-12S-30	6	2.30	1.75	1.61	1.38
750-1051	50-20S-30	10	3.52	2.67	2.47	2.12
750-1052	50-24S-30	12	5.11	3.87	3.58	3.09
750-1053	50-30S-30	15	4.71	3.57	3.31	2.84
750-1054	50-36S-30	18	6.14	4.66	4.31	3.71
750-1055	50-44S-30	22	4.77	3.60	3.34	2.87
750-1056	50-50S-30	25	7.42	5.62	5.20	4.47

Edge Connector Accessories

Card Guides

CARD GUIDES

Stock No.	Mfr.'s Type*	Color	EACH			
			1-24	25-49	50-99	100-Up
750-1237	50-GP-1	Green	0.76	0.57	0.53	0.45
750-1238	50-GP-1B	Blue	0.76	0.57	0.53	0.45
—	—	—	—	—	—	—

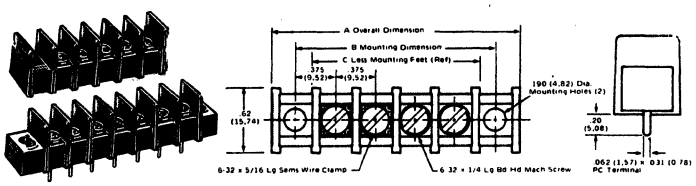
Polarizing Keys

Between Contact 50-PK-2

In-Contact 50-PK-1

Stock No.	Mfr.'s Type*	Description	EACH			
			1-24	25-49	50-99	100-Up
750-1239	50-PK	Tykon in Contact Type	0.11	0.08	0.07	0.06
750-1240	50-PK-1	In-Contact Type .156 center	0.16	0.12	0.11	0.10
750-1241	50-PK-2	Between-Contact Type .156 center	0.16	0.12	0.11	0.10

38000 and 38010 Series Terminal Blocks



3/8″ centerline terminal blocks. Available in two surface mount styles — no bottom termination (Type 38000) or printed circuit pin (Type 38010). For wire range of 22-12 AWG. Excellent chemical resistance. 3000 (typical) breakdown voltage; .03% water absorption; 94 V-O flammability rating. 300 V, 20 Amps. Terminals are brass, tin plated. Polypropylene housing.

38000 Series — Surface Mount Closed Back, No Bottom Termination

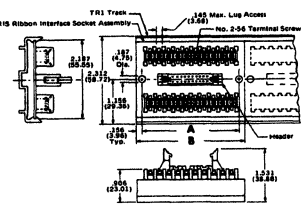
Stock No.	Mfr.'s Type	Number of Terminals	A ±.031 Overall Dimension	B ±.031 Mounting Dimension	C ±.031 Less Mtg. Ft. (Ref.)	EACH 1-49	50-99	100-249
764-0050	38000-2	2	1.575″	1.125″	0.825″	0.51	0.47	0.43
764-0051	38000-3	3	1.950″	1.500″	1.200″	0.70	0.64	0.59
764-0052	38000-4	4	2.325″	1.875″	1.575″	0.89	0.82	0.75
764-0053	38000-5	5	2.700″	2.250″	1.950″	1.09	1.00	0.92
764-0054	38000-6	6	3.075″	2.625″	2.325″	1.28	1.18	1.08
764-0055	38000-8	8	3.825″	3.375″	3.075″	1.67	1.54	1.41
764-0056	38000-10	10	4.575″	4.125″	3.825″	2.06	1.90	1.74
764-0057	38000-12	12	5.325″	4.875″	4.575″	2.52	2.32	2.13

38010 Series — Surface Mount, Printed Circuit Pin

764-0058	38010-2	2	1.575″	1.125″	0.825″	0.61	0.56	0.52
764-0059	38010-3	3	1.950″	1.500″	1.200″	0.82	0.75	0.69
764-0060	38010-4	4	2.325″	1.875″	1.575″	1.06	0.98	0.90
764-0061	38010-5	5	2.700″	2.250″	1.950″	1.27	1.17	1.08
764-0062	38010-6	6	3.075″	2.625″	2.325″	1.54	1.42	1.30
764-0063	38010-8	8	3.825″	3.375″	3.075″	1.99	1.83	1.69
764-0064	38010-10	10	4.575″	4.125″	3.825″	2.44	2.25	2.07
764-0065	38010-12	12	5.325″	4.875″	4.575″	2.89	2.66	2.45

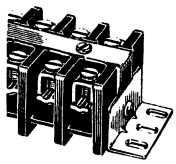
Ribbon Or Flat Cable Interface Sockets

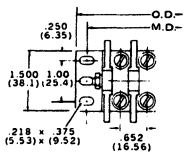
Features convenient mating, track mounting, and wire clamp on terminal blocks. Rated at 1 Amp, 125 V. **Terminal Blocks:** Break-resistant thermo-plastic. **Terminals:** No. 2-56 screws with clamp, 1/4″ center-to-center spacing. **Wire:** Up to No. 16 AWG. **Headers:** 2 rows of .025″ square tin-plated pins on .100″ centers with hook retainers. Designed to mate with all standard connectors.



Stock No.	Mfr.'s Type	Number of Pins	A	B	EACH 1-9	10-24	25-49	50-99
764-0530	RIS20	20	2.688″	3.000″	23.62	21.73	19.99	18.39
764-0531	RIS26	26	3.438″	3.750″	24.40	26.13	24.04	22.12
764-0532	RIS34	34	4.438″	4.750″	35.24	31.72	28.54	25.69
764-0533	RIS40	40	5.188″	5.500″	36.95	33.99	31.27	28.77
764-0534	RIS50	50	6.438″	6.750″	44.31	40.76	37.50	34.50

Type H Sectional, High-Power Terminal Blocks

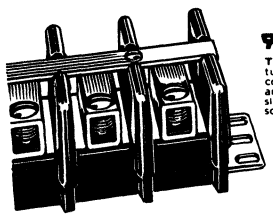


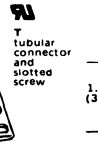


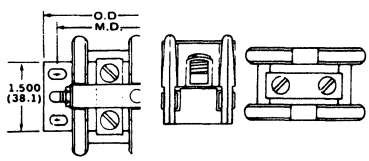
These blocks have a maximum diameter of 2.0″ and .652″ center-to-center spacing. The housing is thermoplastic-polyester with a white fiber circuit marking strip. Rated 75 amps, 600 volts and 130°C (266°F) continuous use temperature. Unique bar and traveling collar design eliminates the lugging of wire. UL recognized for wire sizes 16 AWG to 4 AWG. Copper terminals with high-pressure solderless connectors. Items with 11-30 terminals are available by special order. Special order minimum is 10 pieces for each item.

Stock No.	Mfr.'s Type	Number of Terminals	Mounting Dimension	Overall Dimension	EACH 1-9	10-24	25-49
764-0001	H-1	1	1.676″	2.355″	2.15	1.92	1.85
764-0002	H-2	2	2.328″	3.006″	3.43	3.07	2.83
764-0003	H-3	3	2.979″	3.658″	4.77	4.39	4.04
764-0004	H-4	4	3.631″	4.309″	6.10	5.61	5.16
764-0005	H-5	5	4.282″	4.961″	7.43	6.84	6.29
764-0006	H-6	6	4.934″	5.612″	8.76	8.06	7.41
764-0007	H-7	7	5.585″	6.264″	10.10	9.29	8.55
764-0008	H-8	8	6.237″	6.915″	11.43	10.52	9.68
764-0009	H-9	9	6.888″	7.567″	12.76	11.74	10.80
764-0010	H-10	10	7.540″	8.218″	14.11	12.98	11.94

Type T High Current Terminal Blocks

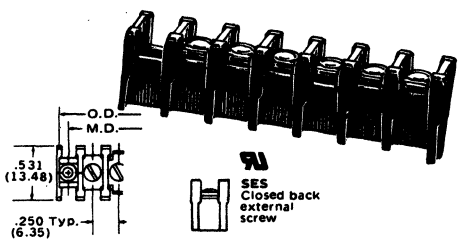






UL Standard 1059, CSA Guide No. 184-N-90. These blocks have a maximum diameter of 2.5″ and 1.169″ ±0.030″ center to center spacing. The housing is black phenolic rated for 125 amps, 600 volts, and for 150°C (302°F) continuous use. Tubular, high-pressure solderless connections of electrolytically pure copper accommodate wire without lugging and provide 100% conductivity. The thermo-set phenolic molding has a white fiber marking strip. Thru-bolt construction. UL recognized for wire 6 AWG to 1/0 AWG. Available in 1-6 terminals. Items not listed are available by special order. A minimum of 10 pieces per item is required on unlisted items.

Stock No.	Mfr.'s Type	Number of Terminals	Mounting Dimension	Overall Dimension	EACH 1-9	10-24	25-49	50-99
764-0601	T-1	1	2.183″	2.683″	8.12	7.47	6.87	6.32
764-0602	T-2	2	3.342″	3.842″	14.48	13.32	12.26	11.28
764-0603	T-3	3	4.500″	5.000″	19.31	17.76	16.34	15.04
764-0604	T-4	4	5.659″	6.159″	25.46	23.42	21.55	19.82
764-0605	T-5	5	6.817″	7.317″	31.60	29.07	26.74	24.60



Type SEP, External Screw Terminal Blocks

UL Standard 1059. These miniature blocks feature 1/4″ center-to-center spacing and a maximum diameter of .531″. Type SES is a representative of a family that contains fifteen terminal and contact variations. Type SES can be mounted on metal surfaces without additional insulation. Blocks are made from thermo-set phenolic. Rated for 5 amps, 300 volts and for 150°C (302°F) continuous use (UL). No. 2-56 plated steel terminal screw accepts wire from 22 AWG to 16 AWG (UL). Available with 1-26 terminals. Items not listed are available by special order. A minimum of 10 pieces per item on unlisted items is required.

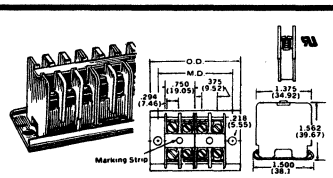
Stock No.	Mfr.'s Type	Number of Terminals	Mounting Dimension	Overall Dimension	EACH 1-9	10-24	25-49	50-99
764-0202	SEP-2	2	0.750″	1.031″	1.20	1.12	1.05	0.97
764-0204	SEP-4	4	1.250″	1.531″	2.08	1.94	1.82	1.69
764-0206	SEP-6	6	1.750″	2.031″	2.98	2.78	2.60	2.42
764-0208	SEP-8	8	2.250″	2.531″	3.84	3.60	3.38	3.13
764-0210	SEP-10	10	2.750″	3.031″	4.71	4.42	4.14	3.85

Snap-In Track 2- and 3-Pole Modules

Modules Assembled With Track

Stock No.	Mfr.'s Type	Number of Poles	Mounting Dimension	Overall Dimension	EACH 1-249	250-499	500-1249	1250-2499
764-0702	SWT-2	2	1.125″	1.437″	1.73	1.59	1.47	1.35
764-0703	SWT-3	3	1.500″	1.812″	2.55	2.35	2.16	1.99
764-0704	SWT-4	4	1.875″	2.187″	3.36	3.09	2.84	2.62
764-0705	SWT-5	5	2.250″	2.562″	4.17	3.84	3.53	3.25
764-0706	SWT-6	6	2.625″	2.937″	4.98	4.58	4.22	3.88
764-0707	SWT-7	7	3.000″	3.312″	5.80	5.34	4.91	4.52
764-0708	SWT-8	8	3.375″	3.687″	6.66	6.13	5.64	5.19
764-0709	SWT-9	9	3.750″	4.062″	7.44	6.85	6.30	5.79
764-0710	SWT-10	10	4.125″	4.437″	7.99	7.35	6.76	6.22

3-Foot Track. Type SW-96.
764-0900. 1-99 ..... EACH 3.97 100-Up ..... EACH 3.69



UL Standard 1059, CSA Guide No. 184-N-90. These modules snap into the 3-foot long zinc dichromate plated heavy steel track, below. The track mounts 32 poles per foot. The blocks have a maximum diameter of 1.5″ and have 3/8″ center-to-center spacing which matches the spacing of the holes in the track. The housing is white polyamide (nylon) rated 50 amps, 600 volts, and 125°C (257°F) continuous use temperature. The modules are complete with a white fiber marking strip and retaining springs. Terminals are solderless electro-tinned tubular connector with no. 10-32 screws. UL recognized for wire sizes 16 AWG to 8 AWG. The series is available in 11-192 terminals by special order.

Modules Only

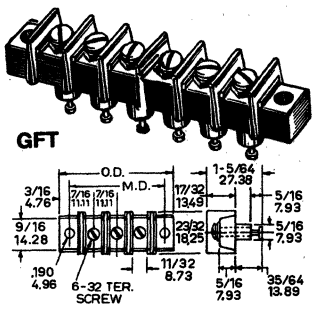
Stock No.	Mfr.'s Type	Poles	Length	EACH 1-249	250-499	500-1249	1250-2499
764-0700	2PSWT	2	0.750″	1.57	1.44	1.33	1.22
764-0701	3PSWT	3	1.125″	2.32	2.13	1.96	1.81

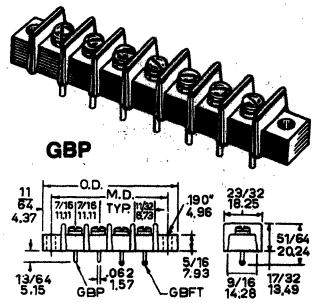
Feed-Through Terminal Blocks

Rated 20 amps, 300 volts, with a 150°C (302°F) continuous use temperature rating. **Max. Width:** .718" ±0.030". Terminals on 7/16" center to center spacing. The blocks are made from black thermo-set phenolic. The screw terminals have a No. 6-32 plated steel screw which accepts wire from 22 AWG to 12 AWG (per UL).

Type GFTXW — similar to type GFT but the blocks are made from thermoplastic (UL rated for 105° continuous use) and also have wire clamps included. The two items listed are offered at special pricing. 2-26 terminal types are available by special order with a 10 piece minimum required per item.

Stock No.	Mfr.'s Type	No. of Terminals	EACH			
			1-9	10-24	25-49	50-99
764-0523	GFTXW-3	3	1.47	1.29	1.21	1.15
764-0525	GFTXW-5	5	2.68	2.29	2.10	2.03
764-0536	GFTXW-16	16	8.40	7.91	7.28	6.70





Type GBP-Printed Circuit Board Design UL Standard 1059, CSA Guide 184-N-90

The printed circuit pin is tin-plated brass and is .062" in diameter. 21-26 terminal types are available by special order with a minimum of 10 pieces required per item.

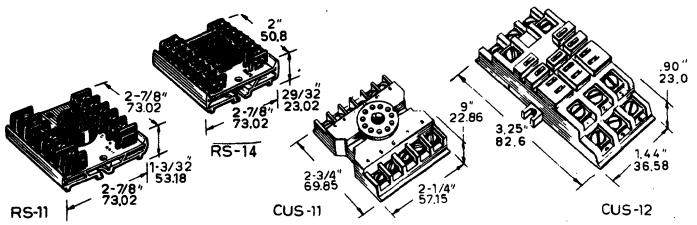
Stock No.	Mfr.'s Type	No. of Terminals	Mounting Dimensions (M.D.)	Overall Dimensions (O.D.)	EACH*			
					1-9	10-24	25-49	50-99
764-0402	GBP-2	2	1.312"	1.687"	1.05	0.89	0.81	0.79
764-0403	GBP-3	3	1.750"	2.125"	1.36	1.25	1.14	1.05
764-0404	GBP-4	4	2.187"	2.562"	1.76	1.62	1.48	1.36
764-0405	GBP-5	5	2.625"	3.000"	2.16	1.98	1.82	1.66
764-0406	GBP-6	6	3.062"	3.437"	2.57	2.36	2.17	1.99
764-0407	GBP-7	7	3.500"	3.875"	3.05	2.59	2.35	2.28
764-0408	GBP-8	8	3.937"	4.312"	3.32	3.05	2.79	2.56
764-0409	GBP-9	9	4.375"	4.750"	3.82	3.26	2.97	2.88
764-0410	GBP-10	10	4.812"	5.187"	4.11	3.78	3.48	3.19
764-0412	GBP-12	12	5.682"	6.062"	5.16	4.39	4.15	3.87
764-0414	GBP-14	14	6.567"	6.937"	5.70	5.24	4.81	4.42
764-0415	GBP-15	15	7.000"	7.375"	6.09	5.60	5.15	4.73
764-0416	GBP-16	16	7.437"	7.812"	6.49	5.96	5.48	5.04
764-0418	GBP-18	18	8.312"	8.687"	7.35	6.26	5.82	5.64
764-0420	GBP-20	20	9.187"	9.562"	8.46	7.18	6.56	6.34

All dimensions shown are ± .030." * Additional quantity price breaks available upon request.

Type GFT-Fully Insulated Terminals UL Standard 1059, CSA Guide 184-N-90

The turret-type solder pin is tin-plated brass. .074" typical diameter with a .114" typical diameter turret at the end. 21-26 terminal types are available by special order with a minimum of 10 pieces required per item.

Stock No.	Mfr.'s Type	No. of Terminals	Mounting Dimensions (M.D.)	Overall Dimensions (O.D.)	EACH			
					1-9	10-24	25-49	50-99
764-0502	GFT-2	2	1.312"	1.687"	1.07	0.98	0.89	0.81
764-0503	GFT-3	3	1.750"	2.125"	1.52	1.39	1.27	1.15
764-0504	GFT-4	4	2.187"	2.562"	2.06	1.84	1.68	1.54
764-0505	GFT-5	5	2.625"	3.000"	2.44	2.24	2.06	1.89
764-0506	GFT-6	6	3.062"	3.437"	2.97	2.73	2.51	2.30
764-0507	GFT-7	7	3.500"	3.875"	3.37	2.86	2.67	2.54
764-0508	GFT-8	8	3.937"	4.312"	3.96	3.64	3.34	3.07
764-0509	GFT-9	9	4.375"	4.750"	4.55	3.96	3.51	3.39
764-0510	GFT-10	10	4.812"	5.187"	4.91	4.51	4.15	3.81
764-0512	GFT-12	12	5.682"	6.062"	5.87	5.40	4.96	4.55
764-0514	GFT-14	14	6.567"	6.937"	6.84	6.29	5.79	5.31
764-0515	GFT-15	15	7.000"	7.375"	7.33	6.73	6.19	5.69
764-0516	GFT-16	16	7.437"	7.812"	8.07	6.84	6.23	6.14
764-0518	GFT-18	18	8.312"	8.687"	8.76	7.44	7.01	6.79
764-0520	GFT-20	20	9.187"	9.562"	9.72	8.94	8.22	7.56



Snap-In Relay Socket Assemblies

High quality sockets for maximum relay retention and electrical conductivity. Permanent-numbered terminals. Glass epoxy G-10 printed circuit boards. New unitized, thermoplastic sockets with closed-back design eliminates panel insulation, and resists breakage. **RS2** is for 10-pin miniature 2PDT relays with latching coils such as P&B type R-10 and Sigma type 62R. **RS8** and **CUS8** are octal types and can be utilized with standard 8-pin octal-base relays. **RS9** is specially designed for 9-pin Amperite miniature thermal time delay relays. **RS11** and **CUS11** are octal types and can be utilized with standard 11-pin octal-base relays. **RS12** and **CUS12** are for 11-pin square-base 3PDT relays such as P&B type KUP and Sigma type 68R. **RS14** is a 14-pin, square-base miniature type for 4PDT relays. **RS15** is a 15-pin square-base grounded miniature type for grounded 4PDT relays. **RS16** and **CUS16** are 8-pin square-base types for 2PDT barrier type, plug-in relays. UL Recognized and CSA Listed except for.*

Stock No.	Mfr.'s Type	Fits Track	Amps	Volts	Style	EACH			
						1-9	10-24	25-49	50-99
763-1002	RS2	TR1	5**	125	10-pin sqr.	11.79	11.12	10.11	9.09
763-1008	RS8	TR2	10	250	8-pin octal	4.47	4.22	3.84	3.45
763-1009	RS9*	TR1	5	125	9-pin octal	9.25	8.72	7.92	7.13
763-1011	RS11	TR2	10	250	11-pin octal	6.09	5.74	5.22	4.70
763-1012	RS12	TR3	10	250	11-pin sqr.	6.96	6.56	5.97	5.37
763-1014	RS14	TR2	5	125	14-pin sqr.	8.91	8.40	7.64	6.87

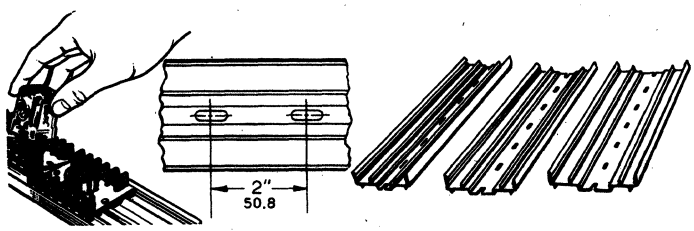
† CSA rated 15A, 125 V. ** UL Rated 3A, 125 V.

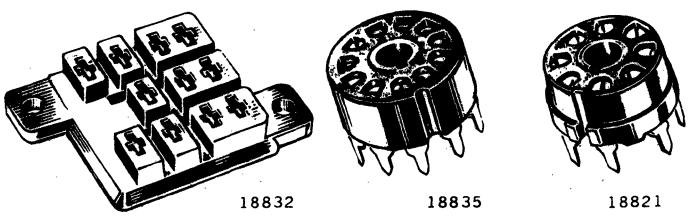
Stock No.	Mfr.'s Type	Fits Track	Amps	Volts	Style	EACH			
						1-9	10-24	25-49	50-99
763-1015	RS15	TR1	5	125	15-pin sqr.	9.32	8.79	7.99	7.19
763-1016	RS16	TR3	10	250	8-pin sqr.	5.48	5.16	4.69	4.23
763-1018	CUS-8	TR2	10	300	8-pin octal	2.60	2.45	2.38	2.24
763-1021	CUS-11	TR2	10	300	11-pin octal	5.85	5.28	4.69	4.12
763-1022	CUS-12	TR3	15	250†	11-pin sqr.	5.89	5.32	4.73	4.16
763-1023	CUS-16	TR3	15	250†	8-pin sqr.	5.32	—	—	—

Pre-Punched Vinyl Track

48" lengths of track that holds up to 30 socket assemblies. Drilling and tapping is only required for two or three mounting screws. The assemblies above snap in and out without disturbing adjacent units except for dovetail design on CUS12 and CUS16.

Stock No.	Mfr.'s Type	W × L		For Assemblies	EACH
		Inches	CM		
763-1101	TR1	2 5/16 × 48	5.56 × 122	RS2, 9, 15	3.89
763-1102	TR2	2 7/8 × 48	6.99 × 122	RS8, 11, 14, CUS8, 11	3.77
763-1103	TR3	3 3/8 × 48	8.57 × 122	RS12, 16, 20, CUS12, 16	4.55

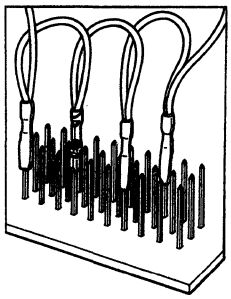




Accessories For Above Socket Assemblies

Stock No.	Mfr.'s Type	Description	EACH			
			1-99	100-499	500-999	1000-Up
763-1052	18836	RS2 socket only	2.58	—	—	—
763-1058	18821	RS8 socket only	0.92	0.65	0.46	0.40
763-1061	18835	RS11 socket only	1.72	1.20	0.86	0.74
763-1062	18831	RS12 socket only	2.32	—	—	—
763-1064	18830	RS14 and RS15 socket only	2.27	1.57	1.10	0.96
763-1066	18832	RS16 socket only	1.94	—	—	—

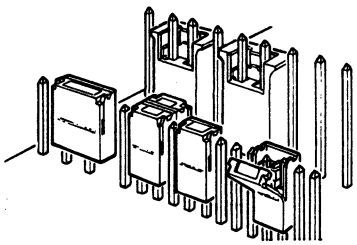
Daisy Chain Jumpers



► **Maxi-PV contacts provide constant high electrical and mechanical reliability after repeated cycles**
► **Board As Shown Not Included With Jumpers**

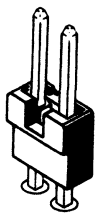
Eliminate wire measuring, stripping, soldering or hand-tool terminating. Maxi-PV contacts provide constant high electrical and mechanical reliability after repeated cycles. Contact has brass body and beryllium copper spring. **Contact area:** 1 μm (40 μ inch) gold over nickel. **Reminder:** gold flash. **Current rating:** 2.5 A. **Resistance:** 4 mΩ maximum. **Insertion force (max.):** 4,30 N (430 gf) with withdrawal force (min.) 0,75 N (75 gf). **Temperature range:** – 65°C to + 105°C. AWG 28 stranded copper wire conductor with PVC insulation. PVC shrinkable tubing. **Packaging:** 250 contacts per reel.
518-0001. 47254. RL/250 .....**EACH 148.40**

Bergcon® System Mini Jump™ Jumpers



65474 Series. Jumpers feature high density packaging, stackable on 0.100 inches spacing. Offer single row, two positions per row. For bussing, programming and switch replacement. Replace conventional printed circuit board switches. Virtually eliminates accidental de-programming. Mate with 0.025 inch square and round pins. Dual metal PV contact design provides excellent retention after repeated cycling. Available in glass-filled thermoplastic polyester housing, color blue. Gold flash over nickel finish. **Insulation resistance:** 1×10^5 MΩ minimum. **Temperature range:** – 65°C to + 125°C. Contact has brass or cupro nickel body, beryllium copper spring, and gold-plating over nickel finish. Rated at 3A maximum, with initial resistance of 11 mΩ maximum, 15 mΩ maximum after tests. UL recognized, CSA certified.
518-0005. 65474-002. **1-99** ....**EACH .350** **100-999**.....**EACH .282**
518-0009. 65474-010. **1-99** ....**EACH .390** **100-999**.....**EACH .355**

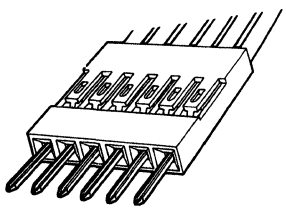
Low Profile Jumper System



► **Pins shown are not included with jumper**

68786 Series. Economy jumper system applicable for bussing, programming, and switch replacement. Low profile permits high-density packaging. Dual beam contact. Offer 0.100 inch spacing and two positions standard. Housed in thermoplastic polyester rated UL94V-0, color black. **Insulation resistance:** 50,000 MΩ minimum. **Temperature range:** – 55°C to + 120°C. **Withstanding voltage:** 750 Vrms. **Contact current rating:** 2.5 A maximum. **Resistance:** 15 mΩ maximum. Mates with 0.025 inch square pin. Contact made of phosphor bronze. **Type 68786-202** is plated 30 μ inch gold; **68786-302, 100 μ inch tin/lead.**
518-0021. 68786-202. **1-99** ....**EACH .150** **100-999**.....**EACH .140**
518-0022. 68786-302. **1-99** ....**EACH .130** **100-999**.....**EACH .120**

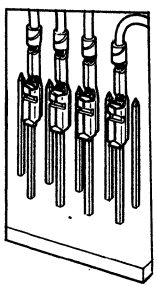
Male Crimp-To-Wire Pins



► **Crimp-to-Wire Pin shown installed in Mini-Latch Housing**

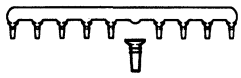
Crimp-to-Wire Pin fits in mini-latch housings. Mates to MiniPV receptacles. 0.100 inch minimum spacing. Brass contact and gold finish. **Current rating:** 3 A continuous depending on wire size. **Resistance:** 5 mΩ maximum. **Temperature range:** – 65°C to + 125°C. Wire size AWG 22-26. UL recognized.
518-0100. 48115-000. **1-99**.....**EACH .550**
100-999 .....**EACH .434**
518-0101. 48116-000. **1-99**.....**EACH .550**
100-999 .....**EACH .434**
518-0102. Type 48117-000. **1-99**.....**EACH .550**
100-999 .....**EACH .434**

Bergcon® System Crimp-To-Wire MaxiPV™ Receptacles



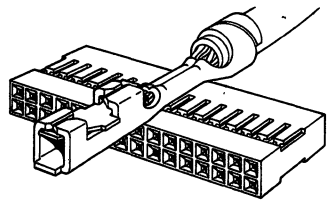
Two-piere design provides low resistance, high pressure, gas-light connection. Mate to 0.025 inch round or square pins. 0.125 inch spacing. Contact has brass body, beryllium copper spring and gold finish. **Current rating:** 5 A continuous depending on wire size. **Type 46227** accepts AWG 18 or 20. **Type 46237** accepts AWG 22, 24, or 26. **Resistance:** 4 mΩ maximum. **Temperature range:** – 65°C to + 125°C. Come with standard spring force, recommended for Maxi-Latch housing 12 through 56 positions. UL recognized, CSA certified.
518-0120. 46227-000. **1-99** .....**EACH .48**
100-999.....**EACH .39**
518-0121. 46237-000. **1-99** .....**EACH .48**
100-999.....**EACH .39**

Bergcon® System Polarization Plug



Polarization plugs for mini and maxi latch housings are made of nylon and come in white. **Temperature range:** – 40°C to + 105°C. UL recognized.
518-0025. 65307-001. **1-99** ....**EACH .160** **100-999**.....**EACH .145**

Bergcon® Crimp-To-Wire MiniPV™ Receptacles

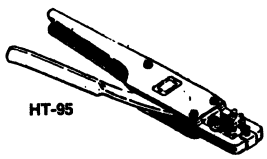


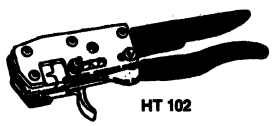
► **Mini-PV Receptacle shown with Latch Housing**

Mate to 0.019 inch and 0.025 inch round or square pins. Dual-metal contact design provides constant retention force after repeated cycles. These female receptacles have beryllium-copper spring and brass body. Offer superior electrical and mechanical characteristics. Standard spring force is recommended for use in Mini-Latch housings 40-72 positions. High spring force for Mini-Latch housings 10-50 positions.

Stock No.	Mfr.'s Type	AWG	Spring Force	Plating*	EACH	
					1-99	100-999
518-0130	48266-000	18, 20	Standard	1	**.25**	**.234**
518-0131	48235-000	22, 24, 26	Standard	1	**.28**	**.250**
518-0132	48234-000	22, 24, 26	High	1	**.28**	**.250**
518-0133	58252-000	28, 30, 32	Standard	2	**.27**	**.240**

*1 = 30 μinch gold over nickel with gold flash; 2 = 15 μinch gold over nickel with gold flash.



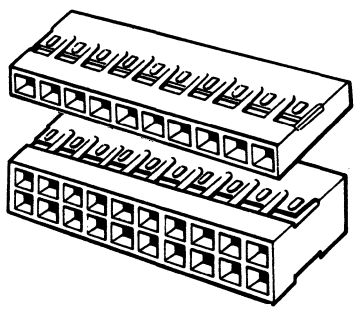


Handtools

Lightweight, rugged hand tools have ratchet-action handle that assures complete crimp cycle. For application on crimp-to-wire PV receptacles and pins.

Stock No.	Mfr.'s Type	Description	EACH
518-0050	HT-73	Mini PV, 18-20 AWG	**250.00**
518-0051	HT-80	PV Removal Tool	**.75**
518-0052	HT-95	Mini PV, 22-32 AWG	**275.00**
518-0053	HT-112	Mini PV, 32-36 AWG	**275.00**
518-0054	HT-49	Maxi PV, 18-20 AWG	**250.00**
518-0055	HT-48	Maxi PV, 22-26 AWG	**250.00**
518-0056	HT-102	Pin contacts; 22-32 AWG	**255.00**
518-0057	HT-110	Pin contacts; 18-20 AWG	**255.00**

65039/65043 Series Mini-Latch PV™ Housing



For use with dual metal MIni-PV contacts and crimp-to-wire pins. Allows simultaneous connection of Mini-PV terminated conductors on 0.100″ × 0.100″ or 0.100″ × 0.200″ double row, to accommodate Mini-PV receptacles or crimp-to-wire male pins. Accepts crimp-to-wire Mini-PV range AWG 22-36, and crimp-to-wire pin AWG 22-32. Made of modified polyphenylene oxide rated UL 94V-1, color black. **Insulation resistance:** 1×10^5 MΩ minimum. **Temperature range:** – 40°C to + 105°C. **Withstanding voltage:** 1000 Vrms at sea level. **Latching force:** 6.5 lbs. minimum per position. Optional polarization plug.

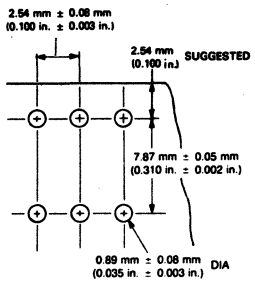
Single Row, 0.100 Inch Centers

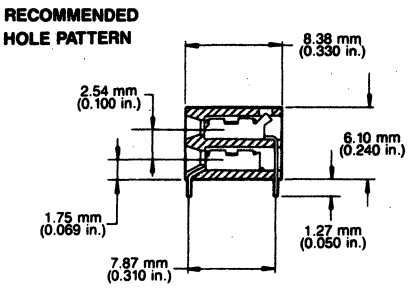
Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—Inches	EACH	
				1-99	100-499
518-0150	65039-035	2	0.200	**.49**	**.43**
518-0151	65039-034	3	0.300	**.52**	**.46**
518-0152	65039-033	4	0.400	**.60**	**.53**
518-0153	65039-032	5	0.500	**.66**	**.58**
518-0154	65039-031	6	0.600	**.70**	**.62**
518-0155	65039-030	7	0.700	**.80**	**.70**
518-0156	65039-029	8	0.800	**.87**	**.76**
518-0157	65039-027	10	1.000	**.99**	**.87**

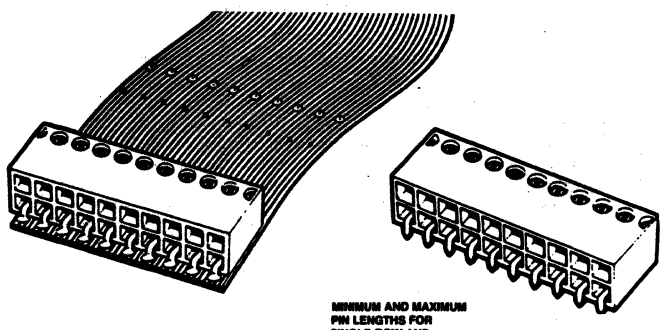
Double Row, 0.100 Inch Center

518-0170	65043-035	4	0.200	**.87**	**.76**
518-0171	65043-034	6	0.300	**.89**	**.78**
518-0172	65043-033	8	0.400	**1.05**	**.92**
518-0173	65043-032	10	0.500	**1.17**	**1.03**
518-0174	65043-031	12	0.600	**1.26**	**1.11**
518-0175	65043-030	14	0.700	**1.46**	**1.28**
518-0176	65043-029	16	0.800	**1.55**	**1.36**
518-0177	65043-027	20	1.000	**1.61**	**1.41**

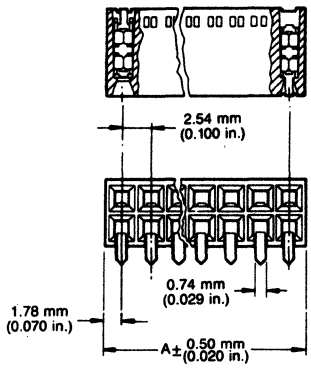
67943 Series Horizontal PV™ Card Connectors For Flexible Circuitry

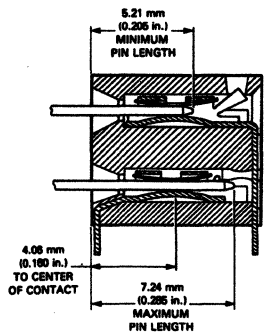






MINIMUM AND MAXIMUM PIN LENGTHS FOR SINGLE ROW AND DOUBLE ROW HORIZONTAL CARD CONNECTORS





6

Housing meets requirements of MIL-P-46184, UL 94V-0. Color black. Insulation resistance of 5 × 10^4 MΩ minimum. Temperature range of −65°C to +105°C. **Withstanding voltage:** 1250 Vrms. Contacts have brass body, beryllium copper spring, and finish of 30μ inches gold with gold flash over nickel. **Current rating:** 3 AΩ maximum. Resistance of 100 MΩ maximum per contact initially, 15 mΩ maximum per contact after tests. **Capacitance:** 2 pF maximum. UL recognized, CSA certified.

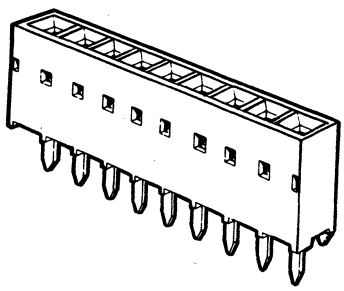
67943 Series PV Card Connectors

Stock No.	Mfr.'s Type	No. of Pos.	Dimension A—In.	EACH	
				1-99	100-499
518-1300	67943-005	2 × 5	0.540	2.72	2.45
518-1302	67943-008	2 × 8	0.840	3.62	3.26
518-1304	67943-010	2 × 10	1.040	4.60	4.14
518-1306	67943-012	2 × 12	1.240	5.50	4.95
518-1308	67943-020	2 × 20	2.040	8.44	7.60
518-1310	67943-025	2 × 25	2.540	10.50	9.45

Dual Entry Card Connector

68956, 68046, 68684, 66956, 76314 and **76316** series PV card connectors are housed in glass-filled polyester rated UL94V-0. Temperature range is −65°C to +125°C. **66956, 68429, 76314** and **76316** service feature reliable dual metal PV contact for modular and programming applications. Mate with 0.025 inch square and round pins. Contact has brass body and beryllium copper spring 0.0035 inch thick. 30 μ" gold with gold flash over nickel finish. Current rating of 3A maximum. **Withstanding voltage:** 1250 Vrms. **Insulation resistance:** 1 × 10^5 MΩ minimum. Housing for **68429** series also meets requirements of MIL-M-24519. Come in black. Per contact resistance is 15 MΩ maximum. **Capacitance:** 2 pF maximum. Per contact resistance for **66956, 76314** and **76316** series is 12 MΩ maximum. **Capacitance:** 1,5 pF maximum. **68046, 68682** and **68684** series feature lop profile to allow dense packaging. Contact has preloaded dual beam design and low insertion force. Duplex plating for minimum gold consumption. Duplex-contact area has finish of 30 μ" minimum gold over nickel and solder leg has 100 μ" minimum tin/lead. **Current rating:** 3 amps DC for individual contacts at ambient temperature ≤20°C and 2 amps DC for total connector. Resistance is 15 mΩ maximum initially and 20 mΩ maximum after tests. **Insulation resistance:** 10^5 MΩ minimum. **Withstanding voltage:** 1000 Vrms. **Capacitance:** 1,5 pF maximum. UL recognized, CSA certified.

Single Row, 0.100" Center Card Connectors

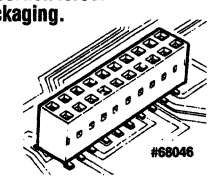


- **Dual entry.**
- **Contact features preloaded dual beam design and low insertion force.**
- **Very low profile (only 7,87 mm - 0.310 inch) for dense packaging.**
- **Extensive range both in single row (2-50 pos.) and double row (4-100 pos.).**
- **Floating contacts allows solder legs to self-center on pads.**
- **For parallel and right-angle p.c. board mounting.**
- **Duplex plating for minimum gold consumption.**
- **Stackable End-to-End and Side-to-Side.**

Stock No.	Mfr.'s Type	No. of Pos.	Width In.	EACH	
				1-99	100-499
518-1320	68684-305	5	0.517	1.30	1.17
518-1322	68684-308	8	0.817	1.78	1.60
518-1324	68684-310	10	1.017	2.10	1.89
518-1326	68684-312	12	1.217	2.54	2.29
518-1328	68684-320	20	2.017	4.18	3.76
518-1330	68684-325	25	2.517	5.24	4.72

680406 Series Surface Mount Card Connector

- **Contact features preloaded dual beam design and low insertion force.**
- **Very low profile (only 7 mm-0.276 inch) allows dense packaging.**
- **Extensive range both in single row (2-50 pos.) and double row (4-100 pos.).**
- **Available in both top entry and dual entry.**
- **Stackable side-by-side.**
- **For parallel and right-angle p.c. board mounting.**
- **Duplex plating for minimum gold consumption.**

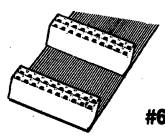


Double Row, 0.100" Centers

Stock No.	Mfr.'s Type	No. of Pos.	Width In.	EACH	
				1-99	100-499
518-1340	68046-305	2 × 5	0.517	2.78	2.50
518-1342	68046-308	2 × 8	0.817	3.70	3.33
518-1344	68046-310	2 × 10	1.017	4.64	4.18
518-1346	68046-312	2 × 12	1.217	5.56	5.00

68429 Series Vertical PV Card Connectors

- **Highly reliable dual metal PV contact.**
- **Designed for flexible circuitry.**
- **Allows parallel and right-angle mounting.**
- **Mates with 0,64 mm (0.025 inch) square and round pins.**

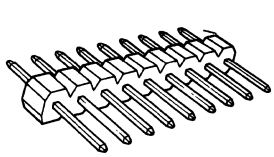


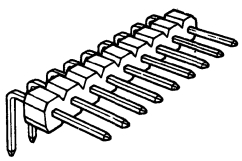
Double Row, 0.100" Centers

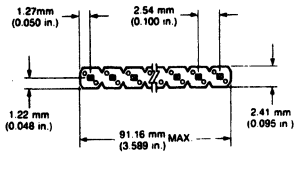
Stock No.	Mfr.'s Type	No. of Pos.	Width In.	EACH	
				1-99	100-499
518-1350	68429-005	2 × 5	0.500	2.52	2.27
518-1352	68429-008	2 × 8	0.800	3.24	2.92
512-1354	68429-010	2 × 10	1.000	4.10	3.69
512-1356	68429-012	2 × 12	1.200	5.14	4.63
512-1358	68429-020	2 × 20	2.000	8.16	7.35
512-1360	68429-025	2 × 25	2.500	10.50	9.45

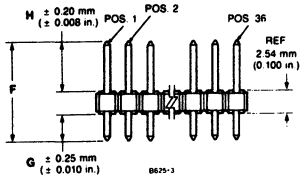
Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

Bergstik® II Headers









RETENTION SOLDER TAIL

STANDARD SOLDER TAIL

"Retentive sticks" headers have optional retention tail that provides 0.5 lb. minimum retention prior to soldering on 0.062 inch thick p.c. boards. Can be manually broken to the desired length. Drawn 0.025 inch square wire presents 4 surfaces suitable for the wrapping. Pins positioned on 0.100" centers. Stand-offs allow cleaning to eliminate soldering contaminates. Header body made of glass-filled nylon rated UL 94V-O, color black. **Insulation resistance:** 500 MΩ minimum. **Temperature range:** −65°C to +105°C. **Withstanding voltage:** 1500 Vrms at sea level. Phosphor bronze pin, current rating, 5A maximum. Retention force to body, 2 lbs. in either direction.

Straight Single Row Standard Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'H' Mating End	'G' Tail End	'F' Overall Length	Plating	EACH 1-99	100-499
518-1046	68000-236	36	.230	.095	0.425	1	2.61	2.18
518-1048	68000-436	36	.230	.095	0.425	4	1.44	1.20
518-1050	68000-636	36	.230	.095	0.425	6	2.79	2.31
518-1052	68001-236	36	.230	.120	0.450	1	2.61	2.18
518-1054	68001-436	36	.230	.120	0.450	4	1.49	1.24
518-1056	68001-636	36	.230	.120	0.450	6	2.82	2.34
518-1058	68002-236	36	.230	.150	0.480	1	2.68	2.25
518-1060	68002-436	36	.230	.150	0.480	4	1.54	1.29
518-1062	68002-636	36	.230	.150	0.480	6	2.86	2.39
518-1064	78511-236	36	.316	.120	0.538	1	3.26	2.73
518-1066	78511-436	36	.316	.120	0.538	4	1.58	1.33
518-1068	78511-636	36	.316	.120	0.538	6	3.26	2.73

Straight Single Row Retention Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'H' Mating End	'G' Tail End	Plating	EACH 1-499	500-Up
518-1070	69190-402	2	0.230	0.120	4	.16	.12
518-1072	69190-403	3	0.230	0.120	4	.18	.13
518-1074	69190-404	4	0.230	0.120	4	.22	.16
518-1076	69190-405	5	0.230	0.120	4	.27	.19
518-1078	69190-410	10	0.230	0.120	4	.48	.34
518-1080	69190-602	2	0.230	0.120	6	.22	.16
518-1082	69190-603	3	0.230	0.120	6	.30	.20
518-1084	69190-604	4	0.230	0.120	6	.39	.27
518-1086	69190-605	5	0.230	0.120	6	.47	.32
518-1088	69190-610	10	0.230	0.120	6	.90	.62

Right Angle Single Row

68016 series UL recognized, CSA certified. 68423 series CSA certified only.

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'A' Mating End	'B' Tail End	'C' Ben Dist. From Plastic	Plating	EACH 1-99	100-499
518-1090	68016-236	36	0.230	0.120	0.060	1	2.84	2.41
518-1092	68016-436	36	0.230	0.120	0.060	4	1.55	1.31
518-1094	68016-636	36	0.230	0.120	0.060	6	2.99	2.56
518-1096	68423-236	36	0.318	0.120	0.060	1	2.93	2.51
518-1098	68423-436	36	0.318	0.120	0.060	4	1.66	1.41
518-1100	68423-636	36	0.318	0.120	0.060	6	3.11	2.63

Retention Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'A' Mating End	'B' Tail End	'C' Ben Dist. From Plastic	Plating	EACH 1-499	500-Up
518-1102	69191-402	2	0.230	0.120	0.060	4	.16	.12
518-1104	69191-403	3	0.230	0.120	0.060	4	.20	.14
518-1106	69191-404	4	0.230	0.120	0.060	4	.23	.17
518-1108	69191-405	5	0.230	0.120	0.060	4	.29	.22
518-1110	69191-410	10	0.230	0.120	0.060	4	.52	.35
518-1112	69191-602	2	0.230	0.120	0.060	6	.24	.19
518-1114	69191-603	3	0.230	0.120	0.060	6	.34	.24
518-1116	69191-604	4	0.230	0.120	0.060	6	.41	.29
518-1118	69191-605	5	0.230	0.120	0.060	6	.48	.35
528-1120	69191-610	10	0.230	0.120	0.060	6	.95	.66

Straight Double Row Retention Solder Tail

UL recognized, CSA certified.

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'H' Mating End	'G' Tail End	Plating	EACH 1-499	500-Up
518-1000	69192-404	4	0.230	0.120	4	.22	.16
518-1002	69192-406	6	0.230	0.120	4	.30	.22
518-1004	69192-408	8	0.230	0.120	4	.39	.28
518-1006	69192-410	10	0.230	0.120	4	.48	.34
518-1008	69192-420	20	0.230	0.120	4	.95	.65
518-1010	69192-604	4	0.230	0.120	6	.39	.27
518-1012	69192-606	6	0.230	0.120	6	.54	.38
518-1014	69192-608	8	0.230	0.120	6	.72	.49
518-1016	69192-610	10	0.230	0.120	6	.90	.62
518-1018	69192-620	20	0.230	0.120	6	1.72	1.16

Bergstik II Breakaway Headers Straight Double Row—UL recognized, CSA certified.

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'H' Mating End	'G' Tail End	'F' Overall Length	Plating	EACH 1-99	100-499
518-1020	67996-272	72	0.230	.095	0.425	1	5.19	4.33
518-1022	67996-472	72	0.230	.095	0.425	4	2.96	2.45
518-1024	67996-672	72	0.230	.095	0.425	6	5.57	4.60
518-1026	67997-272	72	0.230	.120	0.450	1	5.24	4.38
518-1028	67997-472	72	0.230	.120	0.450	4	3.01	2.50
518-1030	67997-672	72	0.230	.120	0.450	6	5.64	4.68
518-1032	68602-172	72	0.230	.150	0.480	1	6.25	5.25
518-1034	68602-472	72	0.230	.150	0.480	4	3.03	2.53
518-1036	68602-672	72	0.230	.150	0.480	6	5.75	4.79
518-1038	68691-172	72	0.318	.120	0.538	1	6.47	5.48
518-1040	68691-472	72	0.318	.120	0.538	4	3.14	2.65
518-1042	68691-672	72	0.318	.120	0.538	6	5.91	4.95

Right Angle Double Row

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'A' Mating End	'B' Tail End	Plating	EACH 1-99	100-499
518-1122	79257-172	72	0.230	0.120	1	7.00	6.03
518-1124	79257-472	72	0.230	0.120	4	2.65	2.41
518-1126	79257-672	72	0.230	0.120	6	5.50	4.65
518-1128	79258-172	72	0.318	0.120	1	7.15	6.18
518-1130	79258-472	72	0.318	0.120	4	2.65	2.41
518-1132	79258-672	72	0.318	0.120	6	5.55	4.70

Retention Solder Tail

Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'A' Mating End	'B' Tail End	Plating	EACH 1-499	500-Up
518-1134	78299-404	4	0.230	0.120	4	.25	.17
518-1136	78299-406	6	0.230	0.120	4	.35	.25
518-1138	78299-408	8	0.230	0.120	4	.44	.32
518-1140	78299-410	10	0.230	0.120	4	.54	.39
518-1142	78299-420	20	0.230	0.120	4	.98	.76
518-1144	78299-604	4	0.230	0.120	6	.43	.32
518-1146	78299-606	6	0.230	0.120	6	.60	.43
518-1148	78299-608	8	0.230	0.120	6	.84	.60
518-1150	78299-610	10	0.230	0.120	6	.98	.75
518-1152	78299-620	20	0.230	0.120	6	1.58	1.40

Straight Triple Row—CSA certified.

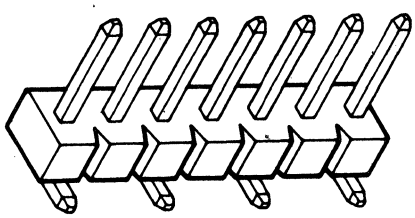
Stock No.	Mfr.'s Type	No. of Pos.	Dimensions 'H' Mating End	'B' Tail End	Plating	EACH 1-99	100-499
518-1044	68702-636	3 × 36	0.230	0.120	6	12.50	10.50

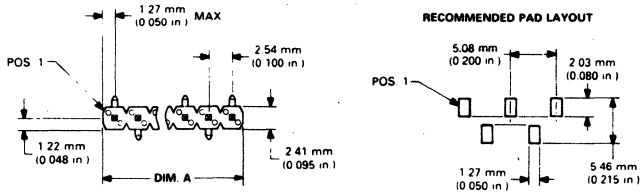
Bergstik™ Surface Mount Headers

"Stick" headers feature small board footprint to save on pc board space. Stable symmetrical footprint allows easy use on surface-mount boards. Available in vertical versions. High temperature 6/6 nylon plastic body remains flexible after soldering to relieve stress on the solder joint caused by vibration or thermal cycling. The glass-reinforced body is rated UL 94V-0. Color black. Suitable for vapor phase soldering.

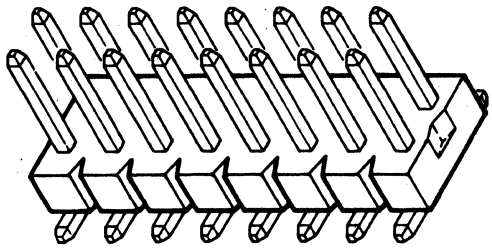
Insulation resistance: 5000 megohms minimum. **Operating temperature range:** – 40°C to + 105°C. **Withstanding voltage:** 1500 Vrms, 60 Hz at sea level. Phosphor bronze pin. Finish of 30 μinch GXT palladium-nickel alloy with gold flash over 50 μinch nickel. **Current rating:** 5A. **Retention force to body:** 2 lb. minimum in either direction. UL recognized, CSA certified.

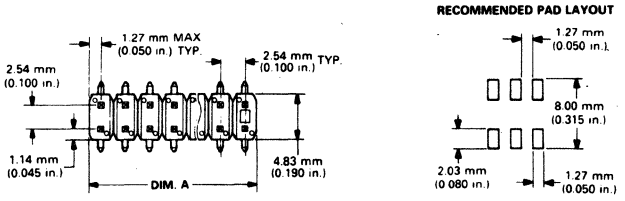
Single Row Headers

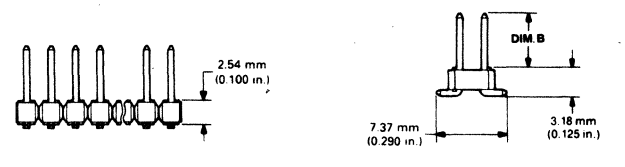




Double Row Headers







Single Row Vertical

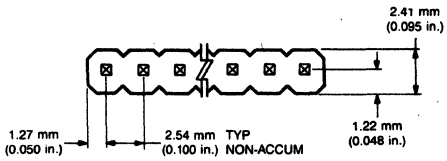
Stock No.	Mfr.'s Type	No. of Pos.	'B' Length Above Plastic	EACH 1-499	EACH 500-999
518-1200	78540-603	3	0.230	**.34**	**.24**
518-1202	78540-605	5	0.230	**.52**	**.36**
518-1204	78540-606	6	0.230	**.61**	**.42**
518-1206	78540-608	8	0.230	**.82**	**.54**
518-1208	78540-610	10	0.230	**.98**	**.68**

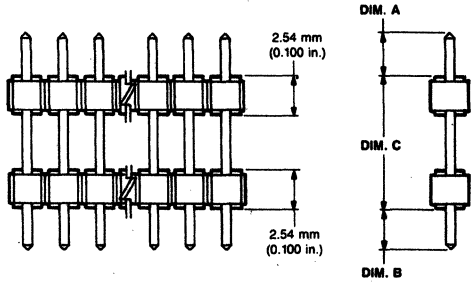
Double Row Vertical

Stock No.	Mfr.'s Type	No. of Pos.	'B' Mating Plastic	EACH 1-499	EACH 500-999
518-1210	78227-604	4	0.230	**.43**	**.32**
518-1212	78227-606	6	0.230	**.62**	**.42**
518-1214	78227-608	8	0.230	**.80**	**.54**
518-1216	78227-610	10	0.230	**.98**	**.68**
518-1218	78227-612	12	0.230	**1.16**	**.78**
518-1220	78227-620	20	0.230	**1.90**	**1.25**

Bergstik® I "Railroad Track" Headers

"Railroad track" headers can be manually broken to desired length. Feature pins specially molded in flame retardant plastic. Drawn wire pins provide smooth contact surfaces on all sides. Manual insertion allows on-line production without a machine. Made of 20% minimum glass-filled nylon rated UL94V-0. Colors black, cream, brown, blue or light blue. Phosphor bronze, 3/4 hard in accordance with QQB-750, composition A. **Straight single row:** 0.100 inch centers. **Operating temperature:** 40°C to + 105°C. **Current rating:** 5 amps. **Dielectric withstanding voltage:** 1500 Vrms, 60 Hz at sea level on minimum contact spacing. **Insulation resistance:** 5000 megohms.





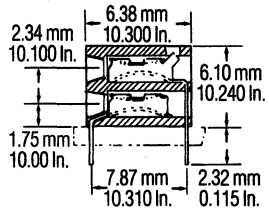
Stock No.	Mfr.'s Type	Dimensions A Mating End	Dimensions A Tail End	Dimensions C Overall Width	No. of Pos.	Plating	EACH 1-99	EACH 100-499
518-1222	68040-105	0.284	0.375	0.284	5	1	**.93**	**.82**
518-1224	68040-110	0.284	0.375	0.284	10	1	**1.76**	**1.55**
518-1226	68460-105	0.230	0.409	0.116	5	1	**.70**	**.60**
518-1228	68460-110	0.230	0.409	0.116	10	1	**1.30**	**1.13**

*Plating: 1 is 30 microinch gold over 50 microinch nickel.

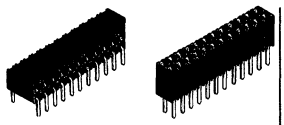
The Empire System™

.025" square board-to-board interconnects on .100" centers
The EMPIRE SYSTEM is a family of card connectors, 'stik' headers and shunts that offer a reliable and economical alternative to other modular interconnect systems for high-volume applications. The two-piece interconnection system is on 0.100 inch grid spacing and offers a broad range of components for mother/daughter and parallel printed circuit board packaging for a wide range of electronic products.

Double-row card connectors are available in horizontal- and vertical-entry styles in 4 to 100 positions and feature duplex-plated contacts. Straight and right angle headers feature retention legs that eliminate the need for a clinching operation prior to wave soldering. The shunts are available in two heights. A variety of contact platings are offered to meet specific performance and costs requirements.



Horizontal Card Connector



30μ Inch Gold

Stock No.	Mfr.'s Type	Number of Positions	EACH 1-99	EACH 100-499
518-2600	79412-303	2 × 3	1.05	1.00
518-2601	79412-304	2 × 4	1.15	1.10
518-2602	79412-305	2 × 5	1.25	1.20
518-2603	79412-306	2 × 6	1.35	1.30
518-2604	79412-308	2 × 8	1.45	1.40
518-2605	79412-310	2 × 10	1.55	1.50
518-2606	79412-312	2 × 12	1.65	1.60
518-2607	79412-315	2 × 15	1.75	1.70
518-2608	79412-317	2 × 17	1.85	1.80
518-2609	79412-320	2 × 20	1.95	1.90
518-2610	79412-325	2 × 25	2.05	2.00

Tin/Lead

518-2611	79412-403	2 × 3	1.05	1.00
518-2612	79412-404	2 × 4	1.15	1.10
518-2613	79412-405	2 × 5	1.25	1.20
518-2614	79412-406	2 × 6	1.35	1.30
518-2615	79412-408	2 × 8	1.45	1.40
518-2616	79412-410	2 × 10	1.55	1.50
518-2617	79412-412	2 × 12	1.65	1.60
518-2618	79412-415	2 × 15	1.75	1.70
518-2619	79412-417	2 × 17	1.85	1.80
518-2620	79412-420	2 × 20	1.95	1.90
518-2621	79412-425	2 × 25	2.05	2.00

Vertical Card Connector

30μ Inch Gold

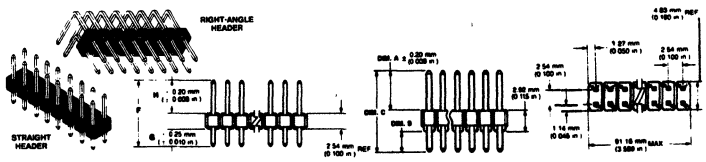
Stock No.	Mfr.'s Type	Number of Positions	EACH 1-99	EACH 100-499
518-2700	79410-303	2 × 3	1.05	1.00
518-2701	79410-304	2 × 4	1.15	1.10
518-2702	79410-305	2 × 5	1.25	1.20
518-2703	79410-306	2 × 6	1.35	1.30
518-2704	79410-308	2 × 8	1.45	1.40
518-2705	79410-310	2 × 10	1.55	1.50
518-2706	79410-312	2 × 12	1.65	1.60
518-2707	79410-315	2 × 15	1.75	1.70
518-2708	79410-317	2 × 17	1.85	1.80
518-2709	79410-320	2 × 20	1.95	1.90
518-2710	79410-325	2 × 25	2.05	2.00

Tin/Lead

518-2711	79410-403	2 × 3	1.05	1.00
518-2712	79410-404	2 × 4	1.15	1.10
518-2713	79410-405	2 × 5	1.25	1.20
518-2714	79410-406	2 × 6	1.35	1.30
518-2715	79410-408	2 × 8	1.45	1.40
518-2716	79410-410	2 × 10	1.55	1.50
518-2717	79410-412	2 × 12	1.65	1.60
518-2718	79410-415	2 × 15	1.75	1.70
518-2719	79410-417	2 × 17	1.85	1.80
518-2720	79410-420	2 × 20	1.95	1.90
518-2721	79410-425	2 × 25	2.05	2.00

Empire System Stik Headers

Empire stik headers have retentive tails that provide 0.5 lb. minimum retention prior to soldering on 0.062 inch thick PC boards. Drawn 0.025 inch square wire presents 4 smooth mating surfaces. Pins positioned in 0.100" centers. Standoffs allow cleaning to eliminate soldering contaminates. Header body made of glass-filled nylon rated UL 94 V-0, color black. **Insulation resistance:** 500 MΩ minimum. **Temperature range:** – 65°C to + 105°C. **Withstanding voltage:** 1500 V rms at sea level. **Phosphor bronze pin, current rating:** 5 A minimum. **Retention force to body:** 2 lb. in either direction.



Straight Header 30μ Inch Gold

Stock No.	Mfr.'s Type	Number of Positions	EACH 1-99	EACH 100-499
518-2801	86380-104	2 × 2	1.85	1.80
518-2802	86380-106	2 × 3	1.95	1.90
518-2803	86380-108	2 × 4	2.05	2.00
518-2804	86380-110	2 × 5	2.15	2.10
518-2805	86380-112	2 × 6	2.25	2.20
518-2806	86380-116	2 × 8	2.35	2.30
518-2807	86380-120	2 × 10	2.45	2.40
518-2808	86380-124	2 × 12	2.55	2.50

Tin/Lead

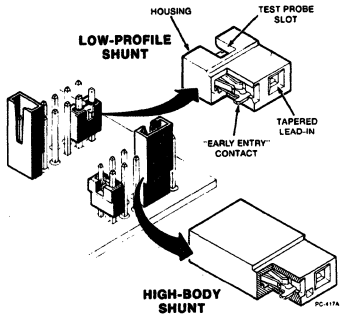
518-2809	86380-404	2 × 2	1.05	1.00
518-2810	86380-406	2 × 3	1.15	1.10
518-2811	86380-408	2 × 4	1.25	1.20
518-2812	86380-410	2 × 5	1.35	1.30
518-2813	86380-412	2 × 6	1.45	1.40
518-2814	86380-416	2 × 8	1.55	1.50
518-2815	86380-420	2 × 10	1.65	1.60
518-2816	86380-424	2 × 12	1.75	1.70

Right Angle Header 30μ Inch Gold

Stock No.	Mfr.'s Type	Number of Positions	EACH 1-99	EACH 100-499
518-2817	86381-104	2 × 2	2.25	2.10
518-2818	86381-106	2 × 3	2.35	2.20
518-2819	86381-108	2 × 4	2.45	2.30
518-2820	86381-110	2 × 5	2.55	2.40
518-2821	86381-112	2 × 6	2.65	2.60
518-2822	86381-116	2 × 8	2.75	2.70
518-2823	86381-120	2 × 10	2.85	2.80
518-2824	86381-124	2 × 12	2.95	2.90

Tin/Lead

518-2825	86381-404	2 × 2	1.45	1.40
518-2826	86381-406	2 × 3	1.55	1.50
518-2827	86381-408	2 × 4	1.65	1.60
518-2828	86381-410	2 × 5	1.75	1.70
518-2829	86381-412	2 × 6	1.85	1.80
518-2830	86381-416	2 × 8	1.95	1.90
518-2831	86381-420	2 × 10	2.05	2.00
518-2832	86381-424	2 × 12	2.15	2.10



Empire System Shunts (Two Designs)

Both mate with 0.025 inch square pins on 0.100 inch centerline. Dual-beam phosphor bronze contact. Finish: Gold over nickel or tin/lead. Housed in glass-filled thermoplastic polyester; color-black.
Insulation resistance: 50,000 MΩ minimum. **Withstanding voltage:** 750 V rms. **Temperature range:** – 55°C to + 120°C. **Contact current rating:** 2.5 A max. **Resistance:** 15 MΩ max. **Minimum length of mating pin:** 0.155 inch. Series 68786 Low Profile Shunt is ideally suited for high density applications. (0.200 inch high). Series 71363 High Body Shunt is easy-to-handle during installation. (0.340 inch high)

Low Profile

Stock No.	Mfr.'s Type	EACH 1-99	EACH 100-499
518-2901	68786-102	0.55	0.50
518-2902	68786-202	0.65	0.60
518-2903	68786-302	0.75	0.70

High Body

518-2911	71363-102	0.75	0.70
518-2912	71363-202	0.85	0.80
518-2913	71363-302	0.95	0.90

Quickie™ IDC System Headers, Connectors

Quickie™ III provides "world class" quality at a globally competitive price. This product line is ideally suited for high-volume applications such as small computers, video equipment, instrumentation, office products, and automotive related packaging schemes.

The Quickie™ III system includes a complete line of female connectors, straight and right-angle headers, and edge card connectors. Products are available in a variety of sizes ranging from 6 to 64 positions.

The Quickie™ III female connector features a single-beam, long-wipe contact that provides a highly reliable electrical connection. The contact is made of a phosphor-bronze base material and is available with gold over nickel, tin/lead, or Du Pont's exclusive "better than gold" GXT™ plating system.

The female connector also features a pre-installed bridge-type cover that both protects the contacts during handling and provides precise cover-to-base alignment during installation. It also provides a value-added benefit to the user by reducing the assembly time required during connector installation.

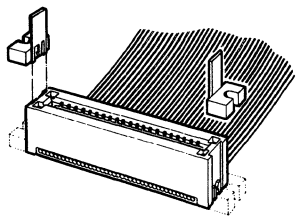
The cover's feed-through design allows the cable to be inserted into either side of the connector for cable-end terminations. It also allows the connector to pass smoothly over the cable for daisy chain applications. Serrated slots in the cover assure accurate positioning of the cable over the contacts during assembly.

Quickie™ III headers feature duplex-plated pins with either gold or GXT™ plating in the contact area. The solder-tail portion of the pin is fully plated with tin/lead.

These headers also feature four-wall shielding that protects the pins when the header is unmated, and dual-function latches that both lock and eject a mated connector. These latches are specifically designed to minimize space requirements on the printed circuit board. Headers have dual polarization and are compatible with virtually all IDC specifications.

6

Quickie™ III Edge Card Connectors

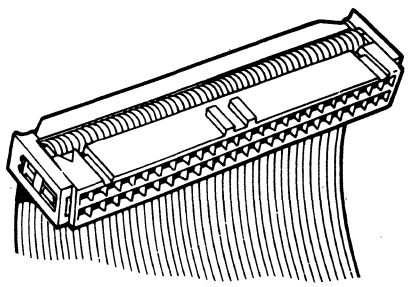


Single-beam configuration provides high contact pressure for reliable electrical performance. Preloaded cover ensures cable positioning and protects contacts. Bridge-type cover enhances connector-to-cable production rates. Molded-in polarization. Housed in glass-filled thermoplastic polyester rated UL94-V-0. **Insulation resistance:** 1 × 10^5 MΩ minimum. **Temperature range:** – 65°C to + 125°C. **Withstanding voltage:** 500 Vrms. Contact made of phosphor bronze, with finish of 30 μ" GXT™ over preplated nickel. **Current rating:** 1A. **Resistance:** 15 mΩ maximum.

Quickie™ III Edge Card Connectors Without Mounting Ears
30Ω GXT™ finish.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3002	71905-506	2 × 3	**.74**	**.70**
518-3004	71905-510	2 × 5	**.84**	**.80**
518-3006	71905-514	2 × 7	**.97**	**.92**
518-3007	71905-516	2 × 8	**1.05**	**.99**
518-3008	71905-518	2 × 9	**1.11**	**1.05**
518-3009	71905-520	2 × 10	**1.16**	**1.10**
518-3011	71905-524	2 × 12	**1.39**	**1.32**
518-3012	71905-526	2 × 13	**1.42**	**1.34**
518-3014	71905-530	2 × 15	**1.56**	**1.48**
518-3016	71905-534	2 × 17	**1.68**	**1.59**
518-3018	71905-538	2 × 19	**1.88**	**1.78**
518-3019	71905-540	2 × 20	**1.98**	**1.87**
518-3021	71905-544	2 × 22	**2.18**	**2.06**
518-3024	71905-550	2 × 25	**2.35**	**2.22**
518-3027	71905-556	2 × 28	**2.63**	**2.49**
518-3029	71905-560	2 × 30	**2.67**	**2.53**
518-3030	71905-562	2 × 31	**2.76**	**2.61**
518-3031	71905-564	2 × 32	**2.85**	**2.69**

Quickie™ III Female Connectors



Pre-loaded adjustable bridge-type cover suits a wide range of cable. Reduces assembly time, protects contacts and offers precise cover-to-base alignment ensuring reliable termination. Cover's feed-through design allows cable to be inserted into either side of the connector for cable-end terminations. Also allows connector to pass smoothly over cable for daisy chain applications. Serrated slots in the cover assure accurate positioning of the cable over the contacts during assembly. Long wiping action ensures good contact. Polarization by means of polarization plug. Glass-filled thermoplastic polyester body rated UL94-V-0. **Insulation resistance:** 1 × 10^5 MΩ minimum. **Temperature range:** – 65°C to + 125°C. **Withstanding voltage:** 1000 Vrms. Phosphor bronze contact has finish of 30 μ GXT over pre-plated nickel. **Current rating:** 1A. **Resistance:** 15 mΩ maximum.

Central And Dual Polarization Quickie™ III Female Connectors
Standard female assembly includes strain relief.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3100	71602-010	2 × 5	**.60**	**.57**
518-3102	71602-014	2 × 7	**.72**	**.68**
518-3104	71602-016	2 × 8	**.78**	**.74**
518-3106	71602-018	2 × 9	**.87**	**.82**
518-3108	71602-020	2 × 10	**.96**	**.91**
518-3110	71602-026	2 × 13	**1.23**	**1.16**
518-3112	71602-034	2 × 17	**1.64**	**1.55**
518-3114	71602-040	2 × 20	**1.82**	**1.72**
518-3116	71602-044	2 × 22	**1.95**	**1.85**
518-3118	71602-050	2 × 25	**2.16**	**2.04**
518-3120	71602-060	2 × 30	**2.46**	**2.33**
518-3122	71602-064	2 × 32	**2.56**	**2.44**

Optional Modular Mounting Hardware For Quickie™ III

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
518-3040	67041-001	Mounting Ears	**.11**	**.099**
518-3041	67042-001	Mounting Ears	**.11**	**.099**

Quickie III Edge Card Connectors incorporate optional mounting hardware: To obtain the equivalent of the Quickie II Edge Card Connectors with molded mounting ears and slots, order the corresponding Quickie II Edge Card Connectors and one modular hardware unit (which comes two pieces per unit).

Card Edge Conversion Chart

Quickie II Edge Card Connectors 30 μinch Gold	+	Modular Hardware (2 pieces)	=	Quickie III Edge Card Connectors 30 μinch Gold
66316-110		67042-001		71905-110
66316-110		67041-001		71905-110

Quickie Edge Card II To Quickie Edge Card III Conversion

Quickie II Edge 30 μ" Gold	Quickie III Edge 30 μ" GXT
66317-110	71905-510
66317-114	71905-514
66317-116	71905-516
66317-120	71905-520
66317-124	71905-524
66317-126	71905-526
66317-130	71905-530
66317-134	71905-534
66317-140	71905-540
66317-144	71905-544
66317-150	71905-550
66317-160	71905-560
66317-164	71905-564

Dual Polarization Quickie™ III Female Connectors

Standard female assembly including strain relief.

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3150	71602-306	2 × 3	.53	.50
518-3152	71602-308	2 × 4	.56	.53
518-3154	71602-310	2 × 5	.60	.57
518-3156	71602-314	2 × 7	.72	.68
518-3158	71602-316	2 × 8	.78	.74
518-3160	71602-318	2 × 9	.87	.82
518-3162	71602-320	2 × 10	.96	.91
518-3164	71602-326	2 × 13	1.23	1.16
518-3166	71602-334	2 × 17	1.64	1.55
518-3168	71602-340	2 × 20	1.82	1.72
518-3170	71602-344	2 × 22	1.95	1.85
518-3172	71602-350	2 × 25	2.16	2.04
518-3174	71602-360	2 × 30	2.46	2.33
518-3176	71602-364	2 × 32	2.56	2.44

Quickie II Female To Quickie III Female

Quickie II 30 μinch Gold	Quickie III 30 μinch GXT™
66900-210	71602-010
66900-214	71602-014
66900-216	71602-016
66900-220	71602-020
66900-226	71602-026
66900-234	71602-034
66900-240	71602-040
66900-244	71602-044
66900-250	71602-050
66900-260	71602-060
66900-010	71602-310
66900-014	71602-314
66900-016	71602-316
66900-020	71602-320
66900-026	71602-326
66900-034	71602-334
66900-040	71602-340
66900-044	71602-344
66900-050	71602-350
66900-060	71602-360

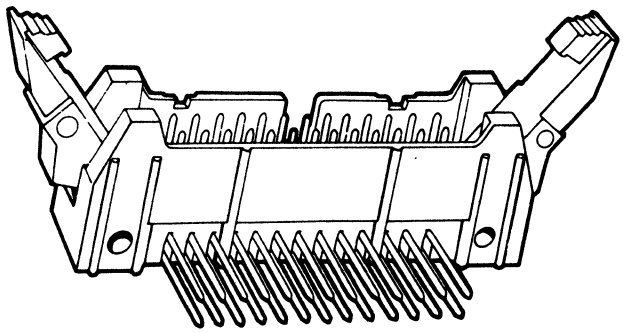
6

Quickie™ III Right-Angle Headers

Four-walled shielding protects pins in unmated condition and prevents misalignment. Dual polarization by use of polarization keys. Lock and eject system minimizes PC space required and allows dense packaging design. Feature duplex-plated pins made of phosphor bronze. **Current rating:** 1A. **Finish:** 30 μ" GXT™ over nickel on the two contact sides of the pin and gold flash on the other two non-contact sides. Body is glass-filled thermoplastic polyester rated UL94-V-0. **Insulation resistance:** 1 × 10^5 MΩ minimum. **Temperature range:** −65°C to +125°C. **Withstanding voltage:** 1000 Vrms. Polarization achieved by cutting off pin and adding polarization plug to mating female connector.

Standard Latch Quickie™ III Right-Angle Headers

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3200	71922-106	2 × 3	.97	.92
518-3202	71922-108	2 × 4	1.04	.99
518-3204	71922-110	2 × 5	1.11	1.05
518-3206	71922-114	2 × 7	1.24	1.17
518-3208	71922-116	2 × 8	1.30	1.24
518-3210	71922-118	2 × 9	1.38	1.31
518-3212	71922-120	2 × 10	1.46	1.38
518-3214	71922-126	2 × 13	1.69	1.60
518-3216	71922-134	2 × 17	1.95	1.85
518-3218	71922-140	2 × 20	2.15	2.02
518-3220	71922-144	2 × 22	2.30	2.17
518-3222	71922-150	2 × 25	2.52	1.38
518-3224	71922-160	2 × 30	2.85	2.70
518-3226	71922-164	2 × 32	2.94	2.79



Quickie II Right-Angle Header To Quickie III Header Cross Reference

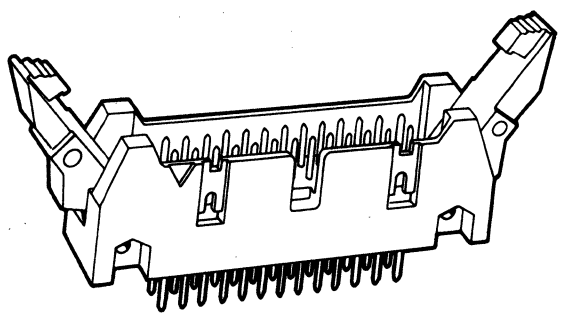
Quickie Header 30 μinch Gold	Quickie III 30 μinch GXT™
66429-049	71922-110
66429-055	71922-114
66429-061	71922-116
66429-067	71922-120
66429-073	71922-126
66429-079	71922-134
66429-085	71922-140
66429-553	71922-144
66429-091	71922-150
66429-103	71922-160

Quickie™ III Straight Header With Dual Polarization Slots

Four-walled shielding protects pins in unmated condition and prevents misalignment. Dual-function latches lock and eject a mated connector. Minimize space requirements on printed circuit boards. Headers feature duplex-plated pins. The two contact sides of the pin are plated in 30 μinch GXT™ over nickel finish, and the two noncontact sides of the pin are plated with gold flash. **Current rating:** 1A. Body is glass-filled thermoplastic polyester rated UL94-V-0. **Insulation resistance:** 1 × 10^5 M minimum. **Temperature range:** −65°C to +125°C. **Withstanding voltage:** 1000 Vrms sea level. Polarization achieved by cutting off pin and adding polarization plug to mating female connector. Dual polarization by use of polarization keys.

Standard Latch Quickie™ III Straight Headers

Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3250	71918-106	2 × 3	.97	.92
518-3252	71918-108	2 × 4	1.04	.99
518-3254	71918-110	2 × 5	1.11	1.05
518-3256	71918-114	2 × 7	1.24	1.17
518-3258	71918-116	2 × 8	1.30	1.23
518-3260	71918-118	2 × 9	1.38	1.31
518-3262	71918-120	2 × 10	1.46	1.38
518-3264	71918-126	2 × 13	1.69	1.60

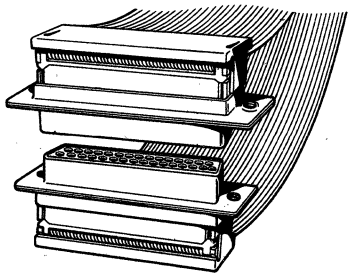


Stock No.	Mfr.'s Type	No. of Pos.	EACH	
			1-99	100-499
518-3266	71918-134	2 × 17	1.95	1.85
518-3268	71918-140	2 × 20	2.15	2.03
518-3270	71918-144	2 × 22	2.30	2.17
518-3272	71918-150	2 × 25	2.52	2.38
518-3274	71918-160	2 × 30	2.85	2.70
518-3276	71918-164	2 × 32	2.96	2.80

Quickie™ II Vertical Headers To Quickie™ III Straight Headers Cross References

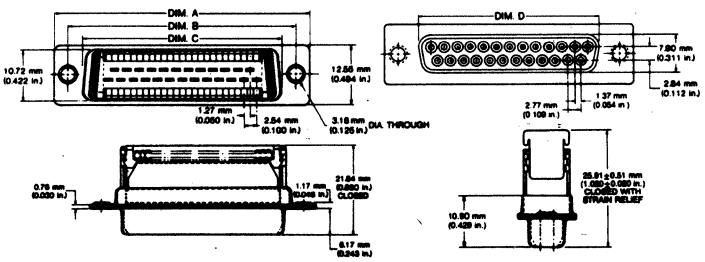
Quickie Header 30 μinch Gold	Quickie III 30 μinch GXT	Quickie Header 30 μinch Gold	Quickie III 30 μinch GXT
65863-049	71918-110	65863-079	71918-134
65863-055	71918-114	65863-085	71918-140
65863-061	71918-116	65863-548	71918-144
65863-067	71918-120	65863-091	71918-150
65863-073	71918-126	65863-103	71918-160

Quickie™ IDC "D" Subminiature Connectors



- **Available in plastic or with metal shell.**
- **Pre-loaded cover provides one-piece cable housing for rapid assembly.**
- **Serrated cable slot facilitates precise cable positioning over contacts.**
- **Industry standard connector configurations allow mating with military and commercial "D" subminiature connectors.**
- **IDC technique enables simultaneous termination, without prestripping, of all conductors of flat flexible, round conductor cable with 1,27 mm (0.050 in.) pitch.**

Grid is a staggered pattern in multiples of 1,38 (0.054 in.). Polarization is achieved by trapezoid shape of the housing. The body is glass-filled thermoplastic polyester (UL 94V-0); black. Metal shell (optional), steel with zinc, yellow chromate finish or steel with tin-over-copper finish with insulation resistance of 2×10^6 MΩ; temperature range of −65°C to +105°C and can withstand voltage of 1300 Vrms, 60 Hz at sea level. The contact material is copper-based alloy with a finish in the contact area: 0,75 μm (30 μin.) or 0,38 μm (15 μin.) gold over nickel. The current rating is 1A DC with resistance of 20 mΩ max. The mating force 1.7 N (6 oz.) max. per contact. Cable termination is 28 AWG stranded or 30 AWG solid, flat flexible, round conductor cable on 1,27 mm (0.050 in.) centers.



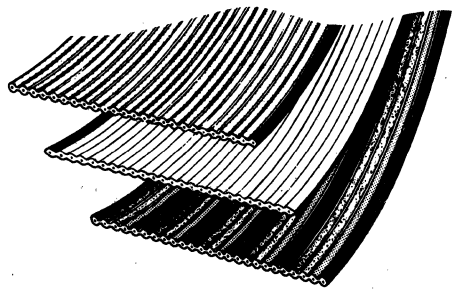
Series 66169 Plug Metal Shell

Stock No.	Mfr.'s Type	Description	EACH 1-99	EACH 100-499
518-4009	66169-109	30 μin. Gold, Tin Shell	**1.98**	**1.78**
518-4015	66169-115	30 μin. Gold, Tin Shell	**3.30**	**2.97**
518-4025	66169-125	30 μin. Gold, Tin Shell	**5.50**	**4.95**
518-4037	66169-137	30 μin. Gold, Tin Shell	**8.14**	**7.73**
518-4059	66169-509	15 μin. Gold, Tin Shell	**1.89**	**1.69**
518-4065	66169-515	15 μin. Gold, Tin Shell	**3.10**	**2.77**
518-4075	66169-525	15 μin. Gold, Tin Shell	**5.20**	**4.65**
518-4087	66169-537	15 μin. Gold, Tin Shell	**7.74**	**6.93**

Series 66170, Receptacle, Metal Shell

518-4109	66170-109	30 μin. Gold, Tin Shell	**2.16**	**1.94**
518-4115	66170-115	30 μin. Gold, Tin Shell	**3.60**	**3.24**
518-4125	66170-125	30 μin. Gold, Tin Shell	**6.00**	**5.40**
518-4137	66170-137	30 μin. Gold, Tin Shell	**8.88**	**8.00**
518-4159	66170-509	15 μin. Gold, Tin Shell	**2.06**	**1.84**
518-4165	66170-515	15 μin. Gold, Tin Shell	**3.40**	**3.04**
518-4175	66170-525	15 μin. Gold, Tin Shell	**5.70**	**5.10**
518-4187	66170-537	15 μin. Gold, Tin Shell	**8.48**	**7.60**

Quickie™ IDC System Flat Cable



Compatible with Quickie™ connectors, flat cable is PVC insulated and features conductors made of soft annealed copper with tin finish and pitch of 0.050". **Type 76177** come with sequentially colored conductors and and are UL listed-style 2884. All others have identification stripe to indicate the first position and are UL listed-style 2651. **Resistance:** >104 megohms/3m. **Temperature:** 105°C maximum. **Dielectric strength:** 1500 Vrms. **Impedance:** 105Ω stranded; 125Ω solid. **Capacitance:** 46 pF/m stranded; 43 pF/m solid. **Voltage rating:** UL 300 VAC. UL recognized, CSA certified.

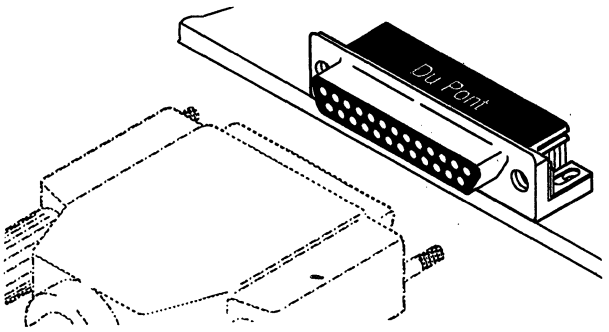
28 AWG Stranded Flat Cable

Stock No.	Mfr.'s Type	No. of Pos.	PER COIL OF 100' 1-4	PER COIL OF 100' 5-9
518-3509	76177-009	9	**18.00**	**16.20**
518-3510	76177-010	10	**20.00**	**18.00**
518-3514	76177-014	14	**28.00**	**25.20**
518-3515	76177-015	15	**30.00**	**27.00**
518-3516	76177-016	16	**32.00**	**28.80**
518-3520	76177-020	20	**40.00**	**36.00**
518-3525	76177-025	25	**50.00**	**45.00**
518-3526	76177-026	26	**52.00**	**46.80**
518-3534	76177-034	34	**68.00**	**61.20**
518-3537	76177-037	37	**74.00**	**66.60**
518-3540	76177-040	40	**80.00**	**72.00**
518-3544	76177-044	44	**88.00**	**79.20**
518-3550	76177-050	50	**100.00**	**90.00**
518-3560	76177-060	60	**120.00**	**108.00**
518-3564	76177-064	64	**128.00**	**115.20**
518-3709	76825-009	9	**10.80**	**9.72**
518-3710	76825-010	10	**12.00**	**10.80**
518-3714	76825-014	14	**16.80**	**15.12**
518-3715	76825-015	15	**18.00**	**16.20**
518-3716	76825-016	16	**19.20**	**17.28**
518-3720	76825-020	20	**24.00**	**21.60**
518-3725	76825-025	25	**30.00**	**27.00**
518-3726	76825-026	26	**31.20**	**28.08**
518-3734	76825-034	34	**40.80**	**36.72**
518-3737	76825-037	37	**44.40**	**39.96**
518-3740	76825-040	40	**48.00**	**43.20**
518-3744	76825-044	44	**58.96**	**53.05**
518-3750	76825-050	50	**60.00**	**54.00**
518-3760	76825-060	60	**72.00**	**64.80**

30 AWG Solid Flat Cable

518-3910	76167-010	10	**20.78**	**18.70**
518-3914	76167-014	14	**23.60**	**21.24**
518-3920	76167-020	20	**33.72**	**30.35**
518-3926	76167-026	26	**43.84**	**39.46**
518-3934	76167-034	34	**57.34**	**51.61**
518-3940	76167-040	40	**67.44**	**60.70**
518-3944	76167-044	44	**74.18**	**66.76**
518-3950	76167-050	50	**84.30**	**75.87**
518-3960	76167-060	60	**99.48**	**89.53**
518-3964	76167-064	64	**107.88**	**97.09**

Right Angle D-Subminiature Headers



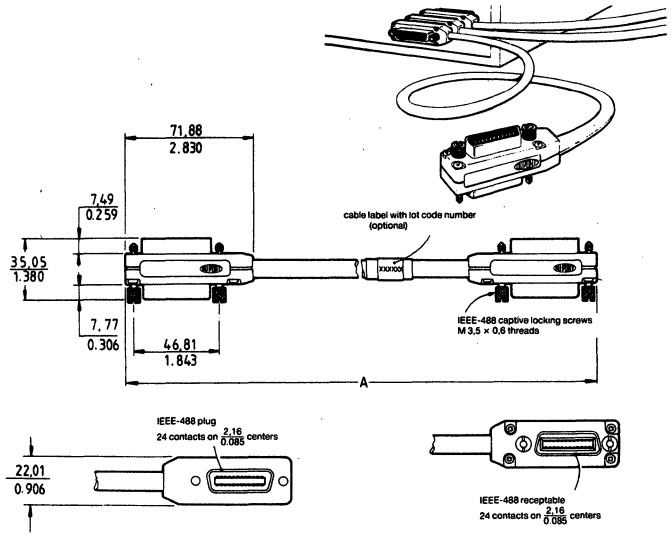
► **Industry standard connector designs allow mating with both military and commercial D-Subminiature connectors.**
► **Metal shells ensure EMI protection.**
► **Right angle plugs and receptacles are available in 9, 15, 25, and 37 positions. Duplex plating is available in the contact areas with 30 μin. (0.76 μm) of gold over 50 μin. (1.27 μm) of nickel underplate, or gold flash over 50 μin. (1.27 μm) of nickel underplate.**
► **High density versions use 67% less space than standard connectors.**
► **All connectors are offered with PWB grounding and retentive feature. All are available with or without hex standoff.**

Product offering includes the most popular versions used in today's market and state-of-the-art high density versions for new designs. These include the popular right angle short (.318) footprint and the traditional long footprint (.590) in 9, 15, 25 and 37 position versions and a high density version, offering 67% greater packaging density, in 15, 44, 62 and 104 position versions.

The housing is glass-filled thermoplastic polyester (UL 94V-0) with insulation resistance of 2 GΩ min. and a temperature range of – 40°C to + 105°C. Product can withstand voltage of 1000 Vrms min. The shell is a steel strip with a finish of 150 μin. tin-lead plating. Contact base material-male is brass MIL C50 and the base material-female is phosphor-bronze CDA-510 with a finish of gold flash over 50 μin. (1.27 μm) nickel underplate at engagement area, 150 μin. (3.81 μm) tin-lead plate at termination area, or 30 μin. (0.76 μm) gold over 50 μin. (1.27 μm) nickel underplate at engagement area, 150 μin. (3.81 μm) tin-lead plate termination area. The current rating as 2 amps fully loaded with resistance of 30 mΩ max.

Stock No.	Mfr.'s Type	No. of Pos.	Sex	High Density	Gold		Footprint		EACH	
					30	Flash	Short 0.318	Long 0.590	1-99	100-499
518-4200	86857-309	9	M	—	—	X	X	—	**1.53**	**1.39**
518-4202	86857-315	15	M	—	—	X	X	—	**2.00**	**1.82**
518-4204	86857-325	25	M	—	—	X	X	—	**2.12**	**1.92**
518-4206	86857-337	37	M	—	—	X	X	—	**2.67**	**2.42**
518-4210	86858-309	9	F	—	—	X	X	—	**1.85**	**1.68**
518-4212	86858-315	15	F	—	—	X	X	—	**2.12**	**1.92**
518-4214	86858-325	25	F	—	—	X	X	—	**2.28**	**2.07**
518-4216	86858-337	37	F	—	—	X	X	—	**2.80**	**2.53**
518-4220	86859-309	9	M	—	—	X	—	X	**1.65**	**1.50**
518-4222	86859-315	15	M	—	—	X	—	X	**2.08**	**1.88**
518-4224	86859-325	25	M	—	—	X	—	X	**2.31**	**2.10**
518-4226	86859-337	37	M	—	—	X	—	X	**2.86**	**2.59**
518-4230	86860-309	9	F	—	—	X	—	X	**1.77**	**1.60**
518-4232	86860-315	15	F	—	—	X	—	X	**2.16**	**1.96**
518-4234	86860-325	25	F	—	—	X	—	X	**2.55**	**2.31**
518-4236	86860-337	37	F	—	—	X	—	X	**3.85**	**3.49**
518-4240	71561-309	9	M	—	X	—	X	—	**1.88**	**1.71**
518-4242	71561-315	15	M	—	X	—	X	—	**2.20**	**1.99**
518-4244	71561-325	25	M	—	X	—	X	—	**2.71**	**2.46**
518-4246	71561-337	37	M	—	X	—	X	—	**3.18**	**2.88**
518-4250	71562-309	9	F	—	X	—	X	—	**2.08**	**1.89**
518-4252	71562-315	15	F	—	X	—	X	—	**2.59**	**2.35**
518-4254	71562-325	25	F	—	X	—	X	—	**3.26**	**2.95**
518-4256	71562-337	37	F	—	X	—	X	—	**4.00**	**3.63**
518-4260	71563-309	9	M	—	X	—	—	X	**1.92**	**1.74**
518-4262	71563-315	15	M	—	X	—	—	X	**2.28**	**2.07**
518-4264	71563-325	25	M	—	X	—	—	X	**2.82**	**2.56**
518-4266	71563-337	37	M	—	X	—	—	X	**3.37**	**3.06**
518-4270	71564-309	9	F	—	X	—	—	X	**2.20**	**1.99**
518-4272	71564-315	15	F	—	X	—	—	X	**2.75**	**2.49**
518-4274	71564-325	25	F	—	X	—	—	X	**3.49**	**3.16**
518-4276	71564-337	37	F	—	X	—	—	X	**4.28**	**3.88**
518-4282	86364-315	15	F	X	X	—	X	—	**2.25**	**2.16**

GPIB Shielded Cable Assemblies

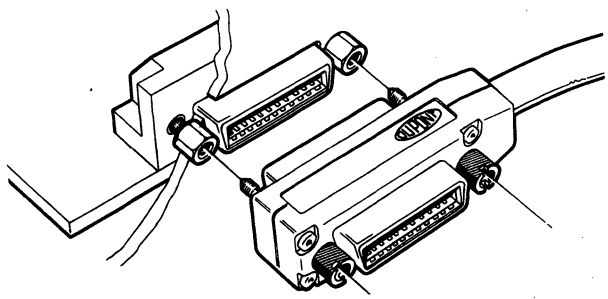


General Purpose Interface Bus assemblies feature double shielded cable, metal cast connector housing and shield termination. Pre-loaded cantilever beam ensures low connector insertion force and minimum contact wear. Interface meets IEEE-488 specifications. **Spacing:** 0.85 inch. Connector has insulation resistance of 10 GΩ minimum, 1A maximum current rating, and 1,000 cycles durability. Contact force of 101, 5N per contact, with 24 contacts per connector side. Housed in black glass-filled thermoplastic polyester rated UL94V-0. Contact is of beryllium copper with 30 μinch gold over nickel finish. Shielded cover is of zinc alloy with nickel finish. Black oxidized steel captive locking screw and metric thread. Double shielded cable made of aluminum/mylar polyester film tape with braid and drain wire. Gray PVC insulation. **Material conductors:** AWG 26-7/34. Signal line resistance is 0.14 μ/m maximum, bulk resistance braid is 0.0085 Ω/m maximum. **Capacitance:** 150 pF/m maximum at 1kHz. Impedance of 70-75Ω. **Operating temperature:** 80°C maximum.

Standard GPIB Assembly Lengths

Stock No.	Mfr.'s Type	Dimension A Inches	EACH
518-4401	81190-005	23.62	**62.33**
518-4402	81190-010	43.30	**65.85**
518-4403	81190-020	82.68	**71.88**
518-4404	81190-040	161.42	**82.87**
518-4405	81190-060	240.16	**91.65**
518-4406	81190-080	318.90	**103.80**

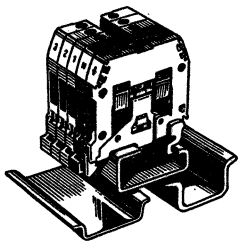
GPIB Headers

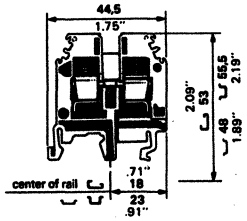


General Purpose Interface Bus Headers have 0.85 inch spacing. Connector has insulation resistance of 10 GΩ minimum, contact resistance of 10 mΩ maximum, withstanding voltage of 1000 VAC RMS, and current rating of 1.5A maximum. Contact force is 1-1, 5N per contact and durability is 1000 cycles. 24 contacts. Housed in glass-filled thermoplastic polyester UL listed 94V-0, color black. Contact material is beryllium copper, and finish is 30 μinch gold over nickel in contact area and 100 μinch tin-lead over nickel on the soldertail. Shield and R/A bracket are low carbon steel with nickel finish. Threaded clinching nuts are low carbon steel with cadmium and clear chromate. **Temperature range:** – 55°C to + 105°C.

Stock No.	Mfr.'s Type	Description	EACH
518-4410	68277-001	4-40 UNC 2B threaded holes	**5.50**

Series 5000 Terminal Blocks





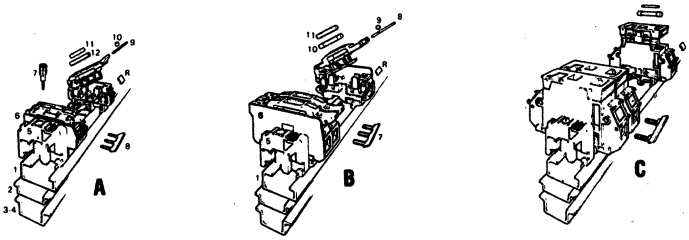
Series 5000 rail-mounted terminal blocks can meet all your needs for modular terminals—from high density to high power. They can reduce your inventory and simplify restocking. Just 3 terminals meet 90% of most user's requirements. (100-10 AWG terminations per foot.) Universal mounting foot "snaps" onto standard DIN and DIN 2 rail profiles. Terminals are positively retained on rails, yet individual units can easily be removed without disturbing adjacent units. Composed of molded thermoplastic. **Color:** Grey. UL Approved up to 600 V.

Model M4/6. Standard 6 mm (.238") block. 22-12 AWG wire.
539-0005. 11511607 ..... **EACH 1.18**

Model M6/8. Standard 8 mm (.315") block. 22-8 AWG wire.
539-0010. 11511811 ..... **EACH 1.77**

Model M10/10. Standard 10 mm (.394") block. 20-6 AWG wire.
539-0015. 11512017 ..... **EACH 2.38**

Fuse Holder Terminal Blocks



All the characteristics of the Series 5000 terminal blocks with the added circuit protection of fuses. Uses many of the same accessories with the same ease of installation and inventory control. Grey body, UL Approved to 600 V.

Model M4/8—Fig. A. For 5 × 20 and 5 × 25 mm fuses. Standard 8 mm (.315") block. 22-12 AWG wire. 6.3 Amps.
539-0020. 11513106. Basic block ..... **EACH 5.81**
539-0025. 11516924. With neon lamp fusion indicator. 110-220 VAC ..... **EACH 10.55**
539-0030. 11522023. With LED diode fusion indicator. 24 V ..... **EACH 12.31**

Model M10/13—Fig. B. For 1/4 × 1 1/4" fuses. Standard 13 mm (.512") block. Up to 10 AWG wire. 10 Amps/250 VAC. (Not UL Approved).
539-0035. 11104315 ..... **EACH 9.12**

Model MB10/22—Fig. C. For 13/32 × 1 1/2" fuses. Standard 22 mm (.866") block. 18-6 AWG wire. 32 Amps.
539-0040. 11630324 ..... **EACH 9.98**

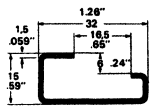
PR1 (DIN 1) and PR3 (DIN 3) Rails

For Series 5000 terminal blocks. Blocks "snap" to rails. PR1 in compliance with EN50035 standard (DIN 46277-1/NFC63018). PR3 in compliance with EN50022 standard (DIN 46277-3/NFC63015). Supplied in 78" lengths.

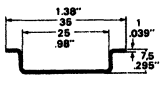
Model PR1—Fig. D. Bichromated zinced steel.
539-0045. 16305004 ..... **EACH 11.78**

Model PR3—Fig. E. Galvanized steel.
539-0050. 16480003 ..... **EACH 8.98**

D

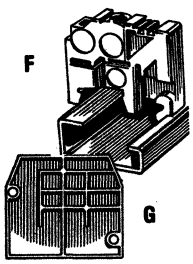


E



F

G



End Stop and End Sections

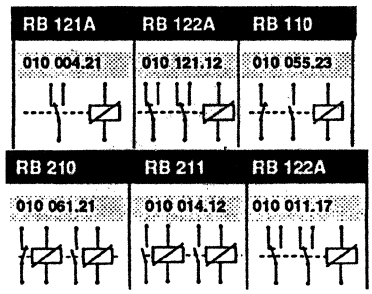
End Stop (Fig. F)
Model BAM. For all holders and blocks on this page.
539-0055. 10300226 ..... **EACH .89**

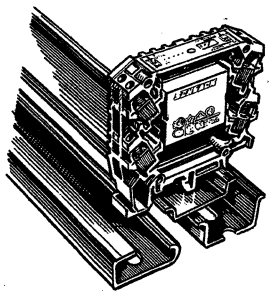
End Sections (Fig. G)
Model FEM6. For terminal blocks only.
539-0060. 11836816 ..... **EACH .34**
Model FEM8S. For M4/8 fuse holders only.
539-0065. 11862427 ..... **EACH .46**
Model FEM13. For M10/13 fuse holders only.
539-0070. 11850327 ..... **EACH 2.73**

Neon Replacement Lamp

539-0075. 16707525. 110-380 V. **Solds in packs of 10 pcs. only** ..... **EACH 2.23**

Modular Interface Relays

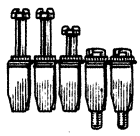




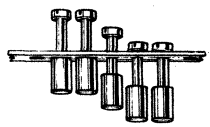
Stock No.	Mfr.'s Type	Description	Thickness In. (mm)	Block Per Foot	Width In. (mm)	Height on Rail		EACH
						DIN 3 In. (mm)	CENELEC In. (mm)	
539-0225	10004.21	1 SPDT	.71 (18)	17	2.44 (62)	2.56 (65)	2.85 (72.5)	34.13
539-0230	10121.12	2 SPDT	.71 (18)	17	2.44 (62)	2.56 (65)	2.85 (72.5)	45.26
539-0235	10055.23	1 NO + 1 NC	.71 (18)	17	2.44 (62)	2.56 (65)	2.85 (72.5)	48.62
539-0240	10061.21	1 NC + 1 NO	.71 (18)	17	2.44 (62)	2.56 (65)	2.85 (72.5)	79.95
539-0245	10014.12	1 NO + 1 NO	.71 (18)	17	2.44 (62)	2.56 (65)	2.85 (72.5)	69.48
539-0250	10011.17	2 SPDT	.91 (23)	13	2.44 (62)	2.56 (65)	2.85 (72.5)	58.94

Assembled Jumper Bars

M



N



Model BJM. Fig. M: Fractionable model composed of captive screws on a jumper bar system.
Fig. N: Composed of a bar drilled to the spacing of the blocks, captive screws and spacers.

For M4/6 Terminal Blocks Only—Fig. M.

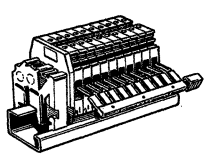
Stock No.	Mfr.'s Type	Description	EACH
539-0115	16851625	2-pole	.99
539-0120	16851726	3-pole	1.51
539-0125	16851900	5-pole	2.78
539-0130	16897307	10-pole	5.97

For M6/8 Terminal Blocks Only—Fig. M.

539-0135	16852005	2-pole	1.35
539-0140	16852122	3-pole	1.91
539-0145	16852324	5-pole	3.34
539-0150	16897400	10-pole	5.95

For M10/10 Terminal Blocks Only—Fig. N.

539-0155	17361121	2-pole	1.20
539-0160	17361222	3-pole	2.23
539-0165	17361424	5-pole	6.58
539-0170	17361525	10-pole	10.81



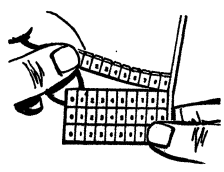
Comb-Type Jumper Bars

Can be used only on terminal blocks with at least one compression clamp connection. Permits electrical connection of 2 to 10 blocks. Interconnection of non-consecutive blocks is possible by removing teeth opposite the blocks not being used. Bars can be cust with saw or pliers. Use partition on end plate between two series of interconnected blocks to preserve insulation. Comb is placed in compression clamp before tightening screws.

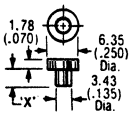
Stock No.	Mfr.'s Type	Description	For Terminal Block	EACH
539-0175	11354614	2-pole	M4/6	1.89
539-0180	11354826	10-pole	M4/6	2.29
539-0185	16331324	10-pole	M6/8	3.10
539-0190	16331526	10-pole	M10/10	4.48

Series RC6 Markers

Markers supplied on cards of 100 each. White polyamide 6 molding, black letters.
539-0080. 10308419. 100 blank **PK/100 2.30**
539-0085. 10311927. Numbered 1-100* **PK/100 3.22**
539-0090. 10320700. Numbered 1-50 twice* **PK/100 4.29**
539-0091. 10312024. Numbered 1-100† **PK/100 3.22**
*Horizontal. †Vertical.



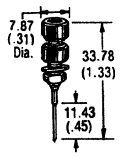
Miniature Rivet Type Banana Jack



Excellent for riveting to panels or boards. **Material:** Miniature banana jack. 2.64 mm (.104) dia., leaded copper. **Finish:** Gold plated. **Rating:** 1500 WVDC, 5 Amps.

885-3280. 3280. Dim. "X" = 2.67 (.105). **1-49** **PK/10 4.50**
885-3282. 3282. Dim. "X" = 4.19 (.165). **1-49** **PK/10 5.50**

Miniature Banana Jacks

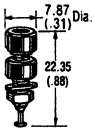


Insulated with Wrapped Wire Terminal

Excellent for rapid connection of wires using wrapped wire tools or machines. Closed entry 2.64 mm (.104) dia. jack. Mounts in panels up to 6.35 mm (.250) thick. Nickel plated 8-32 hex nut and lockwasher included. **Upper:** Miniature banana jack. Brass, nickel plated. **Insulation:** Polycarbonate. **Lower:** 0.64 mm (.025) Sq. Wrapped Wire Terminal. Phosphor bronze, gold plated. **Rating:** 1500 WVDC, 3 Amps, + 115°C. (+ 239°F). Max.

885-4020. 4022-0 (Black). **1-49** **PK/10 15.50**
885-4022. 4022-2 (Red). **1-49** **PK/10 15.50**

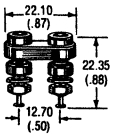
Insulated Banana Jack



Closed entry 2.64 mm (1.04) dia. jack. Mounts in panels up to 6.35 mm (.250) thick. Nickel plated 8-32 hex nut and lockwasher included. **Material:** Brass. **Finish:** Gold plated. **Insulation:** Polycarbonate. **Rating:** 1500 WVDC, 5 Amps, + 115°C. (+ 239°F.) Max.

885-2140. 2142-0 (Black). **1-49** **PK/10 10.00**
885-2142. 2142-2 (Red). **1-49** **PK/10 10.00**
885-2145. 2142-5 (Green). **1-49** **PK/10 10.00**
885-2146. 2142-6 (Blue). **1-49** **PK/10 10.00**
885-2149. 2142-9 (White). **1-49** **PK/10 10.00**

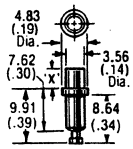
Insulated Double Banana Jack



Closed entry 2.64 mm (.104) dia. jack. Mounts in panels up to 4.77 mm (.188) thick. Nickel plated 8-32 hex nut and lockwasher included. **Material:** Brass. **Finish:** Gold plated. **Insulation:** Polycarbonate. One black and one red jack. Choice of black or red mounting base. **Rating:** 1500 WVDC, 5 Amps, + 115°C (+ 239°F.) Max.

885-2143. 2143-0 (Black). **1-49** **PK/10 27.50**

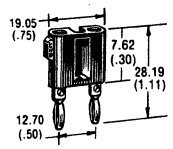
Rivet Type with Turret



Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires. **Material:** Miniature banana jack. 2.64 mm (.104) dia. tellurium copper. **Finish:** Gold plated. **Rating:** 1500 WVDC, 5 Amps.

885-3279. 3279 Dia. "X" = 4.19 (.165). **1-49** **PK/10 6.00**

Miniature Double Banana Plugs

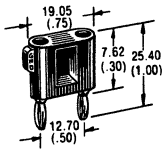


Miniature Double Banana Plug with Setscrews

Internal setscrews to secure cable or component leads. **Upper:** Miniature double banana jack. Brass, gold plated. **Insulation:** ABS. **Lower:** Miniature double banana plug. Spring, one piece heat treated beryllium copper, gold plated. Fits miniature 2.64 mm (.104) dia. banana jack. Setscrew, steel, cadmium plated. **Rating:** 2500 WVDC, 5 Amps, + 50°C. (+ 122°F.) Max.

885-2240. 2244-0 (Black). **1-24** ..... **EACH 3.75**
25-49 ..... **EACH 3.45**
885-2242. 2244-2 (Red). **1-24** ..... **EACH 3.75**
25-49 ..... **EACH 3.45**

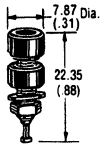
Miniature Double Banana Plug with Shorting Bar



Upper: Miniature double banana jack. Brass, gold plated. **Insulation:** ABS. **Lower:** Miniature double banana plug. Spring, one piece heat treated beryllium copper, gold plated. Fits miniature 2.64 mm (.104) dia. banana jack. **Rating:** 2500 WVDC, 5 Amps, + 50°C. (+ 122°F.) Max.

885-2030. 2035-0 (Black). **1-24** ..... **EACH 4.05**
25-49 ..... **EACH 3.73**
885-2032. 2035-2 (Red). **1-24** ..... **EACH 4.05**
25-49 ..... **EACH 3.73**

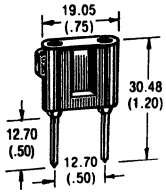
Pin Jack



Closed entry 2.03 mm (.080) pin jack. Mounts in panels to 6.35 mm (.250) mm thick. Nickel plated 8-32 hex nut and lockwasher included. **Material:** Pin jack body, brass. Spring, beryllium copper. **Finish:** Pin jack, gold plated. **Insulation:** Polycarbonate. **Rating:** 1500 WVDC, 5 Amps, + 115°C. (+ 239°F.) Max.

885-3540. 3542-0 (Black). **1-49** **PK/10 12.00**
885-3542. 3542-2 (Red). **1-49** **PK/10 12.00**
885-3545. 3542-5 (Green). **1-49** **PK/10 12.00**
885-3549. 3542-9 (White). **1-49** **PK/10 12.00**

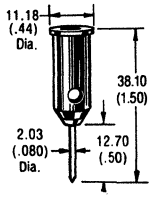
Miniature Double Pin Tip Plug with Shorting Bar



Ideal as a connecting link for use with 12.70 mm (.500) spaced pin jacks. 2.03 mm (.500) spaced pin jacks. 2.03 mm (.080) double pin tip plug internally solder-bonded with #20 AWG wire. "Shorting bar" stamped on insulation. **Upper:** Double pin jack. Spring, beryllium copper, gold plated. **Insulation:** ABS. **Lower:** Double pin tip plug. Brass, gold plated. **Rating:** 3000 WVDC, 5 Amps, + 50°C. (+ 122°F.) Max.

885-3452. 3252-0 (Black). **1-24** ..... **EACH 3.75**

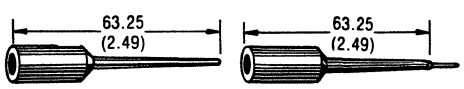
Banana Jack to Pin Tip Plug



Permits standard banana plug patch cords to be used with equipment having tip jacks. Cross hold 4.22 mm (.166) dia. provides side stackup connection. **Upper:** Banana jack. 4.22 mm (.166) dia. brass, nickel plated. **Insulation:** ABS. **Lower:** Pin tip plug. Brass, nickel plated. **Rating:** 3000 WVDC, 5 Amps, + 50°C. (+ 122°F.) Max.

885-1430. 1432-0 (Black). **1-49** **PK/10 9.00**
885-1432. 1432-2 (Red). **1-49** **PK/10 9.00**

Connector Test Adapters



An ideal test adapter for rapid testing of the hard-to-get at contacts of multipin/socket rack or panel connectors. Flexible tip allows testing of adjacent contacts. Flexibility and full insulation protects against shorting or contact damage. The model 4690 also fits .635 mm (.025) sq. pins. **Upper:** Banana jack. 4.22 mm (.166) dia., brass, nickel plated. **Insulation:** Polyvinyl chloride (PVC). **Lower:** Socket type, copper. Pin type, brass. Gold plated. See tab block. **Rating:** 2500 WVDC, + 50°C. (+ 122°F.) Max.

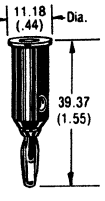
Socket Type

Stock No.	Mfr.'s Type	Color	Contact Size	Amps	EACH
885-4690	4690-0	Black	22/.762 (.030) Dia.	5.0	**3.60**
885-4692	4590-2	Red	22/.762 (.030) Dia.	5.0	**3.60**
885-3560	3560-0	Black	20/1.02 (.040) Dia.	7.5	**2.75**
885-3562	3560-2	Red	20/1.02 (.040) Dia.	7.5	**2.60**
885-3561	3562-0	Black	16/1.60 (.630) Dia.	13.0	**3.00**
885-3566	3562-2	Red	16/1.60 (.630) Dia.	13.0	**3.00**
885-3564	3564-0	Black	12/2.36 (.930) Dia.	23.0	**4.85**
885-3563	3564-2	Red	12/2.36 (.930) Dia.	23.0	**4.85**

Pin Type

885-4790	4691-0	Black	22/.762 (.030) Dia.	5.0	**2.75**
885-4792	4591-2	Red	22/.762 (.030) Dia.	5.0	**2.75**
885-3660	3561-0	Black	20/1.02 (.040) Dia.	7.5	**3.00**
885-3662	3561-2	Red	20/1.02 (.040) Dia.	7.5	**3.00**
885-3664	3563-0	Black	16/1.60 (.630) Dia.	13.0	**2.60**
885-3666	3563-2	Red	16/1.60 (.630) Dia.	13.0	**2.60**
885-3667	3565-0	Black	12/2.36 (.930) Dia.	23.0	**2.60**
885-3565	3565-2	Red	12/2.36 (.930) Dia.	23.0	**2.25**

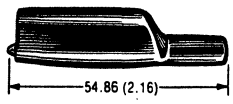
Pin Jack to Banana Plug



Permits pin tip cords to be used with equipment having banana jacks. **Upper:** Pin jack. Spring, beryllium copper, gold plated. Accepts 2.03 mm (.080) dia. pin. **Insulation:** ABS. **Lower:** Banana plug. Body, brass. Spring, one piece heat treated beryllium copper. Nickel plated. **Rating:** 3000 WVDC, 5 Amps, + 50°C. (+ 122°F.) Max.

885-1809. 1809-0 (Black) ..... **EACH 1.70**

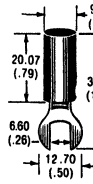
Insulated Alligator Clip Banana Jack



Material: Alligator clip, steel. Accepts standard banana plug. **Finish:** Nickel plated. **Insulation:** Vinyl. **Rating:** + 50°C. (+ 122°F.) Max.

885-2241. 2240-0 (Black). **1-24** **PK/10 5.50**
885-2243. 2240-2 (Red). **1-24** **PK/10 5.50**

Insulated Spade Lug

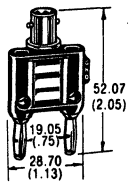


Upper: Model 1614, banana jack, brass, nickel plated. **Insulation:** ABS. **Lower:** 1.52 mm (.060) thick spade lug, brass, nickel plated. **Rating:** 500 WVDC, 15 Amps, + 50°C. (+ 122°F.) Max.

885-1610. 1614-0 (Black). **1-24** . **EACH 1.70**
885-1612. 1614-2 (Red). **1-24** . . **EACH 1.70**

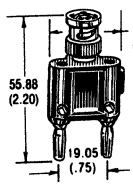
BNC Adapters

BNC Female to Double Banana Plug



Permits BNC male to be used with equipment having banana jacks. Excellent for adapting laboratory VTVM, oscilloscopes and signal generator inputs to readily available coaxial cables. Cross holes 4.22 mm (.166) dia. in body provide side stackup connections. **Upper:** BNC female. **Impedance:** 50 Ohms. **Insulation:** ABS, black. **Lower:** Double banana plug. Body, brass. Spring, one piece heat treated beryllium copper. Nickel plated. **Rating:** Operating Voltage: 500 VRMS Max., + 50°C. (+ 122°F.) Max.

885-0250. 1269. **1-24** ..... **EACH 5.15**

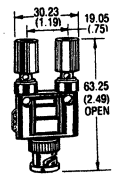


BNC Male to Double Banana Plug

Permits BNC female to be used with equipment having banana jacks. Cross holes 4.22 mm (.166) dia. in body provide side stackup connections. **Upper:** BNC male. Impedance: 50 Ohms. **Insulation:** ABS, black, **Lower:** Double banana plug. Body, brass. Spring, one piece heat treated beryllium copper. Nickel plated. **Rating:** Operating Voltage: 500 VRMS max., + 50°C. (+ 122°F.) Max.

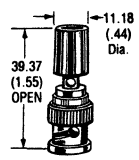
885-1270. 1270. **1-24** ..... **EACH 8.05**

Standard Double Binding Posts to BNC Male



Permits single or double plugs to be used with equipment having a BNC female. **Upper:** Double binding post with captive thumb nut. Brass, nickel plated. Accepts standard banana plugs. Polycarbonate insulation. One black and one red. **Insulation:** ABS, black. **Lower:** BNC male. Impedance: 50 Ohms. **Rating:** Operating Voltage: 500 VRMS Max., + 50°C. (+ 122°F.) Max.

885-0255. 1296. **1-24** ..... **EACH 9.60**

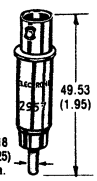


Single Binding Post to BNC Male

Permits single banana plug to be used with equipment having a BNC female. **Upper:** Binding post with captive thumb nut. Brass, nickel plated. Accepts standard banana plugs. **Insulation:** Polycarbonate. **Lower:** BNC Male. Impedance: 50 Ohms. **Rating:** Operating Voltage: 500 VRMS Max., + 115°C. (+ 239°F.) Max.

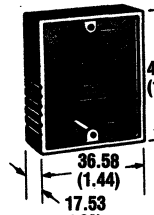
885-3430. 3430-0 (Black). **1-24** . . . . . **EACH 4.80**
885-3432. 3430-2 (Red). **1-24** . . . . . **EACH 4.80**

BNC Female to Phono Plug



Permits BNC male to be used with equipment having phono jacks. Readily adapts equipment to available BNC coaxial cables. All metal construction to insure proper shielding. (See also model 5319). **Upper:** BNC Female. Impedance: 50 Ohms. **Lower:** Phono plug, brass, nickel plated. **Rating:** Operating Voltage: 500 VRMS Max., + 102°C. (+ 216°F.) Max.

885-2957. 2096. **1-24** ..... **EACH 7.50**

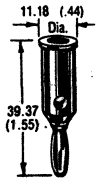


Component Mounting Box

1st End: None. **2nd End:** Double Banana Plug. Brass body, beryllium copper spring, nickel plated. (Supplied with cover and cover screws.) **Rating:** 5000 WVDC; 15 Amps; + 150°C. (+ 302°F.) Max.

885-2105. 2105. **1-24** ..... **EACH 2.45**

Solderless Stackup Banana Plug

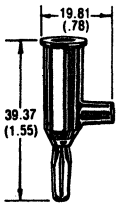


Wire firmly held in place with internal setscrew, eliminating soldering. Assembly of test leads simplified. **Upper:** Banana jack. 4.22 mm (.166) dia., brass. **Lower:** Banana plug. Spring, one piece heat treated beryllium copper. Fits standard 4.22 mm (1.66) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +50°C (+122°F) Max. (Model 5230, +220°C (+428°F) Max.)

Stock No.	Mfr.'s Type	Color	EACH*
885-0301	1325-0	Black	**1.05**
885-0302	1325-2	Red	**1.05**
885-1327	1325-4	Yellow	**1.05**
885-0305	1325-5	Green	**1.05**

*Buy minimum and buy multiple of 10 per color.

Solderless Stackup Standard Banana Plug With Safety Collar

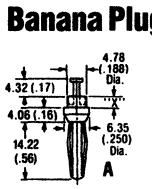


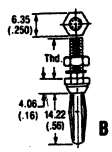
Features integral safety collar that insulates exposed wire leads. Wire firmly held in place with internal setscrew, eliminates soldering, simplifies assembly of test leads. **Upper:** Banana jack. 4.22 mm (.166) dia., brass. **Lower:** Banana plug. Spring, one piece heat treated beryllium cooper. Fits standard 4.22 mm (.166) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +50°C (+122°F) Max. (Model 4899, +220°C (+428°F) Max.)

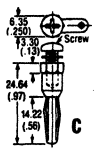
Stock No.	Mfr.'s Type	Color	EACH*
885-0460	1825-0	Black	**1.05**
885-0462	1825-2	Red	**1.05**
885-1827	1825-3	Orange	**1.05**
885-0464	1825-4	Yellow	**1.05**
885-0465	1825-5	Green	**1.05**
885-1830	1825-6	Blue	**1.05**
885-0469	1825-9	White	**1.05**

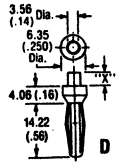
*Buy minimum and buy multiple of 10 per color.

Banana Plugs









Material: Banana plug body, brass. Spring, one piece heat treated beryllium cooper. Fits standard 4.22 mm (.166) dia. banana jack. **Finish:** Nickel plated. **Rating:** 5000 WVDC, 15 Amps.

Fig. A Rivet Type Banana Plug with Turret*

Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires.
855-3260. 3260. (Dim. "X" = 2.67 (.105)).....EACH .95
855-3261. 3261. (Dim "X" = 3.43 (.135)).....EACH .95

Fig. B Banana Plug with Threaded Stud*

Threaded stud for rapid mounting. Furnished with hex nut and tin plated solder lug.
885-3263. 3263. (6.32 × 12.7 (.50) Thread).....EACH 1.10

Fig. C Banana Plug with Screw*

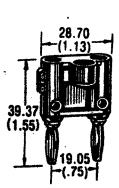
Mounts to various size panels. Furnished with screw and tin plated solder lug.
885-3265. 3265. (6.32 × 6.4 (.25) Screw).....EACH 1.25
885-3266. 3266. (6.32 × 6.4 (.25) Screw).....EACH 1.25

Fig. D Rivet Type Banana Plug*

Excellent for riveting to panels or boards.
885-3258. 3258. (Dim. "X" = 3.18 (.125)).....EACH .85

*Buy minimum and buy multiple of 10 each.

Standard Double Banana Plug

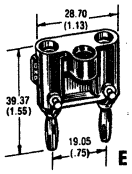


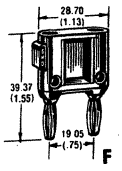
Setscrews secure leads. Simplifies cable construction or component mounting. **Upper:** Double banana jack. 4.22 mm (.166) dia., brass. **Lower:** Double banana plug. Spring, one piece heat treated beryllium cooper. Fits standard 4.22 mm (.166) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +50°C (+122°F) Max. (Model 4898, +220°C (+428°F) Max.)

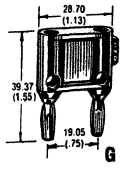
Stock No.	Mfr.'s Type	Color	EACH*
885-0100	MDP-0	Black	**1.85**
885-0101	MDP-2	Red	**1.85**
885-4898	4898-0†	Black	**1.95**

*Buy minimum and buy multiple of 10 per color †Polyphenylene Sulfide Insulation.

Double Banana Plugs







Upper: Double banana jack. 4.22 mm (.166) dia., brass, nickel-plated. **Lower:** Double banana plug. Spring, one piece heat treated beryllium copper, nickel plated. Fits standard 4.22 mm (.166) dia. banana jack. **Rating:** 5000 WVDC, 15 Amps, +55°C (+131°F) Max.

Fig. E Double Banana Plug with Solder Turret Terminals

Similar to Model MDP, except has bright tin plated solder turret terminals for permanent noise-free connections of cables and components. Black Polyproplene Insulation
885-0021. MDP-ST.....EACH 2.35

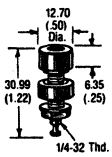
Fig. F Component Mounting Double Banana Plug

Setscrews secure leads. Feature recess for mounting small components. ABS Insulation.
855-1330. 1330-0 (Black).....EACH 1.95
885-1331. 1330-2 (Red).....EACH 1.95

Fig. G Double Banana Plug with Shorting Bar

Banana plug internally shorted with #14 AWG wire. Banana jacks provide top stackup. Cross holes 4.22 mm (.1660 dia. in body provide side stackup connections. ABS Insulation.
885-0110. MDP-S-0 (Black).....EACH 2.95
885-0023. MDP-S-2 (Red).....EACH 2.95
885-0024. MDP-S-9 (White).....EACH 2.95

Banana Jack



Closed entry jack 4.22 mm (.1660 dia. × 23.37 (.920) deep. Mounts in panels from 1.60 mm (.063) to 9.53 mm (3.75) thick. Nickel plated lockwasher and 1/4-32 hex nut. **Material:** Brass. **Rating:** 2500 WVDC 15 Amps, +115°C (+239°F) Max.

Bright Tin Plated Brass

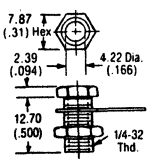
Stock No.	Mfr.'s Type	Color	EACH*
885-0400	1581-0	Black	**.75**
885-0401	1581-2	Red	**.75**
885-1583	1581-4	Yellow	**.75**
885-1584	1581-5	Green	**.75**
885-1585	1581-6	Blue	**.75**
885-1586	1581-9	White	**.75**

Gold Plated Brass

885-2854	2854-0	Black	**1.50**
885-2855	2854-2	Red	**1.50**
885-2856	2854-4	Yellow	**1.50**
885-2857	2854-5	Green	**1.50**
885-2859	2854-6	Blue	**1.50**
885-2860	2854-9	White	**1.50**

*Buy minimum and buy multiple of 10 per color

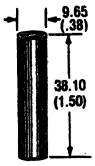
Uninsulated Banana Jack*



Threaded for rapid mounting. Used with standard banana plugs. Furnished with hex nut and solder lug. **Material:** Banana jack and hex nut, brass. Solder lug, copper. **Finish:** Banana jack and hex nut, nickel plated. Solder lug, tin plated. **Rating:** 15 Amps.
885-3267. (Unassembled).....EACH .67

*Buy minimum and buy multiple of 10 each.

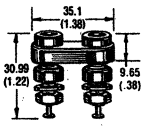
Single Banana Plug Slice*



Provides rapid method for splicing single banana plug patch cords. Reduces the necessity of storing extra long patch cords. Molded thermoplastic body provides protective insulation. 4.22 mm (.166) dia. banana jack. **Material:** Brass. **Finish:** Nickel plated. **Insulation:** Polypropylene. **Rating:** 5000 WVDC, 15 Amps, +5°©C. (+131°F) Max.
885-1829. 1829-0. (Black).....EACH 1.10

*Buy minimum and buy multiple of 10 each.

Double Banana Jack



Closed entry receptable 4.22 mm (.166) dia. × 23.37 (.920) deep on 19.05 mm (.750) centers. Mounts in panels from 1.60 mm (.063) to 9.53 mm (.375) thick. Nickel plated lockwasher and 1/4-32 hex nut. One black and one red jack. Choice of black or red mounting base. **Material:** Brass. **Finish:** Bright tin plated. **Rating:** 2500 WVDC, 15 Amps, +115°C (+239°F) Max.
885-2269. 2269-0. (Black).....EACH 2.15
885-2270. 2269-2. (Red).....EACH 2.15

Binding Post and Shorting Link

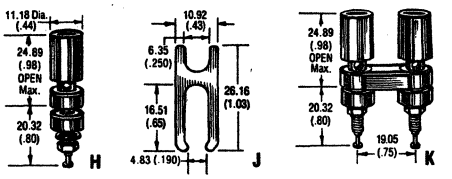


Fig. H Standard Binding Post

Accepts standard banana plug. Thin line design for high-density packaging. Nickel plated 8-32 hex nut and lockwasher included. 2.54 mm (.100) dia. cross hole is perpendicular with flat on insulator. Mounts in panels 1.57 mm (0.62) to 6.35 mm (.250) thick. **Rating:** 2500 WVDC, 15 Amps, +115°C (+239°F) Max. (Molded 4901, +220°C (+428°F) Max.)
885-3760. 3760-0. (Black).....EACH 2.10
885-3761. 3760-2. (Red).....EACH 2.10
885-3762. 3760-5. (Green).....EACH 2.10

Fig. J Shorting Link for Standard Binding Posts*

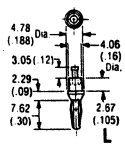
Shorting link for standard binding posts on 19.05 mm (.750) centers. A snap-on feature holds link on post when short not needed. **Material:** Brass, 0.79 mm (.031) thick. **Finish:** Nickel plated. **Rating:** 15 Amps.
885-4115. 4115.....EACH 1.50

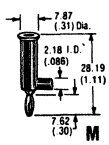
*Buy minimum and buy multiple of 10 each.

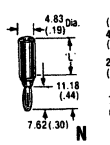
Fig. K Double Binding Post Assembly

Nickel-plated 8-32 hex nut and lockwasher included. One red and one black tin plated binding post (type 3760) with double mounting base. **Material:** Double binding post with captive thumb nut, brass. Accepts standard banana plug. **Finish:** Bright tin plated. **Insulation:** Polycarbonate. **Rating:** 2500 WVDC, 15 Amps, +115°C (+239°F) Max.
885-4243. 4243-0. (Black, unassembled).....EACH 3.95

Miniature Banana Plugs







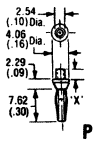


Fig. L Solder Type

Miniature in-line plug for use with miniature binding posts or banana jacks. Wire is soldered directly to threaded plug. **Material:** Miniature banana plug body, brass. Spring, one piece heat treated beryllium cooper. Fits miniature 2.64 mm (.104) dia. banana jack. **Finish:** Gold plated. **Insulation:** Nylon. **Rating:** 2500 WVDC, 5 Amps, +80°C (+176°F) Max.
885-3690. 3690-0. (Black; Dim. "L" = 11.43 (.45)).....EACH 1.30
885-3691. 3690-2 (Red; Dim. "L" = 11.43 (.45).....EACH 1.30

*Buy minimum and buy multiple of 10 per color.

Fig. M Solderless Stackup with Safety Collar

Wire firmly held in place with setscrew. The integral collar insulated leads and acts as a strain relief by preventing the flexing of lead at setscrew. **Upper:** Miniature banana jack. 2.64 mm (.104) dia., brass, gold plated. **Insulation:** ABS. **Lower:** Miniature banana plug. Spring, one piece heat treated beryllium cooper, gold plated. Fits miniature 2.64 mm (.104) dia. banana jack. **Rating:** 2500 WVDC, 5 Amps, +50°C (+122°F) Max.
885-2945. 2945-0. (Black).....EACH 2.30
885-2946. 2945-2. (Red).....EACH 2.30

Fig. N. Rivet Type with Turret*

Excellent for riveting to panels or boards. Solder turret for rapid attachment of wires. Mounts in 1.57 mm (.062) panel. **Material:** Miniature banana plug body, brass. Spring, one piece heat treated beryllium cooper. Fits miniature 2.64 mm (.104) dia. banana jack. **Finish:** Gold plated. **Rating:** 2500 WVCD, 5 Amps.
885-3273. 3273.....EACH .75

*Buy minimum and buy multiple of 10 each.

Fig. P Rivet Type*

Excellent for riveting to panels or boards. **Material:** Miniature banana plug body, brass. Spring, one piece heat treated beryllium cooper. Fits miniature 2.64 mm (.104) dia. banana jack. **Finish:** Gold plated. **Rating:** 2500 WVDC, 5 Amps.
885-3268. 3268. (Dim. "X" = 2.39 (.094)).....EACH .75
885-3272. 3272. (Dim. "X" = 3.96 (.136)).....EACH .75

*Buy minimum and buy multiple of 10 each.

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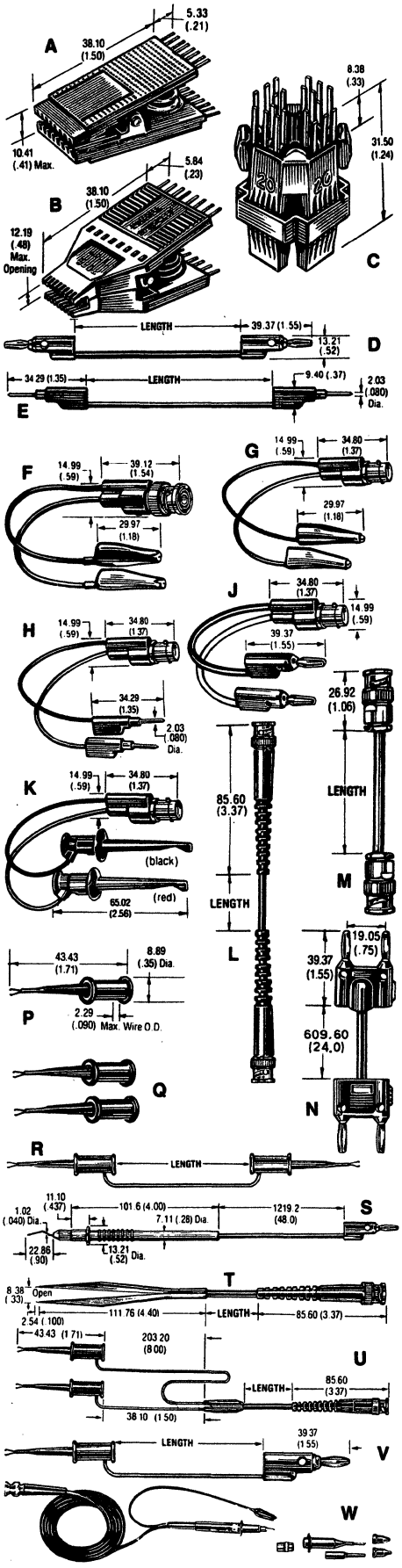

Test Clips

IC Test Clips

Fig. A. Contacts 1.02 mm (.040) wide on lower end are serrated for good electrical connection. 0.64 mm (.025) square serrated test points on upper end will accept wire wraps or mini test clips. Molded barrier between each contact allows connections to be made on live boards without accidental shorting of adjacent contacts. Can be used as an insertion and removal tool for DIPS. Accepts IC Jumper Cables (page). **Material:** Contact. Tarnish resistant nickel silver or gold plated beryllium copper. Stainless steel hinge pin and spring. **Insulation:** Glass filled nylon, blue. **Rating:** 500 VRMS; 1 Amp; +102°C. (+216°F.) Max.

Type 3916. Spring Tempered Nickel Silver (Standard).
885-3916. 3916 ..... **EACH 6.40**

Type 4236A. Spring Tempered Nickel Silver (High Density)
885-4236. 4236A ..... **EACH 6.40**

SOIC Clip™ Test Clip

Fig. B. These test clips have a spring design similar to our Dip Clips. The clip design allows testing of wide or narrow body chips and smaller sizes of PLCC. **Upper:** 0.64 mm (0.25) Square Pin. Gold plated phosphor bronze. **Insulation:** Glass filled nylon, blue. **Lower:** Contact. Gold plated beryllium copper. **Rating:** 500 VRMS; 1 Amp; +102°C. (+216°F.) Max.

885-5300. 5251 (14 Pin) ..... **EACH 8.75**
885-5305. 5252 (16 Pin) ..... **EACH 9.50**

Quad Clip™ Test Clip

Fig. C. These test adapters are designed for Plastic Leaded Chip Carriers (PCC or PLCC) with "J" leads. A 'snapring' design allows the Quad Clip™ to fit directly onto IC providing hands-free testing. **Upper:** .635 mm (.025) Square Pins. Phosphor bronze, gold plated. **Insulation:** Glass filled nylon, gray. **Lower:** Contacts. Beryllium copper, gold plated. **Rating:** 500 VRMS, 1 Amp. +102°C. (+216°F.) Max.

885-5310. 5401 (68 Pin) ..... **EACH 40.00**

Stacking Standard Banana Plug Each End

Fig. D. Stacking Banana Plug. Brass body; beryllium copper spring. Insulation; polypropylene. **Wire:** 18 AWG, 65 × 36 t.c., PVC insulated, 3.66 mm (.144) O.D. **Rating:** 5000 WVDC; 15 Amps; +55°. (+131°F.) Max.

Stock No. (Blk)	Stock No. (Red)	Mfr.'s Type	Length	EACH
885-0025	885-0026	B-4	4″	3.05
885-0027	885-0028	B-8	8″	3.05
885-0014	885-0019	B-12	12″	3.05
885-0015	885-0020	B-18	18″	3.05
885-0016	885-0022	B-24	24″	3.05
885-0017	885-0029	B-36	36″	3.05
885-0018	885-0030	B-48	48″	3.25

Stacking Pin Tip Plug, Each End

Fig. E. Stacking Pin Tip Plug. Brass body, beryllium copper spring, gold plated. Insulation; polypropylene. **Wire:** 20 AWG. 41 × 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **Rating:** 3000 WVDC; 5 Amps; +55°C. (+131°F.) Max.

885-0052. P-8-0 (Black-Length = 8″) ..... **EACH 3.95**
885-0011. P-12-0 (Black-Length = 12″) ..... **EACH 3.95**

Molded Breakouts

Fig. F. BNC Male to Test Clips
885-0654. 2886 (BNC Male to Minigator Clips) ..... **EACH 10.30**

Fig. G. BNC Female to Test Clips
885-0625. 2631 (BNC Female to Minigator Clips) ..... **EACH 7.60**

Fig. H. BNC Female to Pin Tip Plugs
885-3221. 3221 ..... **EACH 8.15**

Fig. J. BNC Female to Stacking Banana Plugs
885-3073. 3073 ..... **EACH 7.00**

Fig. K. BNC Female to MINIGRABBER® Test Clips
885-3788. 3788 ..... **EACH 7.30**

Fig. L. Stress-Relieved/Weatherproof Cable Assemblies BNC Male Each End

RG58C/U—50 Ohm
885-0500. 2249-C-12 (Length = 12″) ..... **EACH 9.10**
885-0501. 2249-C-24 (Length = 24″) ..... **EACH 9.70**
885-0502. 2249-C-36 (Length = 36″) ..... **EACH 11.65**
885-2252. 2249-C-48 (Length = 48″) ..... **EACH 12.60**
885-2253. 2249-C-60 (Length = 60″) ..... **EACH 11.50**

RG59B/U—75 Ohm
885-2254. 2249-E-36 (Length = 36″) ..... **EACH 11.70**
885-2255. 2249-E-60 (Length = 60″) ..... **EACH 12.90**

Fig. M. BNC Male Each End/RG58C/U—50 Ohms
885-0036. BNC-C-24 (Length = 24″) ..... **EACH 10.90**
885-0008. BNC-C-36 (Length = 36″) ..... **EACH 11.50**
885-0009. BNC-C-60 (Length = 60″) ..... **EACH 12.70**

Fig. N. Double Banana Plug Each End
885-0205. 2BC-24 (RG58C/U) ..... **EACH 11.05**

SMD Products

Do-It-Yourself SMD GRABBER™

Fig. P. This do-it-yourself test clip is especially suited for testing surface mounted packages on centers as small as 0.76 mm (.030). Pincer-like contact grasps individual legs of SMD's such as the SOIC, SOJ, PCC, etc. Its circular design and small size have been developed for easy use and handling. **Material:** Contact, stainless steel. **Finish:** Selectively gold plated on tip. **Insulation:** Glass filled nylon. **Rating:** 1000 WVDC; 0.5 Amp;l +102°C. (+216°F.) Max.
885-5200. 5243-0 (Black) ..... **EACH 1.65**
885-5205. 5243-2 (Red) ..... **EACH 1.65**
*Buy minimum and buy multiple of 10 per color.

Do-It-Yourself SMD GRABBER™ Kit

Fig. Q. Kit contains 2 pcs. of Model 5243. **Material:** Contact, stainless steel. **Finish:** Selectively gold plated on tip. **Insulation:** Glass filled nylon. **Rating:** 1000 WVDC; 0.5 Amps; +102°C. (+216°F.) Max.
885-5215. 5231-00 (Two Black) ..... **EACH 3.55**
885-5210. 5231-02 (One Black, One Red) ..... **EACH 3.55**
885-5220. 5231-22 (Two Red) ..... **EACH 3.55**

SMD GRABBER™, Each End

Fig. R. 1st End: SMD GRABBER™. Contact, selectively gold plated stainless steel. Insulation, glass filled nylon. **Wire:** 22 AWG, 26 × 36 t.c., PVC insulated, 1.63 mm (.064) O.D. **2nd End:** Same as first end. **Rating:** 1000 WVDC; 0.5 Amps; +102°C. (+216°F.) Max.

Stock No.	Mfr.'s Type*	Length	EACH		
			1-24	25-49	50-99
885-5230	5301-12-0	12″	5.30	4.88	4.51
885-5235	5301-12-2	12″	5.30	4.88	4.51
885-5240	5301-24-0	24″	5.30	4.88	4.51
885-5245	5301-24-2	24″	5.30	4.88	4.51
885-5250	5301-36-0	36″	5.30	4.88	4.51
885-5255	5301-36-2	36″	5.30	4.88	4.51

*Std Colors: -0 Black, -2 Red.

SMD MICROTIP™ Test Probe

Fig. S. The microtip is specially designed to probe SMD contacts. It features a stainless steel needle point tip that is flexible to help prevent damage to the SMD lands. The microtip is curved to aid in probing of hard to reach areas. **1st End;** SMD MICROTIP™ Test Probe, Chuck, brass, nickel plated. Replacement microtip, stainless steel. Insulation; nylon. **Wire:** 20 AWG, 41 × 37 t.c. PVC insulation 2.21 mm (.087) O.D. **2nd End:** Stacking Banana plug. Brass body, beryllium copper spring, nickel plated. Insulation; polypropylene. **Rating:** 1200 V AC/DC; 7 Amps; +55°C. (+131°F.) Max.
885-5320. 5144-48-0 (Black-48″ Long) ..... **EACH 8.20**
885-5325. 5144-48-2 (Red-48″ Long) ..... **EACH 8.20**

SMD Tester Tweezer™ To BNC Male

Fig. T. 1st End; SMD Tester Tweezer™. Tips, beryllium copper, gold plated. Insulation; glass filled nylon, black and red. **Cable:** Shielded coaxial, RG174/U, 2.54 mm (.100) O.D. **2nd End:** BNC Male. Brass body, tarnish resistant plated. Center contact, brass, gold plated. Boot; PVC, black. **Rating:** 400 VRMs; 3 Amps; +50°C. (+122°F.) Max.
885-5315. 5142-K-48 ..... **EACH 17.60**

SMD GRABBER™ Test Clips to BNC Male

Fig. U. 1st End; SMD GRABBER™ test clips. Contact, selectively gold plated stainless steel. Insulation, glass filled nylon. One black and one red. **Cable:** Shielded coax., RG 175/U, 2.65 mm (.100) O.D. Y-Mold insulation, PVC, black. **2nd End:** BNC Male. Brass body, tarnish resistant plated. Center contact, brass, gold plated. Nominal Impedance: 50 Ohms. Boot, PVC, black. **Rating:** Operating Voltage: 500 VRMS Max.; +50°C. (+122°F.) Max.
885-5290. 5304-K-24 (Length = 24″) ..... **EACH 18.35**
885-5295. 5304-K-36 (Length = 36″) ..... **EACH 18.35**

SMD GRABBER™ to Stacking Banana Plug

Fig. V. 1st End: SMD GRABBER™. Contact selectively gold plated stainless steel. Insulation, glass filled nylon. **Wire:** 22 AWG, 26 × 36 t.c., PVC insulated, 1.63 mm (.064) O.D. **2nd End:** Stacking Banana Plug. Brass body, beryllium copper spring, nickel plated. Polypropylene insulation. **Rating:** 1000 WVDC; 0.5 Amps; +55°C. (+131°F.) Max.

Stock No.	Mfr.'s Type	Length (Inches)	Color	EACH		
				1-24	25-99	100-499
885-5260	5302-12-0	12″	Black	4.95	4.55	4.36
885-5265	5302-12-2	12″	Red	4.95	4.55	4.36
885-5270	5302-24-0	24″	Black	4.95	4.55	4.36
885-5275	5302-24-2	24″	Red	4.95	4.55	4.36
885-5280	5302-36-0	36″	Black	4.95	4.55	4.36
885-5285	5302-36-2	36″	Red	4.95	4.55	4.36

*Std Colors: -0 Black, -2 Red.

Oscilloscope Probe Kits

Fig. W. Replacement probes for all oscilloscopes including Tektronix, HP, Philips, B&K, and Leader. Standard probes provide low-cost, high-quality signal reproduction. Modular probes assure the same high quality and have threaded connections for easy field repair.

Stock No.	Mfr.'s Type	Style	Bandwidth MHz at 3 dB	EACH
885-5621	5621	× 1	20	33.00
885-5622	5622	× 10	100	38.00
885-4550	4550	× 1, × 10 Switchable	100	49.62
885-5620	5620*	× 10	250	47.00
885-5618	5618*	× 1, × 10 Switchable	250	52.00
885-5619	5619†	× 1, × 10 Switchable	250	75.00

*Gold Plated Feature. †Gold Plated/Readout Actuator Feature.

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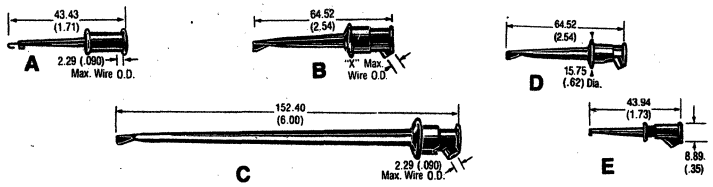
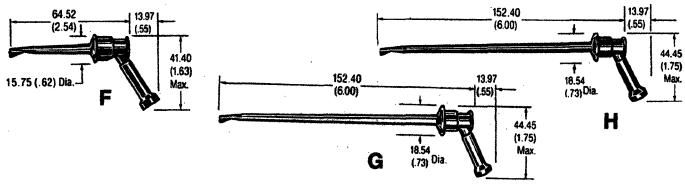
Test Clips





A) Do-It-Yourself Micrograbber® Test Clip
Material: Contact, beryllium copper. **Finish:** Gold plated. **Insulation:** Glass filled nylon. **Rating:** 1000 WVDC; 3 Amps; + 102°C. (+ 216°F.) Max.
885-5410. 4233-0 (Black).....**EACH 1.25**
885-5411. 4233-3 (Red).....**EACH 1.25**
885-5412. 4233-4 (Yellow).....**EACH 1.25**
885-5413. 4233-6 (Blue).....**EACH 1.25**

B) Do-It-Yourself Minigrabber® Test Clip
Material: Contact, beryllium copper. **Finish:** Gold plated. **Insulation:** Glass filled nylon. **Rating:** 3000 WVDC; 12 Amps. + 102°C. (+ 216°F.) Max.
885-0952. 3925-0 (Black) Dim. "X" = 2.29 (.090).....**EACH 1.20**
885-0951. 3925-2 (Red) Dim. "X" = 2.29 (.090).....**EACH 1.20**
885-5416. 3925-4 (Yellow) Dim. "X" = 2.29 (.090).....**EACH 1.20**
885-5417. 3925-5 (Green) Dim. "X" = 2.29 (.090).....**EACH 1.20**
885-0958. 4555-0 (Black) Dim. "X" = 3.66 (.144).....**EACH 1.20**
885-0957. 4555-2 (Red) Dim. "X" = 3.66 (.144).....**EACH 1.20**
885-5420. 4555-4 (Yellow) Dim. "X" = 3.66 (.144).....**EACH 1.20**
885-5421. 4555-5 (Green) Dim. "X" = 3.66 (.144).....**EACH 1.20**

C) Do-It-Yourself Maxigrabber® Test Clip
The Maxigrabber® test clip is an extended do-it-yourself Grabber test clip designed specifically for high-rise packaging of electronic components where depth of testing point is a key factor. The Maxigrabber® test clip will fit entry holes as small as 6.35 mm (.250) dia. and the unit is completely field serviceable. **Material:** Contact, beryllium copper. **Finish:** Gold plated. **Insulation:** Glass filled nylon. **Rating:** 3000 WVDC; 12 Amps. + 102°C. (+ 216°F.) Max.
885-4225. 4225-0 (Black).....**EACH 3.25**
885-4226. 4225-2 (Red).....**EACH 3.25**

D) Minigrabber® Test Clip Kit with 6-32 Thread
This Grabber test clip can be used with oscilloscope leads equipped with a 6-32 screw. **Material:** Contact, beryllium copper. Threaded insert, brass. **Finish:** Contact, gold plated. **Insulation:** Glass filled nylon. **Rating:** 3000 WVDC, 12 Damps, + 102°C. (+ 216°F.) Max.
885-5450. 4011-0 (Black).....**EACH 2.85**

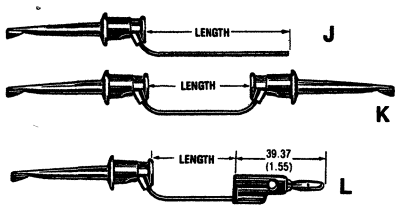
E) Micrograbber® Test Clip with 0.64 mm (.025) Square Pin
Material: Contact, beryllium copper. Square pin, phosphor bronze. **Finish:** Gold plated. **Insulation:** Glass filled nylon. **Rating:** 1000 WVDC; 3 Amps; + 102°C. (+ 216°F.) Max.
885-5451. 4521-0 (Black).....**EACH 2.30**

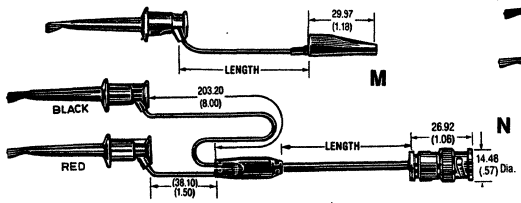
F) Minigrabber® Test Clip with Banana Jack
This Minigrabber® test clip has a standard banana jack built right into the plunger. Excellent for attaching the Grabber test clip directly to the end of a banana plug patch cord. **1st End:** Minigrabber® . Contact, berrylium copper, gold plated. **Insulation:** Glass filled nylon. **2nd End:** Banana jack, Brass, nickel plated. **Rating:** 3000 WVDC; 12 Amps; + 102°C. (+ 216°F.) Max.
885-4722. 4723-0 (Black).....**EACH 3.75**
885-4723. 4723-2 (Red).....**EACH 3.75**

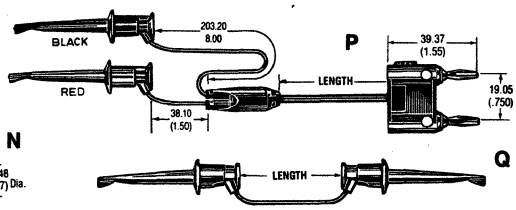
G) Maxigrabber® Test Clip with Banana Jack
This Maxigrabber® test clip has a standard banana jack built right into the plunger. Excellent for attaching the Grabber test clip directly to the end of a banana plug patch cord. **1st End:** Maxigrabber® . Contact, beryllium copper, gold plated. **Insulation:** Glass filled nylon. **2nd End:** Banana jack. Brass, nickel plated. **Rating:** 3000 WVDC; 12 Amps; + 102°C. (+ 216°F.) Max.
885-4724. 4724-0 (Black).....**EACH 5.45**
885-4725. 4724-2 (Red).....**EACH 5.45**

H) Maxigrabber® Test Clip with Pin Jack
This Maxigrabber® test clip has a pin jack built right into the plunger. Excellent for attaching the Grabber test clip directly to the end of a pin tip patch cord. **1st End:** Maxigrabber® . Contact, beryllium copper, gold plated. **Insulation:** Glass filled nylon. **2nd End:** Pin Jack. Spring, beryllium copper, gold plated. **Rating:** 2500 WVDC; 5 Amps; + 102°C. (+ 216°F.) Max.
885-4827. 4827-0 (Black).....**EACH 6.60**
885-4828. 4827-2 (Red).....**EACH 6.60**

Patch Cords







J) Minigrabber® Test Clip One End Only
1st End: Minigrabber® . Contact, berellium copper, gold plated. Insulation, glass filled nylon. **Wire:** 20 AWG, 41 × 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** None. **Rating:** 3000 WVDC; 12 Amps; + 102°C. (+ 216°F.) Max.

Stock No.	Mfr's Type	L In.	Color	EACH 1-24	EACH 25-49	EACH 50-99
885-0900	3780-12-0	12″	Black	**2.00**	**1.86**	**1.73**
885-0901	3780-12-2	12″	Red	**2.00**	**1.86**	**1.73**
885-0902	3780-24-0	24″	Black	**2.00**	**1.86**	**1.73**
885-0903	3780-24-2	24″	Red	**2.00**	**1.86**	**1.73**
885-5428	3780-36-0	36″	Black	**2.00**	**1.86**	**1.73**
885-5429	3780-36-2	36″	Red	**2.00**	**1.86**	**1.73**
885-5430	3780-48-0	48″	Black	**2.22**	**2.06**	**1.92**
885-5431	3780-48-2	48″	Red	**2.22**	**2.06**	**1.92**

K) Minigrabber® Test Clip Each End
1st End: Minigrabber® . Contact, beryllium copper, gold plated. Insulation, glass filled nylon. **Wire:** 20 AWG, 41 × 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** Same as first end. **Rating:** 3000 WVDC; 12 Amps; + 102°C. (+ 216°F.) Max.

885-5432	3781-8-0	8″	Black	**3.26**	**3.03**	**2.83**
885-5433	3781-8-2	8″	Red	**3.26**	**3.03**	**2.83**
885-0910	3781-12-0	12″	Black	**3.26**	**3.03**	**2.83**
885-0911	3781-12-2	12″	Red	**3.26**	**3.03**	**2.83**
885-0912	3781-24-0	24″	Black	**3.26**	**3.03**	**2.83**
885-0913	3781-24-2	24″	Red	**3.26**	**3.03**	**2.83**
885-5438	3781-36-0	36″	Black	**3.26**	**3.03**	**2.83**
885-5439	3781-36-2	36″	Red	**3.26**	**3.03**	**2.83**
885-0914	3781-48-0	48″	Black	**3.49**	**3.24**	**3.03**
885-0915	3781-48-2	48″	Red	**3.49**	**3.24**	**3.03**

L) Minigrabber® Test Clip to Stacking Banana Plug
1st End: Minigrabber® . Contact, Beryllium copper, gold plated. Insulation, glass filled nylon. **Wire:** 20 AWG, 41 × 36 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** Stacking Banana Plug. Brass body, beryllium copper spring, nickel plated. Polypropylene insulation. **Rating:** 3000 WVDC; 12 Amps; + 55°C (+ 131°F.) Max.

885-0920	3782-12-0	12″	Black	**3.26**	**3.03**	**2.83**
885-0921	3782-12-2	12″	Red	**3.26**	**3.03**	**2.83**
885-0922	3782-24-0	24″	Black	**3.26**	**3.03**	**2.83**
885-0923	3782-24-2	24″	Red	**3.26**	**3.03**	**2.83**
885-5446	3782-36-0	36″	Black	**3.26**	**3.03**	**2.83**
885-5447	3782-36-2	36″	Red	**3.26**	**3.03**	**2.83**
885-0924	3782-48-0	48″	Black	**3.49**	**3.24**	**3.03**
885-0925	3782-48-2	48″	Red	**3.49**	**3.24**	**3.03**

M) Minigrabber® Test Clip to Minigator
1st End: Minigrabber® . Contact, beryllium copper, gold plated. Insulation; glass filled nylon. **Wire:** 20 AWG, 41 × 37 t.c., PVC insulated, 2.21 mm (.087) O.D. **2nd End:** Minigator. Steel, cadmium plated. **Insulation:** Vinyl. **Rating:** 3000 WVDC; 5 Amps; + 50°C. (+ 122°F.) Max.

Stock No.	Mfr's Type	L In.	Color	EACH 1-24	EACH 25-49	EACH 50-99
885-0953	4652-12-0	12″	Black	**4.55**	**4.19**	**4.00**
885-0954	4652-12-2	12″	Red	**4.55**	**4.19**	**4.00**
885-0955	4652-24-0	24″	Black	**4.55**	**4.19**	**4.00**
885-0956	4652-24-2	24″	Red	**4.55**	**4.19**	**4.00**

N) Minigrabber® Test Clips to BNC Male
1st End: Minigrabber® . Contact, beryllium copper, gold plated. Insulation; glass filled nylon. One black and one red. **Cable:** Shielded coax., RG 58 C/U, 4.95 mm (.195) O.D. Y-Mold insulation; PVC, black. **2nd End:** BNC Male. Brass body, tarnish resistant plated. Center contact, brass, gold plated. **Nominal Impedance:** 50 Ohms. **Rating:** Operating Voltage: 500 VRMS Max; + 50°C. (+ 122°F.) Max.

885-0938	3787-C-18	18″	Black/Red	**12.50**	**11.50**	**11.00**
885-0939	3787-C-24	24″	Black/Red	**12.50**	**11.50**	**11.00**
885-5464	3787-C-36	36″	Black/Red	**12.50**	**11.50**	**11.00**

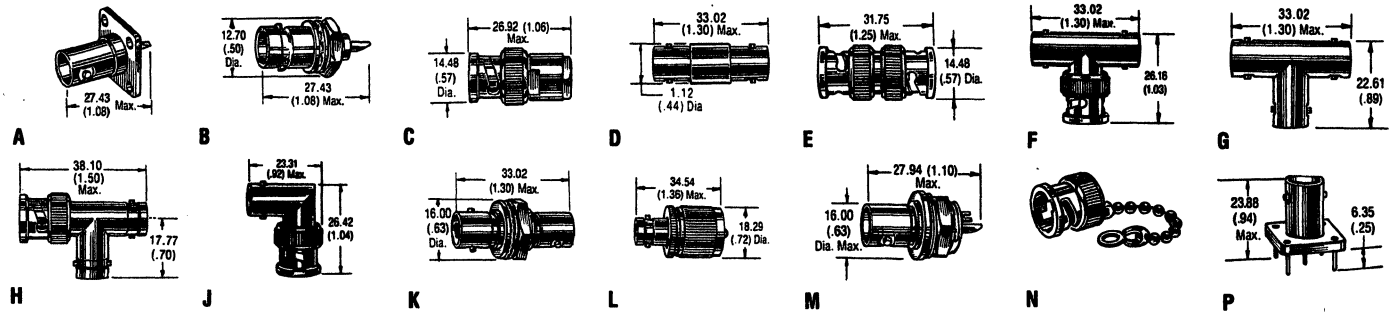
P) Minigrabber® Test Clips to Double Banana Plug
1st End: Minigrabber® . Contact, beryllium copper, gold plated. Insulation; glass filled nylon. One black and one red. **Cable:** Shielded coax., RG 58 C/U, 4.95 mm (.195) O.D., Y-Mold Insulation. PVC, Black. **2nd End:** Banana Plug. Brass body, beryllium copper spring, nickel plated. Insulation; polyethylene, black. **Rating:** 1400 VRMS; + 50°C. (+ 122°F.) Max.

885-0936	3786-C-18	18″	Black/Red	**12.15**	**11.18**	**10.89**
885-0937	3786-C-24	24″	Black/Red	**12.15**	**11.18**	**10.89**

Q) Micrograbber® Each End
1st End: Microbrabber® . Contact, beryllium copper, gold plated. Insulation glass filled nylon. **Wire:** 20 AWG, 41 × 36 t.c., PVC insulated, 2.21 mm (0.87) O.D. **2nd End:** Same as first end. **Rating:** 1000 WVDC, 3 Amps; + 102°C. (+ 216°F.) Max.

885-4613	4613-12-0	12″	Black	**4.95**	**4.55**	**4.36**
885-4614	4613-12-2	12″	Red	**4.95**	**4.55**	**4.36**

Coaxial Connectors

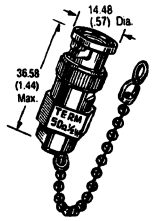


Shell: Brass, tarnish resistant plated. **Insulation:** Teflon. **Center Contact:** Beryllium copper, gold plated per requirements of MIL-C-39012. **PC Pins:** Brass, silver plated. **Rating. Operating Voltage:** 500 VRMS Max. **Impedance:** 50 Ohms, −65°C. (−85°F) to +165°C (+329°F).

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-24	EACH 25-49	EACH 50-99
885-2451	2451	A	Panel Receptacle	**4.00**	**3.68**	**3.52**
885-4160	4160	B	Bulkhead Receptacle	**3.05**	**2.81**	**2.68**
885-4488	4488	C	BNC Plug	**3.60**	**3.31**	**3.17**
885-0750	3283	D	BNC Female Adapter	**4.15**	**3.82**	**3.65**
885-3533	3533	E	BNC Male Adapter	**7.80**	**7.18**	**6.86**
885-0752	3285	F	Jack-Plug-Jack "T"	**10.95**	**10.07**	**9.64**
885-0751	3284	G	Female "T"	**12.10**	**11.13**	**10.65**
885-4896	4896	H	Plug-Jack-Jack "T"	**16.90**	**15.55**	**14.87**
885-0800	3534	J	Plug to Jack 90°	**9.50**	**8.74**	**8.36**
885-0945	3846	K	Jack to Jack Adapter	**13.40**	**12.33**	**11.79**
885-3288	3288	L	BNC Female to N Male	**7.50**	**6.90**	**6.60**
885-3286	3286	L	BNC Female to UHF Male	**7.15**	**6.58**	**6.29**
885-0899	3778	M	Isolated Ground Female Bulkhead Receptacle	**7.85**	**7.22**	**6.91**
885-3839	3839	N	BNC Dust Cap	**2.45**	**2.25**	**2.16**
885-4578	4578	P	PC Mount BNC Female	**8.75**	**8.05**	**7.70**
—	—	—	—	—	—	—

6

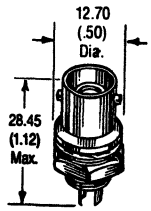
BNC Resistor Terminated Male Plug
Ideal for terminating coaxial lines. 1%, 1/2 watt, deposited carbon resistor. 88.9 mm (3.5) bead chain with 3.56 mm (.14) diameter hole in lug. Resistance value marked on white nylon anti-roll sleeve. **Shell:** Brass, tarnish resistant plated. **Insulation:** Teflon. **Center Contact:** Brass, gold plated per requirements of MIL-C-39012. **Rating. Operating Voltage:** 350 VDC Max. **Frequency Range:** DC to 500 MHz. **Power:** 1/2 W @ 70°C Max.



885-0940. 3840-50 (50 Ohm) ..... **EACH 8.95**
885-0941. 3840-75 (75 Ohm) ..... **EACH 8.95**

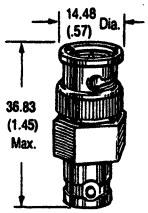
Female Triaxial Bulkhead Receptacle

Shell: Brass, tarnish resistant plated. **Insulation:** Teflon. **Center Contact:** Male, brass. Female, beryllium copper. Gold plated per requirements of MIL-C-49142. **Rating. Operating Voltage:** 500 VRMS Max. **Frequency Range:** DC to 500 MHz, −65°C (−85°F) to +165°C (+329°F).



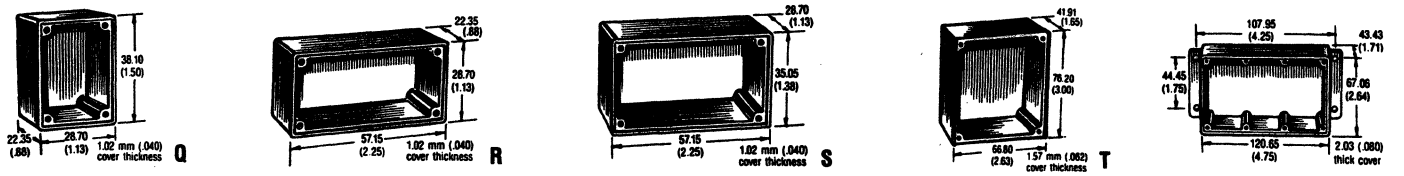
885-0850. 3580 ..... **EACH 12.85**

BNC Feed-Thru Termination
Ideal for terminating pulse, microwave or UHF instruments in their characteristic impedance. Termination metal film resistor, deposited nichrome over ceramic core, 2 W. Resistance value marked on white nylon anti-roll sleeve. **Shell:** Brass, tarnish resistant plated. **Insulation:** Teflon. **Center Contact:** Male, brass, Female, beryllium copper. Gold plated per requirements of MIL-C-39012. **Rating. Operating voltage:** 500 VRMS Max. **Frequency Range:** DC to 500 MHz; +102°C (+216°F) Max.



885-4119. 4119-50 (50 Ohms) ..... **EACH 39.95**

Utility Boxes

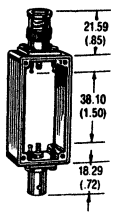


Diecast Aluminum Boxes
These boxes are available either with a blue baked enamel finish or with no finish at all. When used with the included cover, the boxes provide excellent RFI/EMI protection. **Housing:** Die cast aluminum, alloy A380 or A384. Blue baked enamel per Federal Standard 595 #25109 over primer wash per DOD-P-15328 or no finish. **Cover:** Aluminum 1100-H14, with clear anodized finish per MIL-A-8625. Includes cover screws.

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-24	EACH 25-49	EACH 50-99
885-3753	3753	Q	Blue Baked Enamel	**5.45**	**5.01**	**4.80**
885-3754	3754	T	None	**5.25**	**4.83**	**4.62**
885-2397	2397	R	Blue Baked Enamel	**5.45**	**5.01**	**4.80**
885-2400	2400	R	None	**5.00**	**4.60**	**4.40**
885-0550	2417	S	Blue Baked Enamel	**5.60**	**5.15**	**4.93**
885-2428	2428	S	None	**5.35**	**4.92**	**4.71**
885-3601	3601	Q	Blue Baked Enamel	**10.00**	**9.20**	**8.80**
885-0665	2901	U	Blue Baked Enamel	**13.85**	**12.74**	**12.19**
885-2906	2906	U	None	**11.70**	**10.76**	**10.30**

Component Mounting Box, BNC Female to BNC Male

See Model 2397 for housing dimensions. **1st End:** BNC Female with solder turret screws. **Nominal Impedance:** 50 Ohms. **2nd End:** BNC Male with solder turret screws. **Nominal Impedance:** 50 Ohms. (Supplied with cover and cover screws.) **Rating. Operating Voltage:** 500 VRMS Max.; +150°C (+302°F) Max.



885-0525. 2391 ..... **EACH 19.55**

Phenolic Boxes

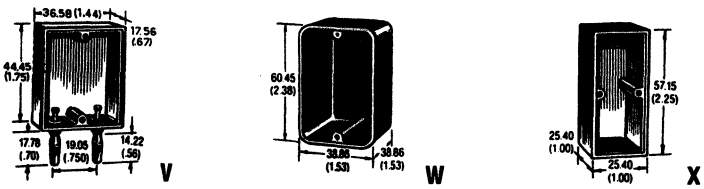
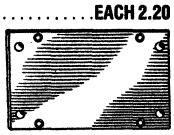


Fig. V. Component Mounting Box, Double Banana Plug. 1st End: None. **2nd End:** Double Banana Plug, Brass body, beryllium copper spring, nickel plated. (Supplied with cover and cover screws.) **Rating:** 5000 WVDC; 15 Amps +150°C (+302°F) Max.
885-2096. 2096 ..... **EACH 5.95**

Fig. W. Phenolic Box, King Size. Housing: Phenolic, black. **Cover:** XP laminated paper base phenolic. Includes 2 #2-56 cover screws. **Rating:** +150°C (+302°F) Max.
885-2104. 2104 ..... **EACH 2.10**

Fig. X. Phenolic Box, Queen Size. Housing: Phenolic. **Cover:** XP laminated paper base phenolic, black. Includes 2 #2-56 cover screws. **Rating:** +150°C (+302°F) Max.
885-2103. 2103 ..... **EACH 2.20**

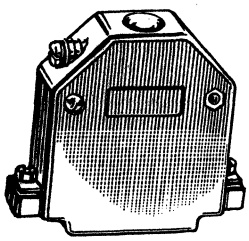
Mounting Cover
Clear anodized per MIL-A-8625 miniature mounting cover for 26.42 (1.04) wide × 63.50 (2.50) long boxes. **Mounting Holes:** 21.41 (.843) center to center × 55.73 (2.194) center to center.

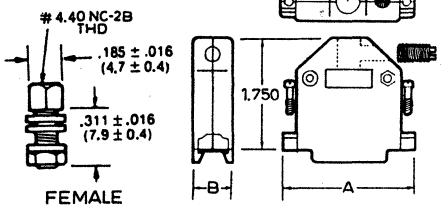


885-3729. 3729 ..... **EACH 2.85**

Connector Hoods (Backshells)

These connector hoods are guaranteed unbreakable. The hoods are narrow and feature a large internal cavity. Saddle washer and screw are steel with zinc and yellow dichromate; housing screw and nut are steel with zinc and clear chromate.





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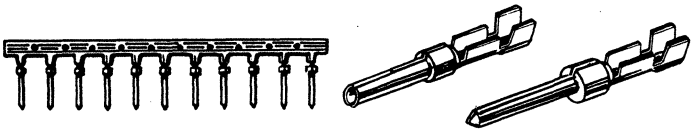
Stock No.	Mfr.'s Type	Shell Size	Dim. A (In.)	Dim. B (In.)	Max. Cable Size	EACH 1-24	EACH 25-99*
784-0999	HDS-9	9	1.21	.620	.250	**1.57**	**1.26**
784-1000	HDS-15	15	1.55	.620	.335	**1.57**	**1.26**
784-1001	HDS-25	25	2.09	.620	.375	**1.57**	**1.26**
784-1002	HDS-37	37	2.74	.620	.375	**2.24**	**1.78**
784-1003	HDS-50	50	2.64	.731	.450	**2.34**	**1.87**
Metalized-Plastic RFI Shielded Hood							
784-1004	HM-9	9	1.21	.620	.250	**.92**	**.85**
784-1007	HM-15	15	1.55	.620	.335	**1.12**	**1.03**
784-1005	HM-25	25	2.09	.620	.375	**1.22**	**1.12**
784-1008	HM-37	37	2.74	.620	.375	**2.20**	**2.03**

*Call for 100-Up pricing.

Screw Lock Assemblies

Stock No.	Mfr.'s Type	Description	PER PKG/10 1-9	PER PKG/10 10-24
784-0005	FSL-002	Female	**4.50**	**4.14**
784-0006	MSL-002	Male	**4.50**	**4.14**

Crimp Contacts



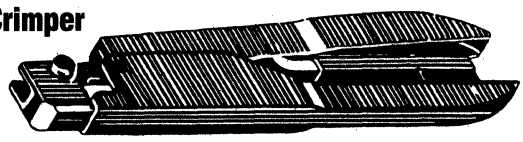
The pin contacts are brass, and the sockets are phosphor bronze. The contacts are finished with gold flash over .00030 nickel. Pin diameter is .040" (1.02 mm). **Wire Size Range:** AWG 24-20.

Tape and Reel*

Stock No.	Mfr.'s Type	Description	EACH†
784Q0130	CRS03P	Pin (reel of 10,000)	**402.45**
784Q0135	CFS04S	Socket (reel of 10,000)	**463.65**
Bulk Package			
784-0131	CRL01P	Pin (Pkg. of 1000)	**34.22**
784-0136	CRL02S	Socket (Pkg. of 1000)	**40.05**

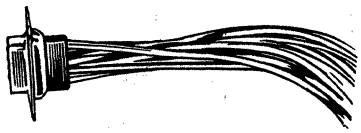
*For automatic equipment above. †Call Allied Sales for quantity pricing.

Hand Crimper



Hand Crimper. This hand crimper can handle wire sizes 18, 22, and 24.
784-0300. Hand Crimper ..... **EACH 165.00**

Series DNC Crimp Removable Connectors



These DNC crimp removable connectors are a direct crossover to AMP 205203-1 through 205212-1. The steel shells have a bright tin dip finish; the insulators are glass-filled nylon. Contacts are not included—order from left of page. **Standard Sizes:** 9, 15, 25, 37, and 50.

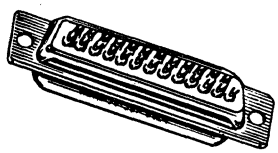
Plugs

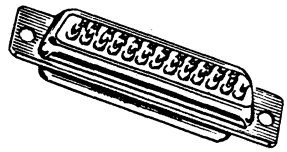
Stock No.	Mfr.'s Type	EACH 1-24	EACH 25-99	EACH 100-499	EACH 500-Up
784-0105	DNC 9P	**.69**	**.63**	**.58**	**.54**
784-0110	DNC 15P	**.76**	**.70**	**.64**	**.59**
784-0115	DNC 25P	**.82**	**.75**	**.69**	**.64**
784-0120	DNC 37P	**1.20**	**1.10**	**1.02**	**.94**
784-0125	DNC 50P	**1.98**	**1.82**	**1.68**	**1.54**

Sockets

Stock No.	Mfr.'s Type	EACH 1-24	EACH 25-99	EACH 100-499	EACH 500-Up
784-0106	DNC 9S	**.69**	**.63**	**.58**	**.54**
784-0111	DNC 15S	**.76**	**.70**	**.64**	**.59**
784-0116	DNC 25S	**.82**	**.75**	**.69**	**.64**
784-0121	DNC 37S	**1.20**	**1.10**	**1.02**	**.94**
784-0126	DNC 50S	**1.98**	**1.82**	**1.68**	**1.54**

Series DNS and DN Original "D" Fixed Contact Solder Cup





Steel Shells: cadmium plated with yellow chromate supplementary coating. **Two-Piece Insulator:** white nylon. **Pin Contacts:** copper alloy, gold over nickel plate. **Socket Contacts:** phosphor bronze, gold over nickel plate. **Wire Size:** 20. Rated 5 amps, 1250 VAC at sea level. Machined contacts.

Stock No.	Mfr.'s Type	Flange Size (In.)	EACH 1-24	EACH 25-99	EACH 100-499	EACH 500-Up
784-0010	DNS-9P	$1^{13}/_{64} \times {}^{31}/_{64}$	**1.19**	**1.07**	**.95**	**.83**
784-0015	DNS-9S	$1^{13}/_{64} \times {}^{31}/_{64}$	**1.42**	**1.28**	**1.14**	**1.00**
784-0020	DNS-15P	$1^{17}/_{32} \times {}^{31}/_{64}$	**1.63**	**1.46**	**1.29**	**1.12**
784-0025	DNS-15S	$1^{17}/_{32} \times {}^{31}/_{64}$	**2.18**	**1.96**	**1.74**	**1.52**
784-0030	DNS-25P	$2^{5}/_{64} \times {}^{31}/_{64}$	**2.50**	**2.25**	**2.00**	**1.75**
784-0035	DNS-25S	$2^{5}/_{64} \times {}^{31}/_{64}$	**3.23**	**2.91**	**2.59**	**2.27**
784-0040	DNS-37P	$2^{23}/_{32} \times {}^{31}/_{64}$	**3.70**	**3.32**	**2.95**	**2.58**
784-0045	DNS-37S	$2^{23}/_{32} \times {}^{31}/_{64}$	**4.86**	**4.37**	**3.88**	**3.39**
784-0050	DNS-50P	$2^{5}/_{8} \times {}^{39}/_{64}$	**4.70**	**4.23**	**3.76**	**3.29**
784-0055	DNS-50S	$2^{5}/_{8} \times 1^{5}/_{64}$	**7.05**	**6.34**	**5.63**	**4.55**

Series DN Economy D-Subs
Sames as the D-Subs above, but with stamped and formed contacts. Intermateable with other D-Subs on this page.

Stock No.	Mfr.'s Type	Flange Size (In.)	EACH 1-24	EACH 25-99	EACH 100-499	EACH 500-Up
784-0410	DN-9P	$1^{13}/_{64} \times {}^{31}/_{64}$	**.90**	**.83**	**.76**	**.70**
784-0411	DN-9S	$1^{13}/_{64} \times {}^{31}/_{64}$	**.92**	**.85**	**.78**	**.72**
784-0415	DN-15P	$1^{17}/_{32} \times {}^{31}/_{64}$	**1.26**	**1.16**	**1.07**	**.98**
784-0416	DN-15S	$1^{17}/_{32} \times {}^{31}/_{64}$	**1.38**	**1.27**	**1.17**	**1.08**
784-0420	DN-25P	$2^{5}/_{64} \times {}^{31}/_{64}$	**1.60**	**1.47**	**1.35**	**1.25**
784-0421	DN-25S	$2^{5}/_{64} \times {}^{31}/_{64}$	**1.92**	**1.77**	**1.63**	**1.50**
784-0425	DN-37P	$2^{23}/_{32} \times {}^{31}/_{64}$	**2.50**	**2.30**	**2.12**	**1.95**
784-0426	DN-37S	$2^{23}/_{32} \times {}^{31}/_{64}$	**2.65**	**2.44**	**2.24**	**2.06**
784-0430	DN-50P	$2^{5}/_{8} \times {}^{39}/_{64}$	**3.18**	**2.95**	**2.69**	**2.48**
784-0431	DN-50S	$2^{5}/_{8} \times 1^{5}/_{64}$	**3.13**	**2.50**	**2.08**	**1.79**

Type 57—Centronic Connectors (Ribbon Connector)

SPECIFICATIONS. Current Rating: 5 A per contact. **Electrical Rating:** 500 volts. **Operating Temperature:** −55°C to +125°C. **Contacts:** Copper base alloy, gold plated. **Dielectric:** Polyester GV, V0 UL94. **Wire Size:** 28 AWG.

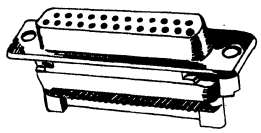
Male Connectors

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2009	57-140P	14	1.94	1.78
784-2011	57-240P	24	2.05	1.88
784-2013	57-360P	36	2.41	2.22
784-2015	57-500P	50	3.23	2.97

Female Connectors

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2010	57-140S	14	1.82	1.67
784-2012	57-240S	24	1.97	1.81
784-2014	57-360S	36	2.41	2.22
784-2016	57-500S	50	3.43	3.16

IDC D Type Connectors



SPECIFICATIONS. Current Rating: 1 A per contact. **Voltage Rating:** 200 VAC, 280 VDC at sea level. **Insulation Resistance:** 1000 MΩ min. at 500 VDC for one minute. **Voltage Withstanding:** 650 VDC for one minute. **Contact Resistance:** 25 MΩ max. at 100 mA DC.

Male Connectors

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2001	DNF-9P	9	2.17	2.02
784-2003	DNF-15P	15	2.55	2.35
784-2005	DNF-25P	25	2.80	2.58
784-2007	DNF-37P	37	4.93	4.54

Female Connectors

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2002	DNF-9S	9	2.38	2.59
784-2004	DNF-15S	15	2.83	2.60
784-2006	DNF-25S	25	3.08	2.83
784-2008	DNF-37S	37	5.43	4.99

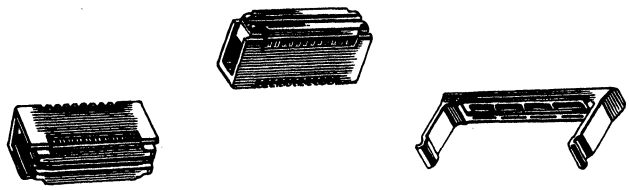
6

Flat Cable Female Socket Connectors

SPECIFICATIONS. Current Rating: 1 ADC. **Contact Resistance:** 20 mΩ max. at 6 VDC, 0.3 A. **Insulation Resistance:** 1000 MΩ min. at 500 VDC. **Operating Temperature:** −55°C to +105°C. **Dielectric Withstanding Voltage:** 500 VAC for one minute. **Contacts:** Phosphor-bronze (gold palladium-over-nickel plating). **Insulating Material:** PBT and polycarbonate (UL94V0).

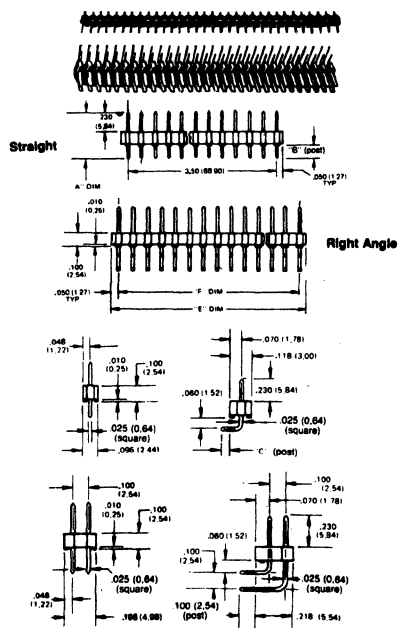
Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2018	FSC-1001-01	10	.77	.71
784-2019	FSC-1401-01	14	.77	.71
784-2020	FSC-1601-01	16	.80	.74
784-2021	FSC-2001-01	20	.88	.81
784-2022	FSC-2601-01	26	1.00	.92
784-2023	FSC-3001-01	30	1.17	1.08
784-2024	FSC-3401-01	34	1.20	1.10
784-2025	FSC-4001-01	40	1.62	1.49
784-2026	FSC-5001-01	50	1.93	1.77
784-2027	FSC-6001-01	60	2.30	2.12

Card Edge Connectors



These connect to the edge of a PC board .035 to .075″ thick with contact pads on .100″ centers. The cantilevered contacts are spring tensioned. Each contact is bifucated to ensure no loss of contact if vibration or connector movement occurs.

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2033	FEC-2001-07	20	1.12	1.02
784-2034	FEC-2601-07	26	1.34	1.24
784-2035	FEC-3401-07	34	1.40	1.30
784-2036	FEC-4001-07	40	1.87	1.77
784-2037	FEC-5001-07	50	2.17	1.98



Single and Double Row Breakaway Headers

UL and CSA Recognized. Contact Spacing: .100″. **Contact Resistance:** 20 MΩ max. at 6 VDC, 0.3A. **Current Rating:** 3 ADC. **Operating Temperature:** −55°C to +105°C. **Insulation Resistance:** 1000 MΩ min. at 500 VDC. **Dielectric Withstanding Voltage:** 500 VAC for one minute. **PC Board Thickness:** 1/16 inch.

Single Row Headers—Straight
Available up to 40 pins. Sizes not shown are available upon request. Also available with tin plating.

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2109	1100S-10-G	10	.37	.34
784-2119	1100S-20-G	20	.75	.69
784-2129	1100S-30-G	30	1.12	1.03
784-2139	1100S-40-G	40	1.50	1.38

Double Row Headers—Straight
Available up to 80 pins. Sizes not shown are available upon request. Also available with tin plating.

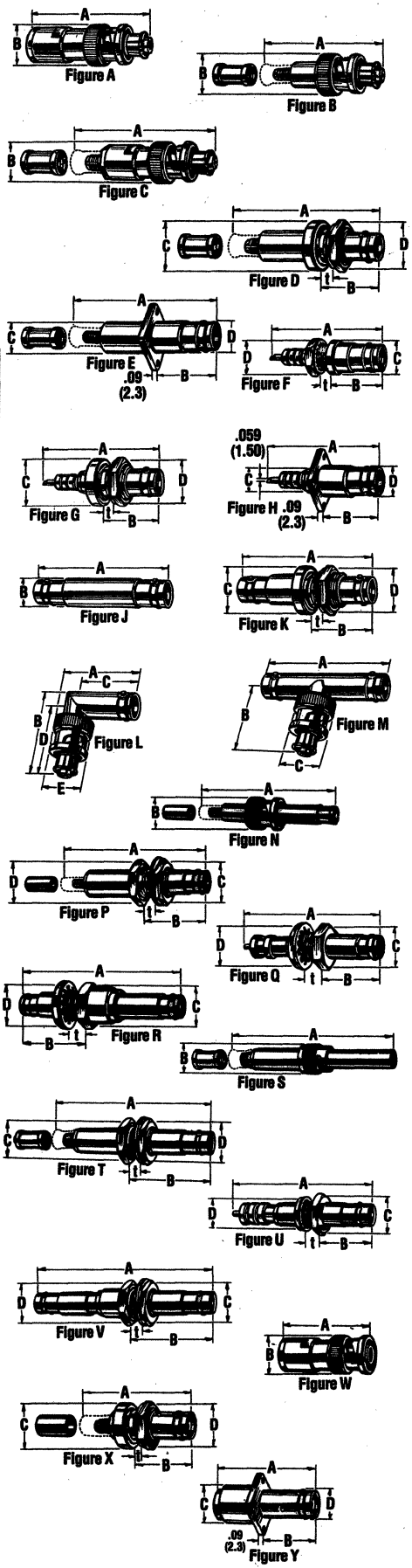
Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2209	2200S-10-G	10	.37	.34
784-2219	2200S-20-G	20	.75	.69
784-2229	2200S-30-G	30	1.12	1.03
784-2239	2200S-40-G	40	1.50	1.38

Single Row Headers—Right Angle
Available up to 40 pins. Sizes not shown are available upon request. Also available with tin plating.

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2309	1100A-10-G	10	.48	.44
784-2319	1100A-20-G	20	.95	.88
784-2329	1100A-30-G	30	1.43	1.32
784-2339	1100A-40-G	40	1.90	1.75

Double Row Headers—Right Angle
Available up to 80 pins. Sizes not shown are available upon request. Also available with tin plating.

Stock No.	Mfr.'s Type	Contact Positions	EACH	
			1-9	10-49
784-2409	2200A-10-G	10	.48	.44
784-2419	2200A-20-G	20	.95	.88
784-2429	2200A-30-G	30	1.43	1.32
784-2439	2200A-40-G	40	1.90	1.75



Although all four series use bayonet-type coupling, they are not intermateable.

SHV-Series Connectors

Manufactured to National Bureau of Standards specification NP 545. These connectors feature an improved interface over MHV connectors. Center contacts are recessed to prevent shock hazards when the connectors are unmated. **Material Bodies and Fittings:** brass, QQ-B-626, Alloy 360 ½H. **Insulators:** Teflon, MIL-P-19468. Bodies, Fittings and Outer Contacts Finish: TR-5® except where noted. **Ratings at Sea Level:** Operating—3500 VAC or 5000 VDC; Test—5000 VAC, 10,000 VDC.

Plugs—Conventional Construction with Female Contact

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	Special Features	EACH 1-24	EACH 25-99
517-1000	1705-14	A	59, 59A, 59B, 62, 62A, 62B, 62C, 71, 71A, 71B, 210	—	10.17	9.17
Plugs—Weatherproof K-Grip Jr.® Construction with Female Contact						
517-1010	1705-2	B	58*, 58A*, 58C, 141, 141A	Crimp contact	11.40	9.45
517-1015	1705-1	B	59, 59A, 59B, 62, 62A, 62B, 62C, 210	Crimp contact	11.60	9.60
517-1020	1705-4	B	9, 9A, 9B, 214	—	22.95	20.69
Plugs—Preassembled Weatherproof K-Grip® Construction with Female Contact						
517-1030	1705-3	C	174, 188, 188A, 316	Crimp contact	22.25	18.55
517-1035	1705-5	C	58*, 58A*, 58C, 141, 141A	Crimp contact	34.86	31.43
517-1040	1705-6	C	59, 59A, 59B, 62, 62A, 62B, 62C, 210	Crimp contact	19.52	17.59
517-1045	1705-7	C	8, 8A, 213	Crimp contact	36.75	30.60
Bulkhead Jacks—Weatherproof K-Grip Jr.® Construction with Male Contact						
517-1060	1702-2	D	58*, 58A*, 58C, 141, 141A	Crimp contact	15.20	12.65
517-1065	1702-1	D	59, 59A, 59B, 62, 62A, 62B, 62C, 210	Crimp contact	17.25	14.35
Panel Jacks—Weatherproof K-Grip® Jr. Construction with Male Contact						
517-1070	1701-2	E	58*, 58A*, 58C, 141, 141A	Crimp contact	35.92	32.38
517-1075	1701-1	E	59, 59A, 59B, 62, 62A, 62B, 62C, 210	Crimp contact	21.25	17.70

*Crimping the center conductor isn't recommended for these cable types.

Bulkhead Receptacles with Male Contact

Stock No.	Mfr.'s Type	Fig.	Special Features	EACH 1-24	EACH 25-99
517-1090	1704-1	F	—	6.85	5.70
517-1095	1704-2	G	—	9.90	8.25
Panel Receptacle with Male Contact					
517-1100	1707-1	H	—	7.70	6.40
Within Series Adapters					
571-1150	1709-5	J	Jack-jack splice (male-male)	11.85	9.85
517-1155	1709-1	K	Jack-jack bulkhead (male-male)	14.45	12.00
517-1160	1709-2	K	Jack-jack pressurized hermetic seal	39.30	32.75
517-1165	1709-12	L	Jack (male) to plug (female) right angle	45.20	37.60
517-1170	1709-3	M	Tee-jack (male)—plug (female)—jack (male)	30.50	25.45
Between Series Adapters (SHV-MHV)					
517-1200	1709-7	—	SHV plug (female) to MHV plug (male)	44.00	36.50
517-1205	1709-8	—	SHV plug (female) to MHV jack (male-polarized)	14.46	13.04
517-1210	1709-9	—	SHV jack (male) to MHV jack (female)	35.63	32.12
517-1215	1709-10	—	SHV jack (male) to MHV plug (male)	17.25	14.35

10 KV Connectors

These connectors and 20 KV connectors feature special high voltage interfaces.

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	Special Features	EACH 1-24	EACH 25-99
517-1300	1065-1	N	58C	Crimp plug (female contact)	12.75	10.56
517-1305	1062-1	P	58C	Bulkhead jack (male contact)	100.12	90.26
517-1310	1064-1	Q	—	Bulkhead receptacle (male contact)	14.80	12.32
517-1315	1069-1	R	—	Jack (male)-jack (male) bulkhead adapter	67.00	55.80

20 KV Connectors

These connectors and 10 KV connectors feature special high voltage interfaces.

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	Special Features	EACH 1-24	EACH 25-99
517-1400	1765-1	S	213	Crimp plug (female contact)	83.67	75.43
517-1405	1762-1	T	213	Bulkhead jack (male contact)	206.39	186.07
517-1410	1764-1	U	—	Bulkhead receptacle (male contact)	113.04	101.91
517-1415	1769-1	V	—	Jack (male)-jack (male) bulkhead adapter	155.27	139.98

MHV Connectors

This forerunner of the SHV-series was designed for high voltage applications of BNC connectors. They aren't intermateable with BNC connectors. **Ratings:** 3500 VAC, 5000 VDC operating; 5000 VAC, 6500 VDC test.

Plugs—Conventional Construction

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	MIL-Type UG	EACH 1-24	EACH 25-99
517-1500	KC-59-03	W	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	UG-932/U	47.64	42.95
Panel Jacks—Conventional Construction						
517-1530	KV-54-08	Y	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	UG-961A/U	14.20	12.80

SMA-Series Subminiature Coax Connectors

The connectors listed have a passivated finish and a gold-plated contact. All versions listed are qualified to MIL-C-39012 and meet or exceed the military specifications.

Crimp Plugs for Flexible Cable

Stock No.	Mfr.'s Type	Fig.	For RG/U Cables	MIL-No. M39012/	EACH 1-24	EACH 25-99
517-2000	875-9-3	A	174, 188, 188A, 316	55-3112	5.94	4.57
517-2005	875-1-3	A	58*, 58A*, 58C, 141, 141A	55-3114	5.84	4.54
517-2010	875-3-3	A	55A, 142, 142A, 223	55-3116	6.52	5.88
Right Angle Plugs for Flexible Cable						
517-2015	876-2-3	B	174, 188, 188A, 316	56-3112	13.95	10.73
517-2020	876-5-3	B	58*, 58A*, 58C, 141, 141A	56-3114	15.17	13.67
517-2025	876-13-3	B	55A, 142, 142A, 223	56-3116	17.78	16.03
Jacks for Flexible Cable						
517-2030	873-8-3	C	174, 188, 188A, 316	—	9.11	7.01
517-2035	873-1-3	C	58*, 58A*, 58C, 141, 141A	—	7.30	5.61
517-2040	873-3-3	C	55A, 142, 142A, 223	—	8.25	7.47
Bulkhead Jacks—Rear Mount						
517-2045	872-30-3	D	174, 188, 188A, 316	59-3012	10.35	7.96
517-2050	872-4-3	D	58*, 58A*, 58C, 141, 141A	59-3014	9.24	7.11
517-2055	872-3-3	D	55, 142, 142A, 223	59-3016	7.10	6.40

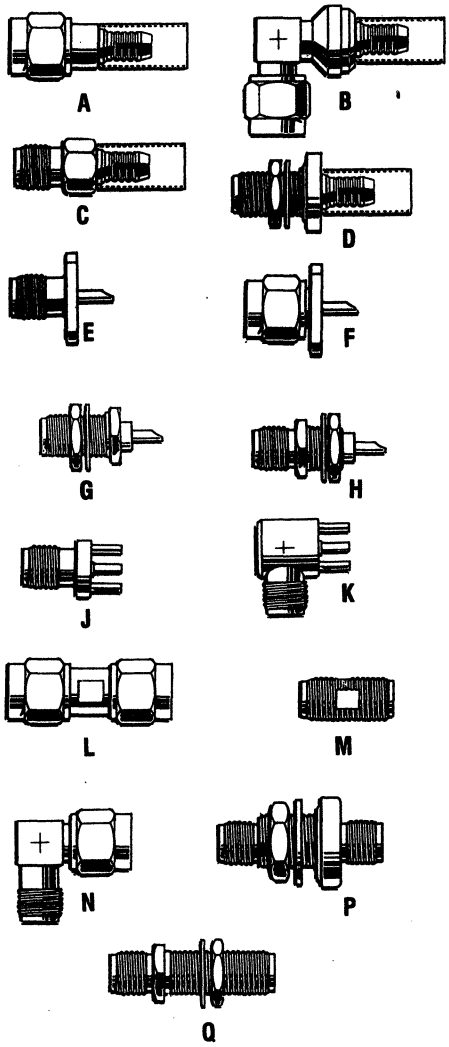
*Crimping the center conductor isn't recommended for these cable types.

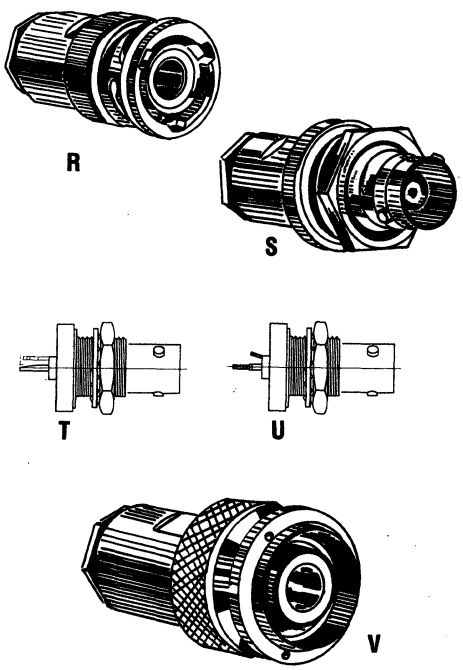
Panel Mount Receptacle

Stock No.	Mfr.'s Type	Fig.	MIL-No. M39012/	EACH 1-24	EACH 25-99
517-2060	877-66-3	E	60-3001	7.73	5.95
Panel Mount Male Receptacle					
517-2065	877-68-3	F	—	7.02	6.33
Bulkhead Receptacles					
517-2070	874-10-3	G	61-3001	7.62	5.86
517-2075	874-11-3	H	61-3002	9.52	7.32
Printed Circuit Receptacles					
517-2080	877-69-1	J	—	9.36	7.20
Right Angle Printed Circuit Receptacle					
517-2085	877-70-1	K	—	10.28	7.91

SMA to SMA Adapters

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-24	EACH 25-99
517-2090	879-2-3	L	Male to male	9.35	8.43
517-2092	879-3-3	M	Female to female	43.20	38.95
517-2094	879-1-3	N	Right angle male to female	40.50	36.51
517-2096	879-12-3	P	Bulkhead female to female	114.25	103.00
517-2098	879-13-3	Q	Panel female to female	29.26	26.74





TRIAXIAL/DATA BUS Coaxial Connectors TRB/TRT Series

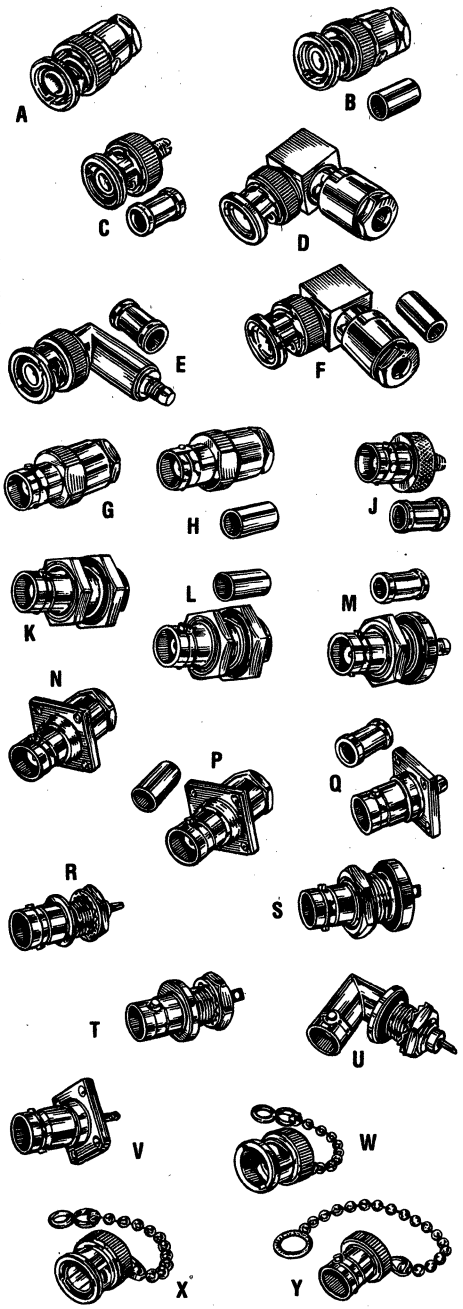
TRIAXIAL/DATA BUS connectors are used where shielding or isolation of the standard coaxial connector is insufficient, particularly in areas where the high harmonic content of digital pulses fall in the rf region, causing interference to other equipment and cables. TRB series connectors are triaxial connectors designed to meet MIL-C-49142 and have a 3 stud bayonet coupling. TRT series connectors are triaxial connectors designed to meet MIL-C-49142 and have a threaded coupling.

Plugs—TRB/BNC—3 Stud

Stock No.	Mfr.'s Type	Description	MIL Part No.	Fig.	EACH 1-24	EACH 25-99
517-4005	1995-11-5	Weatherproof Taper Grip	03-0007	R	30.58	26.21
517-4010	1995-14-5	Weatherproof Taper Grip	03-0008	R	34.53	35.31
517-4015	1995-18-5	Weatherproof Taper Grip	03-0009	R	42.85	36.73
517-4020	1995-20-5	Weatherproof Taper Grip	03-0011	R	45.23	38.77
Bulkhead Jacks—TRB/BNC—3 Stud						
517-4030	1992-8-5	Weatherproof Taper Grip	05-0007	S	72.52	62.16
517-4035	1992-11-5	Weatherproof Taper Grip	05-0008	S	65.72	56.33
517-4040	1992-13-5	Weatherproof Taper Grip	05-0009	S	62.18	53.30
517-4045	1992-15-5	Weatherproof Taper Grip	05-0011	S	56.78	48.67
Bulkhead Receptacles—TRB/BNC—3 Stud						
517-4050	1994-3-5	Rear Mount	04-0004	T	20.52	17.59
517-4055	1994-4-5	Rear Mount	04-0005	U	80.77	69.23
Plugs—TRT/TNC						
517-4060	1945-6-5	Weatherproof Taper Grip, Wire Holes	08-0005	V	66.95	57.39
517-4065	1945-7-5	Weatherproof Taper Grip, Wire Holes	08-0006	V	40.17	34.43
Bulkhead Jacks—TRT/TNC						
517-4070	1942-7-5	Weatherproof Taper Grip	09-0006	—	58.20	49.89
517-4075	1942-5-5	Weatherproof Taper Grip	09-0007	—	90.35	77.44
Bulkhead Receptacles—TRT/TNC						
517-4080	1944-3-5	Rear Mount	10-0001	—	17.45	14.96
517-4085	1944-8-5	Rear Mount	10-0002	—	63.52	54.44

Jacks and Plugs

These connectors are rated for 500 V rms and a nominal impedance of 50 Ohms. The standard finish is silver-plated on bodies reinforced by TR-4™ electrolytic chromate treatment. The connectors listed below meet or exceed the requirements of MIL-C-39012.



Straight Plugs

Stock No.	Mfr.'s Type	For RG/U Cables	MIL-C-39012 Part No.	Fig.	EACH 1-24	EACH 25-99
517-3000	KC-59-244	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	16-0001	A	4.76	4.29
517-3002	KC-59-243	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	16-0002	A	4.50	4.06
517-3006	KC-59-61	58, 58A, 58C, 141, 141A	16-0004	B	3.65	3.29
517-3007	KC-59-195	58, 58A, 58C, 141, 141A	16-0004	C	2.70	2.43
517-3010	KC-59-229	58, 58A, 58C, 141, 141A	16-0006	B	6.08	5.48
517-3011	KC-59-227	58, 58A, 58C, 141, 141A	16-0006	C	2.98	2.69
517-3014	KC-59-64	59, 59A, 59B, 62, 62A, 62B, 62C, 210	16-0008	B	4.57	4.12
517-3015	KC-59-220	59, 59A, 59B, 62, 62A, 62B, 62C, 210	16-0008	C	3.46	3.12
517-3018	KC-59-230	59, 59A, 59B, 62, 62A, 62B, 62C, 210	16-0010	B	7.71	6.95
517-3019	KC-59-228	59, 59A, 59B, 62, 62A, 62B, 62C, 210	16-0010	C	11.72	10.56

Right Angle Plugs

517-3020	KC-59-245	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	20-0001	D	11.05	9.96
517-3021	KC-59-224	58, 58A, 58C, 141, 141A	20-0002	E	10.34	9.32
517-3022	KC-59-197	58, 58A, 58C, 141, 141A	20-0002	F	10.76	9.70

Straight Jacks

517-3025	KC-39-75	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	17-0001	G	8.05	7.26
517-3026	KC-39-76	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	17-0002	G	7.10	6.40
517-3028	KC-39-20	58, 58A, 58C, 141, 141A	17-0004	H	5.01	4.52
517-3029	KC-39-59	58, 58A, 58C, 141, 141A	17-0004	J	7.15	6.44
517-3032	KC-39-69	58, 58A, 58C, 141, 141A	17-0006	H	5.01	4.52
517-3033	KC-39-67	58, 58A, 58C, 141, 141A	17-0006	J	7.50	6.76
517-3036	KC-39-22	59, 59A, 59B, 62, 62A, 62B, 62C, 210	17-0008	H	8.46	7.63
517-3037	KC-39-63	59, 59A, 59B, 62, 62A, 62B, 62C, 210	17-0008	J	4.91	4.43
517-3040	KC-39-70	59, 59A, 59B, 62, 62A, 62B, 62C, 210	17-0010	H	5.01	4.52
517-3041	KC-39-68	59, 59A, 59B, 62, 62A, 62B, 62C, 210	17-0010	J	21.13	19.05

Bulkhead Jacks

517-3042	KC-19-154	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	19-0001	K	5.79	5.22
517-3043	KC-19-155	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	19-0002	K	5.58	5.03
517-3044	KC-19-50	58, 58A, 58C, 141, 141A	19-0003	L	4.80	4.33
517-3045	KC-19-119	58, 58A, 58C, 141, 141A	19-0003	M	18.25	16.46
517-3048	KC-19-146	58, 58A, 58C, 141, 141A	19-0005	L	12.19	10.99
517-3049	KC-19-148	58, 58A, 58C, 141, 141A	19-0005	M	9.38	8.46
517-3052	KC-19-104	59, 59A, 59B, 62, 62A, 62B, 62C, 210	19-0007	L	6.61	5.96
517-3053	KC-19-134	59, 59A, 59B, 62, 62A, 62B, 62C, 210	19-0007	M	16.28	14.68
517-3057	KC-19-149	59, 59A, 59B, 62, 62A, 62B, 62C, 210	19-0009	M	13.06	11.77

Panel Jacks

517-3058	KC-19-156	59, 59A, 59B, 62, 62A, 62B, 62C, 210, 71, 71A, 71B	18-0001	N	6.10	5.50
517-3059	KC-19-157	58, 58A, 58C, 141, 141A, 55A, 142, 142A, 223, 55, 55B, 142B	18-0002	N	5.91	5.33
517-3062	KC-19-31	58, 58A, 58C, 141, 141A	18-0004	P	6.43	5.80
517-3063	KC-19-127	58, 58A, 58C, 141, 141A	18-0004	Q	17.43	15.71
517-3066	KC-19-144	58, 58A, 58C, 141, 141A	18-0006	P	6.39	5.76
517-3070	KC-19-34	59, 59A, 59B, 62, 62A, 62B, 62C, 210	18-0008	P	10.48	9.45
517-3071	KC-19-130	59, 59A, 59B, 62, 62A, 62B, 62C, 210	18-0008	Q	16.99	15.31
517-3074	KC-19-145	59, 59A, 59B, 62, 62A, 62B, 62C, 210	18-0010	P	9.64	8.69
517-3075	KC-19-143	59, 59A, 59B, 62, 62A, 62B, 62C, 210	18-0010	Q	28.74	25.91

Receptacles

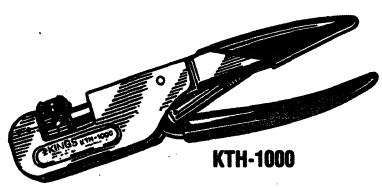
Stock No.	Mfr.'s Type	Description	MIL-C-39012 Part No.	Fig.	EACH 1-24	EACH 25-99
517-3076	KC-79-105	Bulkhead	21-0001	R	1.80	1.63
517-3077	KC-79-106	Bulkhead	21-0002	R	2.77	2.50
517-3078	KC-79-107	Bulkhead Hermetic Seal	24-0001	S	4.05	3.65
517-3079	KC-79-108	Bulkhead Hermetic Seal	24-0002	T	5.23	4.71
517-3080	KC-79-110	Bulkhead Angle	23-0001	U	13.42	12.10
517-3081	KC-79-111	Bulkhead Angle	23-0002	U	15.59	14.05
517-3082	KC-79-109	Panel	22-0001	V	3.05	2.75

Accessories

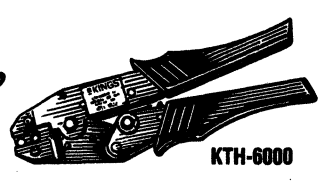
517-3084	KC-89-87	Cap w/beaded chain	25-0006	W	1.89	1.70
517-3086	KC-89-93	Shorting plug w/beaded chain	25-0016	X	5.20	4.68
517-3088	KC-89-90	Cap for plugs w/beaded chain	25-0008	Y	5.20	4.68

Crimp Tools and Dies

Both tools are ratchet type and won't release until a crimp is complete. The tools feature removable/replaceable die sets for termination of a variety of cables on a variety of connectors. Die sets are sold as separate items.



KTH-1000

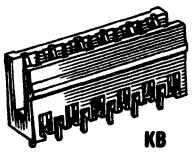


KTH-6000

Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-99
517-3090	KTH-1000	Tool frame	264.99	238.86
517-3091	KTH-2001	Die for connectors on RG-58, 141	77.25	69.50
517-3092	KTH-2002	Die for connectors on RG-59, 62	77.25	69.50
517-3093	KTH-2021	Die for connectors on RG-174	77.25	69.50
517-3094	KTH-2061	Die for SHV on RG-58, 141	130.25	117.25
517-3095	KTH-2062	Die for SHV on RG-59, 62	96.50	86.85

Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-99
517-3100	KTH-6000	Tool frame	163.30	147.20
517-3101	KTH-6001	Die for connectors on RG55, 58, 141, 142, 223	70.80	63.70
517-3102	KTH-6021	Die for connectors on RG 174, 188 and 316	87.50	78.75

KR, KS, KB and KRM Series terminal blocks feature a high-density modular screw-clamp wire connection system designed for PCB applications. Each contact is wire-protected for clean, safe connections. KR Series available in vertical, horizontal, and 45° angle mount with 15 A current rating. KB and KS Series available in vertical and horizontal mount with 10 A current rating. KRM Series available in vertical mount with 15 A current rating. UL, VDE approved. **Torque:** 9.0″ lbs. **Wire Stripping Length:** 5 mm (.197″). Also available in models with .2 center-to-center spacing. Contact the nearest Allied facility for items not shown.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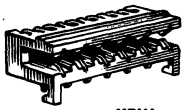
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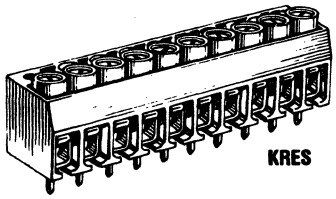
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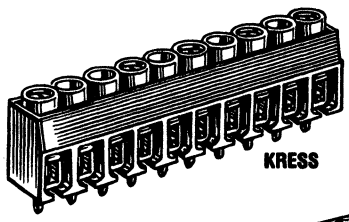
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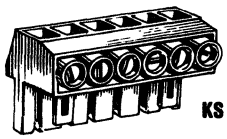
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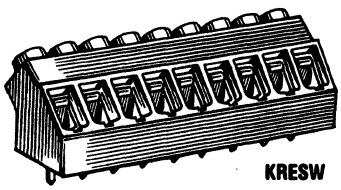
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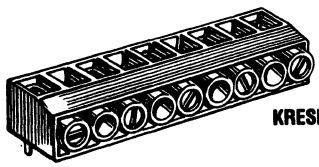
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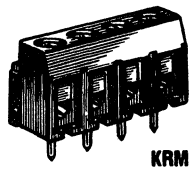
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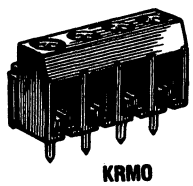
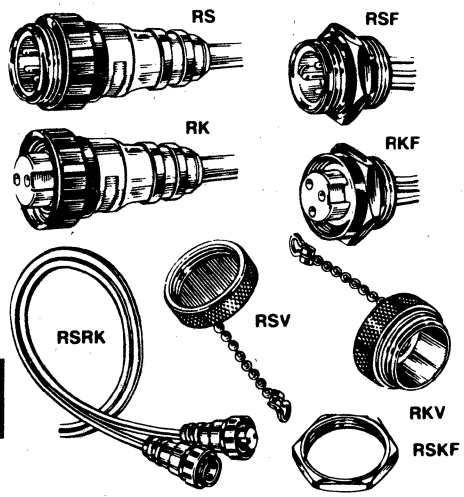

KRMO

6

Stock No.	Mfr.'s Type	No. of Poles	Block Length mm (In.)	Description	EACH			
					1-99	100-499	500-999	1000-Up
742-0002	KB2	2	10 (0.394)	Female Socket, 5 mm (.197″) Pitch, Upright, Solder Terminal Mate with KS Blocks	.40	.37	.34	.310
742-0008	KB6	6	30 (1.181)		.79	.73	.67	.620
742-0022	KBW2	2	10 (0.394)	Female Socket, 5 mm (.197″) Pitch, 90° Version, Solder Terminals with Clamps, Mates with KS Blocks	.40	.37	.34	.310
742-0024	KBW3	3	15 (0.591)		.60	.55	.51	.470
742-0026	KBW4	4	20 (0.787)		.66	.61	.56	.510
742-0028	KBW6	6	30 (1.181)		.79	.73	.67	.620
742-0072	KS2	2	10 (0.394)	Terminal Block, 5 mm (.197″) Pitch, Mates with Female Sockets KB, KBW	.60	.55	.51	.470
742-0078	KS6	6	30 (1.181)		1.32	1.21	1.12	1.030
742-0033	KRES2	2	10 (0.394)	Terminal Strip, 5 mm (.197″) Pitch, Upright with Holes for Test Clips	.72	.66	.61	.560
742-0034	KRES3	3	15 (0.591)		.79	.73	.67	.620
742-0035	KRES4	4	20 (0.787)		.87	.80	.74	.680
742-0036	KRES6	6	30 (1.181)		1.11	1.02	.94	.860
742-0038	KRES8	8	40 (1.575)		1.51	1.39	1.28	1.180
742-0039	KRES10	10	50 (1.969)		1.98	1.82	1.68	1.540
742-0040	KRESL2	2	10 (0.394)	Terminal Block, 5 mm (.197″) Pitch, 90° Angle Version	.60	.55	.51	.470
742-0042	KRESL3	3	15 (0.591)		.77	.71	.65	.600
742-0043	KRESL4	4	20 (0.787)		1.02	.94	.87	.800
742-0044	KRESL6	6	30 (1.181)		1.44	1.33	1.22	1.120
742-0045	KRESL5	5	25 (0.984)		1.19	1.10	1.01	.930
742-0046	KRESL8	8	40 (1.575)		1.96	1.80	1.66	1.530
742-0048	KRESL10	10	50 (1.969)		2.37	2.18	2.01	1.850
742-0050	KRESS2	2	10 (0.394)	Terminal Block, 5 mm (.197″) Pitch, Upright Versions without Test Holes	.60	.55	.51	.470
742-0052	KRESS3	3	15 (0.591)		.77	.71	.65	.620
742-0054	KRESS4	4	20 (0.787)		.94	.87	.80	.730
742-0056	KRESS5	5	25 (0.984)		1.02	.94	.87	.800
742-0058	KRESS6	6	30 (1.181)		1.19	1.10	1.01	.930
742-0059	KRESS8	8	40 (1.575)		1.62	1.49	1.37	1.260
742-0060	KRESS10	10	50 (1.969)		2.03	1.87	1.72	1.580
742-0061	KRESS12	12	60 (2.364)		2.37	2.18	1.85	1.700
742-0150	KRESSZ2	2	10, 16 (0.400)	Same as KRESS, but with 5.08 (.2) Terminal Spacing	.60	.55	.51	.470
742-0152	KRESSZ3	3	15, 24 (0.600)		.77	.70	.65	.600
742-0154	KRESSZ4	4	20, 32 (0.800)		.94	.87	.80	.740
742-0156	KRESSZ6	6	30, 48 (0.120)		1.19	1.10	1.01	.930
742-0158	KRESSZ8	8	40, 64 (0.160)		1.62	1.49	1.37	1.260
742-0160	KRESSZ10	10	50, 80 (0.200)		2.44	2.25	2.07	1.900
742-0062	KRESW2	2	10 (0.394)	Terminal Block, 5 mm (.197″) Pitch, 45° Angle Version	.72	.66	.61	.560
742-0064	KRESW3	3	15 (0.591)		.79	.73	.67	.620
742-0065	KRESW4	4	20 (0.787)		1.03	.95	.87	.800
742-0066	KRESW6	6	30 (1.181)		1.51	1.39	1.28	1.176
742-0067	KRESW5	5	25 (0.984)		1.18	1.09	.99	.920
742-0068	KRESW8	8	40 (1.575)		1.98	1.82	1.68	1.540
742-0070	KRESW10	10	50 (1.969)		2.44	2.25	2.07	1.900
742-0082	KRMZ2	2	10 (0.400)	Miniature Terminal Block 5.08 mm (.200″) Clamp with Wire Protection, Solder Type, Single Row, Upright Version	.43	.40	.36	.330
742-0083	KRMZ3	3	15 (0.600)		.61	.56	.52	.480
742-0084	KRMZ4	4	20 (0.800)		.85	.79	.73	.670
742-0088	KRMZ8	8	40 (1.600)		1.57	1.45	1.33	1.230
742-0023	KRMOZ2	2	10 (0.400)	Miniature Terminal Block, 5.08 mm (.200″), Clamp without Wire Protection, Solder Type, Single Row, Upright Version	.43	.40	.36	.340
742-0025	KRMOZ3	3	15 (0.600)		.61	.56	.52	.480
742-0027	KRMOZ4	4	20 (0.800)		.85	.79	.73	.670
742-0029	KRMOZ8	8	40 (1.600)		1.57	1.45	1.33	1.230

Waterproof Connectors



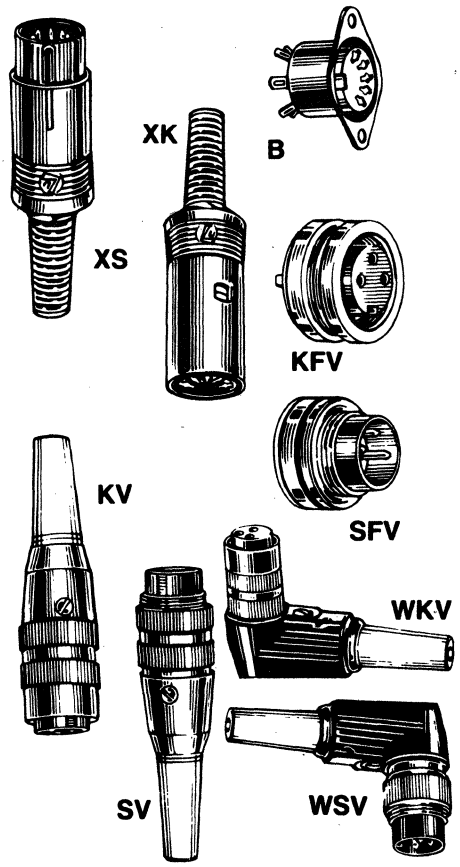
Circular threaded water and oil resistant connectors. Designed for proximity sensors and limit switches. Connectors are submersible to 300 feet underwater. **Current Rating:** 12 A for 2 and 3 poles, 9 A for 4 and 5 poles. **Temperature Rating:** – 40 to + 90°C. Approved for VDE 0110, UL and 1P68 environmental specifications, Ford Motor Co., and General Motors. Crosses to Brad Harrison, Joy and Cam-lok available. **Contact your nearest Allied facility for additional information.**

Stock No.	Mfr.'s Type	Descriptions	EACH			
			1-9	10-24	25-99	100-249
742-1003	RS30-01/2M	Quick-disconnect male plug: 3 contacts cable length — 2 meters 18 AWG	11.90	10.95	10.07	9.27
742-1005	RS40-02/2M	Quick-disconnect male plug: 4 contacts cable length — 2 meters 16 AWG	12.90	11.87	10.92	10.05
742-1007	RS50-04/2M	Quick-disconnect male plug: 5 contacts cable length — 2 meters 16 AWG	13.35	12.28	11.30	10.40
742-1011	RK30-38/2M	Quick-disconnect female plug: 3 contacts cable length — 2 meters 16 AWG	12.30	11.32	10.40	9.58
742-1013	RK40-39/2M	Quick-disconnect female plug: 4 contacts cable length — 2 meters 16 AWG	14.90	13.71	12.61	11.60
742-1015	RK50-77/2M	Quick-disconnect female plug: 5 contacts cable length — 2 meters 16 AWG	17.00	15.64	14.38	13.24
742-1019	RSF30-38/2M	Quick-disconnect male chassis 1/2" 14 NPT, 3 contacts, leads, 3 meters 16 AWG	8.45	7.77	7.15	6.58
742-1021	RSF40-39/2M	Quick-disconnect male chassis 1/2" 14 NPT, 4 contacts, leads, 3 meters 16 AWG	9.15	8.42	7.75	7.13
742-1023	RSF50-77/2M	Quick-disconnect male chassis 1/2" 14 NPT, 5 contacts, leads, 3 meters 16 AWG	10.00	9.20	8.46	7.79
742-1027	RKF30-01/2M	Quick-disconnect female chassis 1/2" 14 NPT, 3 contacts, leads, 3 meters 18 AWG	9.70	8.92	8.21	7.55
742-1029	RKF40-02/2M	Quick-disconnect female chassis 1/2" 14 NPT, 4 contacts, leads, 3 meters 16 AWG	10.60	9.75	8.97	8.25
742-1031	RKF50-05/2M	Quick-disconnect female chassis 1/2" 14 NPT, 5 contacts, leads, 3 meters 16 AWG	11.30	10.40	9.56	8.80
742-1016	RSRK30-01/5M	Male/female extension; 3 contacts, cable length — 5 meters	25.55	23.51	21.63	19.90
742-1018	RSRK40-02/5M	Male/female extension; 4 contacts, cable length — 5 meters	26.45	24.33	22.39	20.60
742-1020	RSV	Female protector cap for RS/RSF Series; nickel-plated brass	5.60	5.15	4.74	4.36
742-1022	RKV	Male protector cap for RK/RKF Series; nickel-plated brass	7.35	6.76	6.22	5.72
742-1024	RSKF 13.5	Lock nut for RSF/RKF — 13.5mm threads	0.36	0.34	0.32	0.31

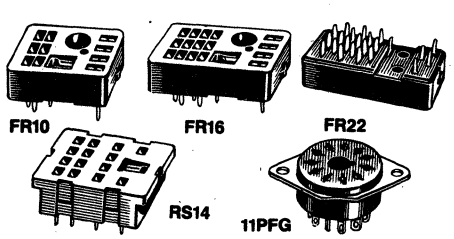
Circular Din and Lock-Ring Connectors

Designed for a wide variety of applications — ideal for new designs and replacements. Modern streamlined appearance. Precision-built to exacting standards; outside metal housing and locking ring. All contacts soldered for insured quality. Available in 3 to 12 contacts; black chrome finish available upon request. **Contact your nearest Allied facility for items not shown.**

Stock No.	Mfr.'s Type	Description	Number of Contacts	EACH			
				1-9	10-24	25-99	100-249
742-1100	XS32	Male plastic shielded plug; mates with XK or B Series	3	0.50	0.46	0.42	0.39
742-1102	XS52		5	0.65	0.60	0.55	0.52
742-1104	XS62		6	0.77	0.72	0.69	0.66
742-1106	XS82		8	0.85	0.78	0.72	0.66
742-1108	XK32	Female plastic shielded plug; mates with XS Series	3	0.75	0.71	0.67	0.64
742-1110	XK52		5	0.85	0.78	0.72	0.66
742-1112	XK62		6	0.90	0.83	0.76	0.71
742-1114	XK82		8	1.00	0.92	0.85	0.78
742-1116	B31	Shielded chassis socket, mates with XS Series	3	0.75	0.71	0.67	0.64
742-1118	B51		5	0.90	0.83	0.76	0.70
742-1120	B61		6	1.05	0.97	0.89	0.82
742-1122	B81		8	1.25	1.15	1.06	0.97
742-1124	KFV30	Female chassis socket, with lock-ring; mates with SV, WSV Series	3	1.85	1.70	1.57	1.44
742-1126	KFV50		5	2.05	1.89	1.74	1.60
742-1128	KFV60		6	2.10	1.93	1.85	1.76
742-1129	KFV70		7	2.15	1.98	1.82	1.68
742-1130	KFV80		8	2.20	2.02	1.86	1.79
742-1132	KV30M	Female plug, dull chrome, with flush lock-ring; mates with SV, WSV, SFV Series	3	4.15	3.95	3.75	3.56
742-1134	KV50M		5	4.30	4.15	3.94	3.74
742-1136	KV60M		6	4.35	4.15	3.94	3.74
742-1138	KV80M		8	4.45	4.20	4.08	3.91
742-1140	SFV30	Male chassis socket, with lock-ring; mates with KV, WKV Series	3	1.60	1.49	1.43	1.39
742-1142	SFV50		5	1.70	1.65	1.56	1.48
742-1144	SFV60		6	1.80	1.61	1.48	1.36
742-1146	SFV80		8	2.00	1.95	1.85	1.76
742-1148	SV30M	Male plug, dull chrome, with flush lock-ring; mates with KV, WKV, KFV Series	3	3.95	3.75	3.56	3.38
742-1150	SV50M		5	4.10	3.95	3.75	3.56
742-1152	SV60M		6	4.15	3.95	3.75	3.56
742-1154	SV80M		8	4.30	4.10	3.89	3.70
742-1156	WKV30	Female plug, right-angle style, with flush lock-ring; mates with SFV, SV, WSV Series	3	4.50	4.15	4.08	3.88
742-1158	WKV50		5	4.65	4.35	4.23	4.05
742-1160	WKV60		6	4.70	4.45	4.23	4.05
742-1162	WKV80		8	4.80	4.45	4.23	4.05
742-1164	WSV30	Male plug, right-angle style, with flush lock-ring; mates with WKV, KFV, KV Series	3	4.30	4.10	3.89	3.70
742-1166	WSV50		5	4.40	4.15	4.03	3.83
742-1168	WSV60		6	4.50	4.15	4.08	3.88
742-1170	WSV80		8	4.70	4.45	4.23	4.05



Relay Sockets



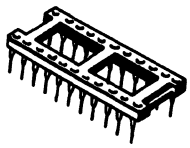
PC Board Sockets, Rated 250 Volt, 5 Amp

Stock No.	Mfr.'s Type	Description	Number of Contacts	EACH			
				1-9	10-24	25-99	100-249
742-1250	FR10	10 poles with grounding spring	10	1.10	1.01	0.95	0.90
742-1252	FR16	16 poles with grounding spring	16	1.50	1.38	1.32	1.26
742-1254	FR22	22 poles with grounding spring	22	2.00	1.85	1.75	1.66
742-1256	RS14	14 poles with grounding spring	14	1.40	1.30	1.23	1.17

Chassis-Mount

742-1258	11 PGF	11 pole socket with metal flange	11	1.10	1.01	0.95	0.90

Dip Socket Series



Solder Tail

3 Level Wire Wrap Tail

- ► Open Frame: For easy inspection of solder joints and better air flow
- ► Closed Bottom: Prevents flux intrusion and solder wicking
- ► Stackability: X and Y Stackable
- ► BeCu Intercontact: For optimal electrical and mechanical performance
- ► Accommodates: 6-64 Dip ICs with .015" to .022" diameter leads

Contact Specification

All types on this page have an inner clip of beryllium copper alloy 172 with a plating of 30μ" gold over 50μ" nickel. The outer sleeve is 1/2 hard brass alloy with a plating per the table below.

Contact Type	Tail Style	Length Inches	Outer Sleeve
001B	Solder tail	.125	200μ" tin over 50μ" nickel
002B	Solder tail	.125	10μ" gold over 50μ" nickel
054B	Solder tail	.180	200μ" tin over 50μ" nickel
410B	Wire wrap	3-level	200μ" tin over 50μ" nickel
411B	Wire wrap	3-level	10μ" gold over 50μ" nickel

.125 Solder Tail-Gold/Tin Sleeve

Stock No.	Mfr.'s Type	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1005	DIP-306-001B	6	.299	7.60	.399	10.14	0.47	0.42	0.27
978-1010	DIP-308-001B	8	.399	10.14	.399	10.14	0.55	0.49	0.31
978-1015	DIP-314-001B	14	.699	17.76	.399	10.14	0.96	0.85	0.55
978-1020	DIP-316-001B	16	.799	20.32	.399	10.14	1.09	0.97	0.62
978-1025	DIP-318-001B	18	.899	22.84	.399	10.14	1.23	1.09	0.70
978-1030	DIP-320-001B	20	.999	25.37	.399	10.14	1.37	1.21	0.78
978-1035	DIP-322-001B	22	1.099	27.91	.399	10.14	1.50	1.34	0.86
978-1040	DIP-324-001B	24	1.199	30.45	.399	10.14	1.64	1.46	0.94
978-1045	DIP-328-001B	28	1.399	35.55	.399	10.14	1.91	1.70	1.09
978-1050	DIP-420-001B	20	.999	25.37	.499	12.68	1.37	1.21	0.78
978-1055	DIP-422-001B	22	1.099	27.91	.499	12.68	1.50	1.34	0.86
978-1065	DIP-624-001B	24	1.199	30.45	.699	17.76	1.64	1.46	0.94
978-1070	DIP-628-001B	28	1.399	35.55	.699	17.76	1.91	1.70	1.09
978-1085	DIP-640-001B	40	1.999	50.79	.699	17.76	2.73	2.43	1.56
978-1090	DIP-648-001B	48	2.399	60.96	.699	17.76	3.28	2.92	1.87
978-1110	DIP-964-001B	64	3.199	81.25	.999	25.38	4.37	3.89	2.50

3 Level Wire Wrap-Gold Clip/Tin Sleeve

Stock No.	Mfr.'s Type	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1006	DIP-306-410B	6	.299	7.60	.399	10.14	0.84	0.75	0.48
978-1011	DIP-308-410B	8	.399	10.14	.399	10.14	1.11	0.99	0.64
978-1016	DIP-314-410B	14	.699	17.76	.399	10.14	1.95	1.73	1.11
978-1021	DIP-316-410B	16	.799	20.32	.399	10.14	2.23	1.98	1.27
978-1026	DIP-318-410B	18	.899	22.84	.399	10.14	2.50	2.23	1.43
978-1031	DIP-320-410B	20	.999	25.37	.399	10.14	2.78	2.47	1.59
978-1036	DIP-322-410B	22	1.099	27.91	.399	10.14	3.06	2.72	1.75
978-1041	DIP-324-410B	24	1.199	30.45	.399	10.14	3.34	2.97	1.91
978-1046	DIP-328-410B	28	1.399	35.55	.399	10.14	3.90	3.46	2.23
978-1051	DIP-420-410B	20	.999	25.37	.499	12.68	2.78	2.47	1.59
978-1056	DIP-422-410B	22	1.099	27.91	.499	12.68	3.06	2.72	1.75
978-1066	DIP-624-410B	24	1.199	30.45	.699	17.76	3.34	2.97	1.91
978-1071	DIP-628-410B	28	1.399	35.55	.699	17.76	3.90	3.46	2.23
978-1086	DIP-640-410B	40	1.999	50.79	.699	17.76	5.57	4.95	3.18
978-1091	DIP-648-410B	48	2.399	60.96	.699	17.76	6.68	5.94	3.82
978-1111	DIP-964-410B	64	3.199	81.25	.999	25.38	8.91	7.92	5.09

.180 Solder Tail-Gold Clip/Tin Sleeve

Stock No.	Mfr.'s Type	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1305	DIP-306-054B	6	.299	7.60	.399	10.14	0.55	0.49	0.32
978-1310	DIP-308-054B	8	.399	10.14	.399	10.14	0.65	0.58	0.37
978-1315	DIP-314-054B	14	.699	17.76	.399	10.14	1.14	1.02	0.65
978-1320	DIP-316-054B	16	.799	20.32	.399	10.14	1.31	0.06	0.75
978-1325	DIP-318-054B	18	.899	22.84	.399	10.14	1.47	1.31	0.84
978-1330	DIP-320-054B	20	.999	25.37	.399	10.14	1.63	1.45	0.93
978-1335	DIP-322-054B	22	1.099	27.91	.399	10.14	1.80	1.60	1.03
978-1340	DIP-324-054B	24	1.199	30.45	.399	10.14	1.96	1.74	1.12
978-1345	DIP-328-054B	28	1.399	35.55	.399	10.14	2.29	2.03	1.31
978-1350	DIP-420-054B	20	.999	25.37	.499	12.68	1.63	1.45	0.93
978-1355	DIP-422-054B	22	1.099	27.91	.499	12.68	1.80	1.60	1.03
978-1360	DIP-624-054B	24	1.199	30.45	.699	17.76	1.96	1.74	1.12
978-1365	DIP-628-054B	28	1.399	35.55	.699	17.76	2.29	2.03	1.31
978-1370	DIP-640-054B	40	1.999	50.79	.699	17.76	3.27	2.90	1.87
978-1375	DIP-648-054B	48	2.399	60.96	.699	17.76	3.92	3.48	2.24
978-1380	DIP-964-054B	64	3.199	81.25	.999	25.38	5.23	4.65	2.99

3 Level Wire Wrap-Gold Clip/Gold Sleeve

Stock No.	Mfr.'s Type	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1406	DIP-306-411B	6	.299	7.60	.399	10.14	0.98	0.87	0.56
978-1411	DIP-308-411B	8	.399	10.14	.399	10.14	1.30	1.16	0.74
978-1416	DIP-314-411B	14	.699	17.76	.399	10.14	2.27	2.02	1.30
978-1421	DIP-316-411B	16	.799	20.32	.399	10.14	2.60	2.31	1.49
978-1426	DIP-318-411B	18	.899	22.84	.399	10.14	2.93	2.60	1.67
978-1431	DIP-320-411B	20	.999	25.37	.399	10.14	3.25	2.89	1.86
978-1436	DIP-322-411B	22	1.099	27.91	.399	10.14	3.58	3.18	2.04
978-1441	DIP-324-411B	24	1.199	30.45	.399	10.14	3.90	3.47	2.23
978-1446	DIP-328-411B	28	1.399	35.55	.399	10.14	4.55	4.04	2.60
978-1451	DIP-420-411B	20	.999	25.37	.499	12.68	3.25	2.89	1.86
978-1456	DIP-422-411B	22	1.099	27.91	.499	12.68	3.58	3.18	2.04
978-1461	DIP-624-411B	24	1.199	30.45	.699	17.76	3.90	3.47	2.23
978-1466	DIP-628-411B	28	1.399	35.55	.699	17.76	4.55	4.04	2.60
978-1471	DIP-640-411B	40	1.999	50.79	.699	17.76	6.50	5.78	3.71
978-1476	DIP-648-411B	48	2.399	60.96	.699	17.76	7.80	6.93	4.46
978-1481	DIP-964-411B	64	3.199	81.25	.999	25.38	10.40	9.24	5.94

.125 Solder Tail-Gold Clip/Gold Sleeve

Stock No.	Mfr.'s Type	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1405	DIP-306-002B	6	.299	7.60	.399	10.14	0.56	0.50	0.32
978-1410	DIP-308-002B	8	.399	10.14	.399	10.14	0.70	0.62	0.40
978-1415	DIP-314-002B	14	.699	17.76	.399	10.14	1.22	1.09	0.70
978-1420	DIP-316-002B	16	.799	20.32	.399	10.14	1.40	1.24	0.80
978-1425	DIP-318-002B	18	.899	22.84	.399	10.14	1.57	1.40	0.90
978-1430	DIP-320-002B	20	.999	25.37	.399	10.14	1.75	1.56	1.00
978-1435	DIP-322-002B	22	1.099	27.91	.399	10.14	1.92	1.71	1.10
978-1440	DIP-324-002B	24	1.199	30.45	.399	10.14	2.10	1.87	1.20

Stock No.	Mfr.'s Type	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1445	DIP-328-002B	28	1.399	35.55	.399	10.14	2.45	2.18	1.40
978-1450	DIP-420-002B	20	.999	25.37	.499	12.68	1.75	1.56	1.00
978-1455	DIP-422-002B	22	1.099	27.91	.499	12.68	1.92	1.71	1.10
978-1460	DIP-624-002B	24	1.199	30.45	.699	17.76	2.10	1.87	1.20
978-1465	DIP-628-002B	28	1.399	35.55	.699	17.76	2.45	2.18	1.40
978-1470	DIP-640-002B	40	1.999	50.79	.699	17.76	3.50	3.11	2.00
978-1475	DIP-648-002B	48	2.399	60.96	.699	17.76	4.20	3.73	2.40
978-1480	DIP-964-002B	64	3.199	81.25	.999	25.38	5.60	4.98	3.20

Crystal Oscillator Sockets

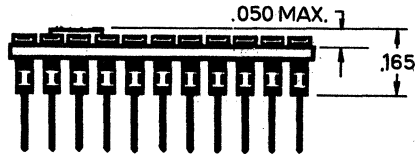
Stock No.	Mfr.'s Type	Tail	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1000	DIP-304-001B	.125"	4	.699	17.76	.399	10.14	0.34	0.30	0.19
978-1002	DIP-304-002B	.125"	4	.699	17.76	.399	10.14	0.40	0.36	0.23

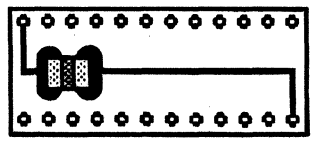
Stock No.	Mfr.'s Type	Tail	Number of Positions	Length In.	Length mm	Width In.	Width mm	EACH 1-24	EACH 25-99	EACH 100-499
978-1003	DIP-304-054B	.180"	4	.699	17.76	.399	10.14	0.39	0.35	0.22
—	—	—	—	—	—	—	—	—	—	—

DIP Socket with Integral Decoupling .1 μF Capacitor

► **High reliability sockets with built in decoupling capacitor.**
► **Allows greater board density by integrating decoupling capacitor with socket.**
► **Improved noise reduction due to shortened electrical path.**

TYPICAL LAYOUT

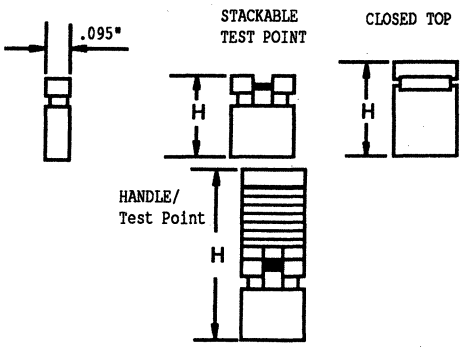




24 PIN X.300 DIP SHOWN

Contact (001B). Outer Sleeve: 1/2 hard brass alloy 360. Plating 200 μ" tin over min. 50 μ" nickel. **Inner Contact:** Beryllium copper alloy 172. 4-finger, 30 μ" gold over min. 50 μ" nickel. Solder tail length .125", diameter .020". **Insulator:** Glass epoxy (FR4) UL 94 V-0 with integral installed. 1 μF surface mount decoupling capacitor. **Capacitor Specification. Working Voltage:** 50 V. **Tolerance:** 10%. **Dielectric Code:** X7R. **Temperature Range:** −55°C to +125°C. **Electrical Characteristics:** current. **Rating:** 3 a max. **Insulation Resistance:** 100 K megΩ min. at 25°C. **Dielectric Withstanding Voltage:** 250% × VDCW ± 15%.

Stock No.	Mfr.'s Type	No. Pos.	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
978-1500	DXC 308-001B-.10K	8	.399	10.14	.399	10.14	**2.25**	**1.80**	**1.55**
978-1505	DXC 314-001B-.10K	14	.699	17.76	.399	10.14	**2.62**	**2.10**	**1.81**
978-1510	DXC 316-001B-.10K	16	.799	20.32	.399	10.14	**3.00**	**2.40**	**2.07**
978-1515	DXC 318-001B-.10K	18	.899	22.84	.399	10.14	**3.37**	**2.70**	**2.33**
978-1520	DXC 320-001B-.10K	20	.999	25.37	.399	10.14	**3.75**	**3.00**	**2.59**
978-1525	DXC 322-001B-.10K	22	1.099	27.91	.399	10.14	**4.12**	**3.30**	**2.84**
978-1530	DXC 324-001B-.10K	24	1.199	30.45	.399	10.14	**4.50**	**3.60**	**3.10**
978-1535	DXC 328-001B-.10K	28	1.399	35.55	.399	10.14	**5.25**	**4.20**	**3.62**
978-1555	DXC 624-001B-.10K	24	1.199	30.45	.699	17.76	**4.50**	**3.60**	**3.10**
978-1560	DXC 628-001B-.10K	28	1.399	35.55	.699	17.76	**5.25**	**4.20**	**3.62**
978-1575	DXC 640-001B-.10K	40	1.999	50.70	.699	17.76	**7.50**	**6.00**	**5.17**
978-1580	DXC 648-001B-.10K	48	2.399	60.96	.699	17.76	**9.00**	**7.20**	**6.21**



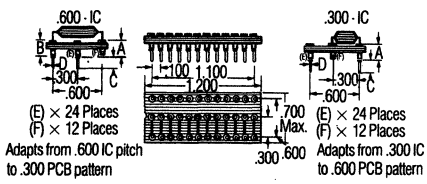
Microshunt Blocks

► **Two position jumper on .100 centers—mates to .025 square post.**
► **Gold or tin plating.**
► **Test point, closed top, or handle for easy removal.**
► **Dual-wipe contacts.**

Stock No.	Mfr.'s Type	Max. Height H—In.	Plating	Features	EACH		
					1-24	25-99	100-499
978-1200	MSB 1770-G-C-STP	.177	15 μ AU	Stackable with test point	**.33**	**.30**	**.27**
978-1205	MSB 1770-T-C-STP	.177	100 μ SN	Stackable with test point	**.24**	**.22**	**.20**
978-1210	MSB 2360-G-C-STP	.236	15 μ AU	Stackable with test point	**.34**	**.31**	**.28**
978-1215	MSB 2360-T-C-STP	.236	100 μ SN	Stackable with test point	**.27**	**.24**	**.22**
978-1220	MSB 2360-T-C-C	.256	15 μ AU	Closed top	**.34**	**.31**	**.28**
978-1225	MSB 2560-G-C-C	.256	100 μ SN	Closed top	**.27**	**.24**	**.22**
978-1230	MSB 5370-G-C-H	.537	15 μ AU	Handle with test point	**.36**	**.33**	**.30**
978-1235	MSB 5370-T-C-H	.537	100 μ SN	Handle with test point	**.29**	**.26**	**.24**

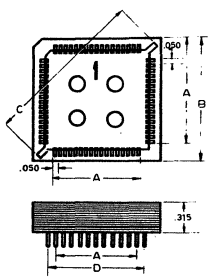
.300/.600 and .600/.300 DIP Adaptor Sockets

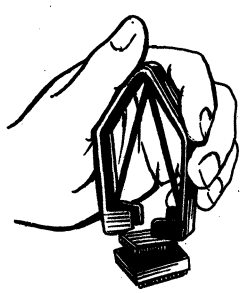
► **Problem Solver**
► **Greater Design Flexibility**
► **Allows the installation of .300 pitch chips in .600 patterns and vice versa.**
► **Insulator: FR4, glass epoxy, 1 oz. copperclad per MIL-P-13949F, .062 thick with plated thru holes.**
► **Contact: 001B**



Stock No.	Mfr.'s Type	No. Pos.	From Device to Board Spacing in Inches	A* Max.	B* Max.	C* Max.	D* Max.	EACH		
								1-24	25-99	100-499
978-1605	ADP 324/624-001B	24	.300 pitch to .600 pitch	1.200	.700	.300	.600	**6.39**	**5.70**	**4.85**
978-1610	ADP 328/628-001B	28	.300 pitch to .600 pitch	1.400	.700	.300	.600	**7.93**	**6.89**	**5.64**
978-1615	ADP 624/324-001B	24	.600 pitch to .300 pitch	1.200	.700	.300	.600	**6.39**	**5.70**	**4.85**
978-1620	ADP 628/328-001B	28	.600 pitch to .300 pitch	1.400	.700	.300	.600	**7.93**	**6.89**	**5.64**

*A = length; B = width; C = centers between traces; D = center between outside rows.





PLCC

► **Conforms to EIA Jedec outline (Type A) for Plastic Leaded Chip Carriers.**
► **Polarization indicators assure positive chip carrier alignment.**
► **Closed bottom prevents solder wicking.**
► **Open center and standoffs provide for cooling and thorough cleaning after soldering.**

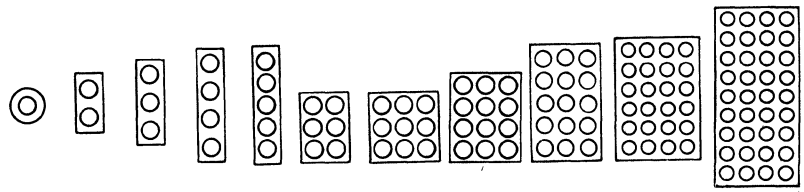
Materials. Socket Body T: 30% glass reinforced PBT, UL 94-VO. **Socket Body T-2:** PPS, UL 94-VO. **Contact:** Phosphor bronze 5210. **Plating:** 200 μ" Tin/50 μ" Nickel. **Operating Temperature Range:** −55°C to 140°C (PBT; −60°C to +220°C (PPS).

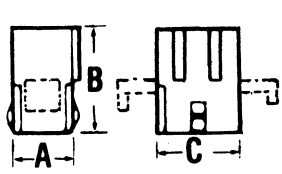
Stock No.	Mfr.'s Type	No. Pos.	A* Max.	B* Max.	C* Max.	D* Max.	EACH		
							1-24	25-99	100-499
978-2200	PLCC-20-P-T	20	.200	.613	.720	.400	**1.25**	**1.16**	**1.09**
978-2205	PLCC-28-P-T	28	.300	.713	.862	.500	**1.65**	**1.53**	**1.41**
978-2207	PLCC-32-P-T	32	.400	NA	.927	.500	**1.94**	**1.76**	**1.60**
978-2210	PLCC-44-P-T	44	.500	.897	1.141	.700	**2.18**	**2.01**	**1.87**
978-2215	PLCC-52-P-T	52	.600	1.060	1.282	.800	**2.86**	**2.66**	**2.46**
978-2220	PLCC-68-P-T-2	68	.800	1.200	1.563	1.000	**3.10**	**2.88**	**2.66**
978-2225	PLCC-84-P-T-2	84	1.000	1.400	.1846	1.200	**3.40**	**3.16**	**2.94**

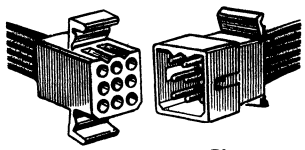
Extraction Tool
Easy to use extraction tool provides positive protection for both chip carrier and device during removal.
978-2235. TOL PLCC-XT-2. PLCC Extraction Tool. **1-24** ..... **EACH 15.00**
25-99 ..... **EACH 13.75** **100-499** ..... **EACH 12.50**

Terminal Housings

Inexpensive nylon housing. Crimp contacts are available as a separate item. Tools are available to assist with termination and insection/extraction. Rated 5 Amp, 250 Volt.







Receptacle Plug

Miniature .062" Terminal Housings

Receptacles With Mounting Ears and Detent Windows/Detent

Stock No.	Mfr.'s Type	Number of Circuits	Qty. Per Pack	Dimensions (In.) A	B	C	PER PKG. 1-9
863-0107	03-06-1022	2	10	.192	.81	0.340	2.95
863-0115	03-06-1031	3	10	.192	.78	0.484	3.28
863-0125	03-06-1041	4	10	.192	.78	0.630	6.86
863-0135	03-06-1055	5	5	.192	.78	0.775	2.98
863-0145	03-06-1061	6	5	.494	.78	0.344	2.41
863-0155	03-06-1081	8	5	.220	.78	1.505	2.95
863-0165	03-06-1091	9	5	.494	.78	0.489	2.60
863-0175	03-06-1121	12	5	.494	.78	0.634	2.85
863-0185	03-06-1151	15	5	.487	.78	0.776	4.52
863-0195	03-06-1241	24	5	.634	.75	0.918	5.93
863-0205	03-06-1361*	36	5	.689	.78	1.505	8.35

Plugs With Mounting Ears and Detent Windows/Detent

863-0102	03-06-2022	2	10	.300	.78	0.440	2.63
863-0110	03-06-2031	3	10	.300	.75	0.590	3.12
863-0120	03-06-2041	4	10	.295	.75	0.730	6.50
863-0130	03-06-2054	5	5	.310	.75	0.890	2.31
863-0140	03-06-2062	6	5	.600	.75	0.450	2.07
863-0160	03-06-2091	9	5	.590	.75	0.590	2.27
863-0170	03-06-2121	12	5	.590	.75	0.740	2.49
863-0180	03-06-2151	15	5	.590	.75	0.880	3.77
863-0190	03-06-2241	25	5	.740	.75	1.040	5.94
863-0200	03-06-2361	36	5	.802	.75	1.612	8.05

Receptacles With Detent Windows/Detent

863-0105	03-06-1011	1	10	—	.78	0.183	1.54
863-0108	03-06-1023	2	10	.192	.81	0.340	2.95
863-0116	03-06-1032	3	10	.192	.78	0.484	3.28
863-0126	03-06-1042	4	10	.192	.78	0.630	6.86
863-0136	03-06-1056	5	5	.192	.78	0.775	2.98
863-0146	03-06-1062	6	5	.494	.78	0.344	2.41
863-0166	03-06-1092	9	5	.494	.78	0.489	2.60
863-0176	03-06-1122	12	5	.494	.78	0.634	2.85
863-0186	03-06-1152	15	5	.487	.78	0.776	4.52
863-0196	03-06-1242	24	5	.634	.75	0.918	5.93

Plugs With Detent Windows

863-0100	03-06-2011	1	10	—	.75	—	1.79
863-0103	03-06-2023	2	10	.300	.75	0.440	2.63
863-0111	03-06-2032	3	10	.300	.75	0.590	3.12
863-0121	03-06-2042	4	10	.295	.75	0.730	6.50
863-0131	03-06-2055	5	5	.310	.75	0.890	2.31
863-0141	03-06-2061	6	5	.600	.75	0.450	2.07
863-0150	03-06-2081†	8	5	.308	.75	1.601	2.37
863-0161	03-06-2092	9	5	.590	.75	0.590	2.27
863-0171	03-06-2122	12	5	.590	.75	0.740	2.49
863-0181	03-06-2152	15	5	.590	.75	0.880	3.77
863-0191	03-06-2242	24	5	.740	.75	1.040	5.94

* with mounting ears only. † with tab.

Standard .093" Terminal Housings

Receptacles With Mounting Ears And Detent Lock

Stock No.	Mfr.'s Type	Number of Circuits	Qty. Per Pack	Dimensions (In.) A	B	C	PER PKG. 1-9
863-0315	03-09-1021	2	10	.250	1.030	0.536	3.33
863-0325	03-09-1031	3	10	.236	1.015	0.670	3.98
863-0335	03-09-1041	4	10	.236	1.000	0.868	4.36
863-0355	03-09-1061	6	5	.632	1.015	0.434	2.84
863-0365	03-09-1091	9	5	.625	1.015	0.666	3.42
863-0375	03-09-1121*	12	5	.633	1.015	0.871	3.63
863-0385	03-09-1151*	15	5	.632	1.015	1.066	5.05

Plugs With Mounting Ears And Detent Lock

863-0310	03-09-2021	2	10	.352	1.000	0.639	3.70
863-0320	03-09-2031	3	10	.340	0.970	0.770	3.90
863-0330	03-09-2041	4	10	.338	1.000	0.971	4.18
863-0350	03-09-2061	6	5	.733	1.000	0.536	2.73
863-0360	03-09-2091	9	5	.730	0.970	0.770	3.33
863-0371	03-09-2122	12	5	.737	1.000	0.975	3.52
863-0380	03-09-2152	15	5	.734	1.000	1.169	4.07

Receptacles Without Ears Or Detent Lock

863-0317	03-09-1023	2	10	.250	1.030	0.536	1.90
863-0327	03-09-1033	3	10	.236	1.015	0.670	3.67
863-0357	03-09-1063	6	5	.632	1.015	0.434	2.71
863-0367	03-09-1093	9	5	.625	1.015	0.666	3.61
863-0376	03-09-1122	12	5	.633	1.015	0.871	3.63
863-0386	03-09-1152	15	5	.632	1.015	1.066	5.05

Receptacles With Detent Lock Only

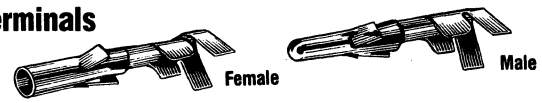
863-0305	03-09-1011	1	10	.234	1.000	—	1.46
863-0316	03-09-1022	2	10	.250	1.030	0.536	3.17
863-0326	03-09-1032	3	10	.236	1.015	0.670	3.78
863-0336	03-09-1042	4	10	.236	1.000	0.868	4.36
863-0345	03-09-1052	5	5	.243	1.000	1.066	3.11
863-0358	03-09-1064	6	5	.632	1.015	0.434	2.71
863-0368	03-09-1094	9	5	.625	1.015	0.666	3.25
863-0379	03-09-1126	12	5	.632	1.015	0.871	3.59

Plugs Without Mounting Ears

863-0300	03-09-2011	1	10	.358	1.000	—	1.87
863-0311	03-09-2022	2	10	.352	1.000	0.639	3.04
863-0321	03-09-2032	3	10	.340	0.970	0.770	3.68
863-0331	03-09-2042	4	10	.338	1.000	0.971	4.18
863-0340	03-09-2052	5	5	.338	0.969	1.169	2.46
863-0351	03-09-2062	6	5	.733	1.000	0.536	2.73
863-0361	03-09-2092	9	5	.730	0.970	0.770	3.13
863-0370	03-09-2121	12	5	.737	1.000	0.975	3.52
863-0381	03-09-2153	15	5	.734	1.000	1.169	4.55

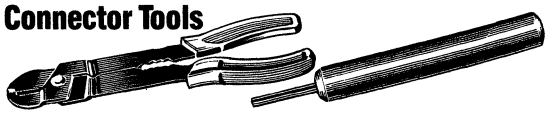
* with mounting ears only

Crimp Type Terminals



Stock No.	Mfr.'s Type	Series	Type	Mating Dia.	Wire AWG Range	Use Hand Tool	PER PKG./100 1-9	10-29
863-0390	02-09-1103	Standard	Female	.093"	20-14	W-HT-1919	6.96	4.36
863-0395	02-09-2103	Standard	Male	.093"	20-14	W-HT-1919	6.96	4.36
863-0400	02-09-1118	Standard	Female	.093"	22-18	W-HT-1919	6.96	4.36
863-0405	02-09-2118	Standard	Male	.093"	22-18	W-HT-1919	6.96	4.36
863-0410	02-09-1143	Standard	Female	.093"	30-24	W-HT-1919	7.18	4.51
863-0415	02-09-2143	Standard	Male	.093"	30-24	W-HT-1919	7.18	4.51
863-0420	02-09-1134	PC Tail	Female	.093"	NA	NA	6.41	4.17
863-0425	02-09-2134	PC Tail	Male	.093"	NA	NA	6.41	4.17
863-0210	02-06-1103	Miniature	Female	.062"	24-18	W-HT-1921	7.33	6.32
863-0215	02-06-2103	Miniature	Male	.062"	24-18	W-HT-1921	7.33	6.32
863-0220	02-06-1132	Miniature	Female	.062"	30-24	W-HT-1921	7.33	6.32
863-0225	02-06-2132	Miniature	Male	.062"	30-24	W-HT-1921	7.33	6.32
863-0230	02-06-7103	PC Tail	Female	.062"	NA	NA	13.10	8.51
863-0235	02-06-8103	PC Tail	Male	.062"	NA	NA	13.10	8.51

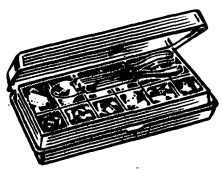
Nylon Connector Tools



Prototype Crimping Tools. Balanced and weighted, machined from hardened steel.
Type W-HT-1919. For .093" pin terminals.
863-0520 ..... **EACH 12.95**
Type W-HT-1921. For .062" pin terminals.
863-0500 ..... **EACH 12.95**
Production Crimp Tools.
Type W-HTR-1031-E. For .093" terminals, 14-22 AWG wires.
863-0560 ..... **EACH 105.00**
Type W-HTR-1719-C. For .062" terminals, 18-24 AWG wires.
863-0565 ..... **EACH 133.12**
Type W-HTR-2262-A. For .062" terminals, 24-30 AWG wires.
863-0550 ..... **EACH 115.00**
Extractor Tools. Remove terminal from connector housing without damage.
Type W-HT-2038. For .093" pin terminals.
863-0530 ..... **EACH 9.95**
Type W-HT-2285. For .062" pin terminals.
863-0510 ..... **EACH 9.95**

Nylon Connector Designer Kits

Polarized nylon connector kits include male and female housings in all circuit capacities, terminal and tools, in individual compartments. Lightweight, unbreakable; snap-lock.
Type WM-72 Miniature Kit. 56 connectors using .062" terminals, crimp & ejector tools.
863-0600 ..... **EACH 39.95**
Type WM-50 Standard Kit. 45 connectors using .093" terminals, crimp & ejector tools.
863-0610 ..... **EACH 39.95**

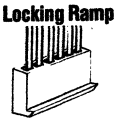


.156 Series Crimp Terminals

Rated 250 VAC Maximum.
7 Amps Maximum (with 18 AWG wire) per UL

Fig. A

Fig. B-1 with Locking Ramp



PC Board Pins (Tin Plated)

Stock No.	Mfr.'s Type	Description	PK./100 1-9
863-0905	08-50-0401	.045" square, .750" long press fit pin	5.61

Tin Plated Contacts

Stock No.	Mfr.'s Type	Fig.	Wire Range	Insulation O.D.	PK./100 1-9
863-0900	08-50-0106	A	18-24 AWG	.110 (2.79 mm) Max.	4.98
863-0910	08-50-0108	A	22-26 AWG	.065 (1.65 mm) Max.	4.98

20 Millionths Min. Gold in Contact area with a flash overall

863-0915	08-56-0106	A	18-24 AWG	.110 (2.79 mm) Max.	17.18

6

.156 Terminal Housing

Fig. B-1 mates with C & D, Fig. B-2 mates with E & F

With Locking Ramp Stock No.	Mfr.'s Type	Fig.	Without Locking Ramp Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10 1-9
863-1005	09-50-3021	B-1	863-1000	09-50-7021	B-2	2	1.28
863-1015	09-50-3031	B-1	863-1010	09-50-7031	B-2	3	1.37
863-1025	09-50-3041	B-1	863-1020	09-50-7041	B-2	4	2.31
863-1035	09-50-3051	B-1	863-1030	09-50-7051	B-2	5	2.42
863-1045	09-50-3061	B-1	863-1040	09-50-7061	B-2	6	2.54
863-1048	09-50-3071	B-1	—	—	—	—	3.99
863-1055	09-50-3081	B-1	863-1050	09-50-7081	B-2	8	2.79
863-1058	09-50-3091	B-1	863-1052	09-50-7091	B-2	9	5.12
863-1065	09-50-3101	B-1	863-1060	09-50-7101	B-2	10	3.97
863-1075	09-50-3121	B-1	863-1070	09-50-7121	B-2	12	6.83

.156" (.045" Square pins) Friction Lock Header

Stock No.	Mfr.'s. Type	Fig.	Circuits	PK./10 1-9
863-1505	26-48-1025	C-2	2	1.20
863-1510	26-48-1035	C-2	3	1.20
863-1515	26-48-1045	C-2	4	1.20
863-1520	26-48-1055	C-2	5	1.20
863-1525	26-48-1065	C-2	6	1.20
863-1530	26-48-1085	C-2	8	1.20
863-1535	26-48-1105	C-2	10	1.20
863-1540	26-48-1125	C-2	12	7.17
863-1560	26-48-1245*	C-2	24*	11.26

* Make the desired 1-23 Circuit versions from this 24-circuit breakaway model

.156" (.045" Square Pins) Right Angle Friction Lock Header

Mates with Fig. B-1

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10 1-9
863-1605	09-75-1028	D	2	6.90
863-1610	09-75-1038	D	3	8.05
863-1615	09-75-1048	D	4	6.34
863-1620	09-75-1058	D	5	7.13
863-1625	09-75-1068	D	6	6.09
863-1635	09-75-1108	D	10	8.52

.156" (.045" Square Pins) Right Angle Header

Mates with Figs. B-2

863-1305	09-66-1021	E	2	2.03
863-1310	09-66-1031	E	3	3.05
863-1315	09-66-1041	E	4	2.83
863-1320	09-66-1051	E	5	3.54
863-1325	09-66-1061	E	6	3.29
863-1330	09-66-1081	E	8	4.39
863-1335	09-66-1101	E	10	5.38

.156" (.045" Square Pins) Straight Header

Mates with Fig. B-2

863-1405	09-67-1023	F	2	1.49
863-1410	09-67-1033	F	3	2.24
863-1415	09-67-1043	F	4	2.08
863-1420	09-67-1053	F	5	2.59
863-1425	09-67-1063	F	6	2.41
863-1430	09-67-1083	F	8	3.22
863-1435	09-67-1103	F	10	4.02
863-1440	09-67-1123	F	12	6.36

Tools

Stock No.	Mfr.'s Type	Description	EACH
863-0520	W-HT-1919	Crimp handtool for 08-50-0106	12.95
863-0540	W-HTR-2445-A	Crimp production tool	127.59
863-0500	W-HT-1921	Crimp handtool for 08-50-0108	12.95
863-0515	W-HT-1884	Extractor tool	2.25

.156" Centers KK® Kit

Included in the plastic case are 48 crimp terminal housings (2, 4, 5, 6, & 10 circuit), 24 straight headers, 24 right angle headers, 100 crimp terminals (18-24 AWG), 1 HT-1919 crimp tool, and 1 HT-1884 extractor tool.
863-0930. KK-156. **1-Up** ..... **EACH 39.95**

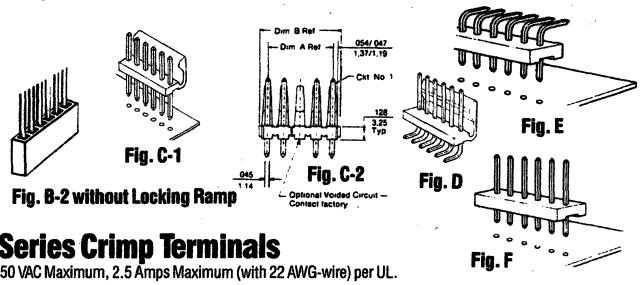


Fig. B-2 without Locking Ramp

Fig. C-1

Fig. C-2

Fig. D

Fig. E

Fig. F

.100 Series Crimp Terminals

Rated for 250 VAC Maximum, 2.5 Amps Maximum (with 22 AWG-wire) per UL.

Tin Plated

For Fig. B-1 & B-2

Stock No.	Mfr.'s Type	Fig.	Wire Range	Insulation O.D.	PK./100 1-9
863-0920	08-50-0114	A	22-30 AWG	.062 (1.57 mm) Max.	6.78

20 Millionths Min. Gold in Contact area with gold flash overall

863-0925	08-56-0110	A	22-30 AWG	.062 (1.57 mm) Max.	23.90

.100 Terminal Housing

B-1 mates with Fig. C & D, B-2 mates with Fig. E & F

With Locking Ramp Stock No.	Mfr.'s Type	Fig.	Without Locking Ramp Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10 1-9
863-2000	22-01-2027	B-1	863-2005	22-01-2021	B-2	2	1.62
863-2010	22-01-2047	B-1	863-2015	22-01-2041	B-2	4	2.27
863-2012	22-01-2037	B-1	863-2014	22-01-2031	B-2	3	1.64
863-2020	22-01-2057	B-1	863-2025	22-01-2051	B-2	5	2.61
863-2030	22-01-2067	B-1	863-2035	22-01-2061	B-2	6	3.03
863-2040	22-01-2087	B-1	863-2045	22-01-2081	B-2	8	4.13
863-2050	22-01-2107	B-1	863-2055	22-01-2101	B-2	10	4.41
863-2060	22-01-2127	B-1	863-2065	22-01-2121	B-2	12	6.31

.100" Center (.025" Square Pins) Straight Header

Mates with Fig. B-1

Stock No.	Mfr.'s Type	Fig.	Circuits	PK./10 1-9
863-2405	22-23-2021	C-1	2	2.32
863-2410	22-23-2031	C-1	3	3.49
863-2415	22-23-2041	C-1	4	3.83
863-2420	22-23-2051	C-1	5	4.79
863-2425	22-23-2061	C-1	6	5.03
863-2435	22-23-2081	C-1	8	6.02
863-2445	22-23-2101	C-1	10	6.84
863-2455	22-23-2121	C-1	12	8.21

.100 Center (.025" Square Pins) Right Angle Header

Mates with Fig. B-1

863-2505	22-05-3021	D	2	4.84
863-2510	22-05-3031	D	3	5.52
863-2515	22-05-3041	D	4	6.20
863-2520	22-05-3051	D	5	6.78
863-2525	22-05-3061	D	6	7.56
863-2535	22-05-3081	D	8	9.21
863-2545	22-05-3101	D	10	9.69
863-2555	22-05-3121	D	12	10.93

.100" (.025" Square Pins) Right Angle

Mates with Fig. B-2

863-2205	22-05-2021	E	2	1.34
863-2210	22-05-2031	E	3	2.01
863-2215	22-05-2041	E	4	2.68
863-2220	22-05-2051	E	5	3.35
863-2225	22-05-2061	E	6	4.01
863-2235	22-05-2081	E	8	5.35
863-2245	22-05-2101	E	10	6.08
863-2255	22-05-2121	E	12	9.37

.100" (.025" Square Pins) Straight Header

Mates with Fig. B-2

863-2105	22-03-2021	F	2	1.20
863-2110	22-03-2031	F	3	1.80
863-2115	22-03-2041	F	4	2.40
863-2120	22-03-2051	F	5	3.00
863-2125	22-03-2061	F	6	3.60
863-2135	22-03-2081	F	8	4.22
863-2145	22-03-2101	F	10	4.80
863-2155	22-03-2121	F	12	7.38

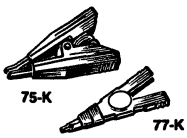
Tools

Stock No.	Mfr.'s Type	Description	EACH
863-0500	W-HT-1921	Crimp handtool	12.95
863-0550	W-HTR-2262A	Crimp production tool	105.74
863-0515	W-HT-1884	Extractor tool	2.25

.100" Centers KK® Kit

Included in the plastic case are 36 crimp terminal housings (2, 4, 6, 8, & 10 circuit), 18 straight headers, 18 right angle headers, 10 shunts, 100 crimp terminals (22-30 AWG), 1 HT-1921 crimp tool, and 1 HT-1884 extractor tool.
863-0940. KK-100. **1-Up** ..... **EACH 39.95**

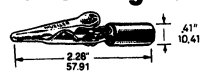
Kelvin Clips



The Kelvin clip is used for 4-wire resistance measurement systems. The two jaws of a Kelvin clip are electrically isolated from each other when open and shorted to each other through the component lead under test when closed. One jaw provides a current path for the source while the other provides a circuit path for the sense. **Specifications: Contacts:** 75-K—Copper/Silver; 77-K—Gold Plated Copper. **Handles:** 75-K—Glass Filled Nylon; 77-K—Glass Filled Nylon. **Maximum Jaw Opening:** 75-K—5/16"; 77-K—1 1/8". **Maximum Wire Size:** 75-K—#18 AWG; 77-K—#16 AWG. **Fulcrum:** 77-K—Slotted Screws; 77-K—Allen Head Set Screws. **Std. Pk.:** 75-K—10; 77-K—1.

860-0161. Type 75-K ..... **EACH 8.70**
860-0162. Type 77-K ..... **EACH 94.94**

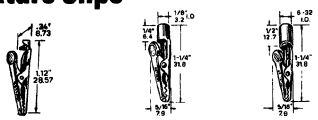
Insulated-Barrel Alligator Clips



Made of cadmium-plated steel, except Types 60CHS are solid copper. Jaws open 5/16". 1 1/2 lbs. per 100 pieces.

Stock No.	Mfr.'s Type	Amps	Barrel Color	Size	EACH		
					1-9	10-99	100-Up
860-0123	60HS	5	Red	2 7/16"	.63	.47	.38
860-0121	60HS	5	Black	2 7/16"	.63	.47	.38
860-0117	60CHS	10	Red	2 11/32"	.80	.51	.48
860-0115	60CHS	10	Black	2 11/32"	.80	.51	.48

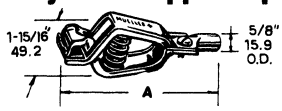
Miniature Clips



Ideal for testing all types of miniature and subminiature equipment. 3/16" jaw opening. 11/64" O.D. tip when used with insulator. Type 30, cadmium-plated steel; Type 30-C, solid copper, for #20 or smaller wire. Type 30-BL and 30-TBO are plated steel; 30-TBO has thread 6-32 barrel. **Shpg. weight:** 1/4 lb. per 100 pieces.

Stock No.	Mfr.'s Type	Amps	Size	EACH		
				1-9	10-99	100-Up
860-0051	30-BL	—	1 1/4"	.28	.21	.17
860-0052	30	5	1 3/32"	.25	.19	.15
860-0053	30-TBO	—	1 1/4"	.55	.41	.33
860-0054	30-C	10	1 3/32"	.30	.23	.18

Heavy-Duty Solid Copper Clips



High-conductivity, solid copper clips. Handle current loads up to 200 amps. **Weight per 100 pieces:** type 25C, 6 3/4 lbs.; type 21C, 18 lbs.; type 11-C, 41 lbs.

Stock No.	Mfr.'s Type	Amps	Marking	Size A	EACH		
					1-9	10-99	100-Up
860-0038	25C	75	unmarked	3"	1.68	1.26	1.01
860-0026	21C	100	unmarked	4 1/2"	4.14	3.10	2.48
860-0010	11C	200	unmarked	6"	7.42	5.56	4.22

Zinc-Plated Battery Clips

For moderately heavy current loads, incl. battery charging, electro-plating, light welding. Zinc-plated steel (type 11-A, lead-plated) for protection and long life. Weight per 100 pieces; type 24A, 6 1/4 lbs.; type 21A, 15 lbs.; type 11-A, 36 lbs.

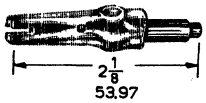
Stock No.	Mfr.'s Type	Amps	Marking	Size A	EACH		
					1-9	10-99	100-Up
860-0032	24A	25	plus sign	2 7/8"	1.23	.92	.74
860-0034	24A	25	unmarked	2 7/8"	1.23	.92	.74
860-0023	21A	50	unmarked	4"	2.16	1.62	1.29
860-0011	11A	100	unmarked	6"	5.66	4.25	3.40

"Pee-Wee" Test Clips

Mesh-teeth type for general purpose use. Type 45C, solid copper. Type 45, cadmium-plated steel.

Stock No.	Mfr.'s Type	Amps	Size A	Wt./ 100 Pcs. (Lbs.)	EACH		
					1-9	10-99	100-Up
860-0085	45	5	1 1/2"	1	.43	.32	.26
860-0087	45C	10	1 1/2"	1 1/4	.60	.45	.36

Insulated Alligator Clips



Insulated with vinyl to protect against shocks and shorts. **Weight per 100 pcs.:** 13 3/4 lbs.

Stock No.	Mfr.'s Type	Amps	Marking	Size	EACH		
					1-9	10-99	100-Up
860-0139	63†	5	Red insul.	2 1/8"	.90	.68	.54
860-0137	63†	5	Blk. insul.	2 1/8"	.90	.68	.54
860-0143	63C*	10	Red insul.	2 1/8"	1.13	.77	.62
860-0141	63C*	10	Blk. insul.	2 1/8"	1.13	.77	.62

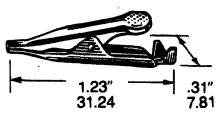
†Cadmium-plated steel; *solid copper.

70 Series Alligator Clips

Type 70: cadmium-plated steel, solder connection; **Type 70S:** cadmium-plated steel, screw connections. **Type 70CS:** solid copper, screw connection. **Weight per 100 pieces:** 1 lb.

Stock No.	Mfr.'s Type	Amps	Size	EACH		
				1-9	10-99	100-Up
860-0150	70	5	1 11/16"	.35	.26	.21
860-0154	70S	5	1 11/16"	.40	.30	.24
860-0152	70CS	10	1 11/16"	.55	.41	.33

"Micro-Gator" Clips

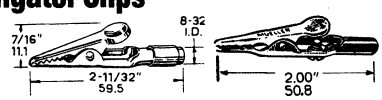


Similar to "Mini-gators" but with tiny tip for clipping to small terminals, and as heat sink.

Stock No.	Mfr.'s Type	Size	EACH		
			1-9	10-99	100-Up
860-0062	34†	1 3/32"	.50	.38	.30
860-0064	34C*	1 3/32"	.50	.38	.30

†Cadmium-plated steel; *copper.

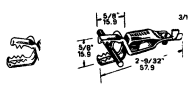
Alligator Clips



Steel, except 60CS, solid copper. **60-TBO** has friction fitted threaded 8-32 barrel for male test prod or 8-32 screw. Fit banana plugs. Jaws open 5/16". 2" long. **60 PR2** has barrel crimped for friction fit on standard phone tip, banana plug, test prod. tip. **60 HPR** like **60 PR2** except with insulated sleeve (red or black). **Weight per 100 pieces:** 1 lb.

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-99	100-Up
860-0113	60	Solder	.30	.24	.20
860-0129	60S	Screw	.43	.32	.26
860-0119	60CS	Screw	.46	.45	.36
860-0127	60PR2	Crimp	.50	.38	.30
860-0124	60HPR Red	Crimp	.60	.45	.36
860-0125	60HPR Black	Crimp	.60	.45	.36
860-0128	60-TBO	Threaded	.68	.51	.41

General Purpose Test Clips



Solid copper clips with 6-32 brass set screw. Burnished finish. **Model 50-C** features a beryllium copper piercing needle in the top jaw. Excellent for quick connection. **Model 51-C** ideal for meter testing.

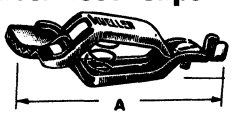
Stock No.	Mfr.'s Type	EACH		
		1-9	10-99	100-Up
860-0110	50C	1.13	.85	.68
860-0111	51C	.85	.64	.51

Slip-On Insulators For Clips

Tough, flexible vinyl insulators for clips featured on this page. Offer high dielectric strength; resistant to oils and grease. Cover entire clip except for end of nose. **Av. wt.:** 1 oz.

Stock No.	Mfr.'s Type	Color	With Series	EACH		
				1-9	10-99	100-Up
860-0012	13	Red	11A,11C	2.81	2.11	1.68
860-0013	13	Black	11A,11C	2.81	2.11	1.68
860-0030	23	Red	21A,21C	1.48	1.11	.89
860-0028	23	Black	21A,21C	1.48	1.11	.89
860-0042	26	Red	24,25	.93	.70	.56
860-0040	26	Black	24,25	.93	.70	.56
860-0050	29	Red	27,27C	.70	.53	.42
860-0048	29	Black	27,27C	.70	.53	.42
860-0058	32	Red	30	.18	.13	.11
860-0056	32	Black	30	.18	.13	.11
860-0070	36	Red	34,34C	.20	.15	.13
860-0068	36	Black	34,34C	.20	.15	.13
860-0095	47	Red	45,45C	.25	.19	.15
860-0093	47	Black	45,45C	.25	.19	.15
860-0103	49	Red	48,50,51	.55	.41	.33
860-0101	49	Black	48,50,51	.55	.41	.33
860-0135	62	Red	60	.20	.15	.12
860-0133	62	Black	60	.20	.15	.12
860-0160	72	Red	70	.30	.23	.18
860-0158	72	Black	70	.30	.23	.18
860-0177	87	Red	85	.30	.23	.18
860-0175	87	Black	85	.30	.23	.18

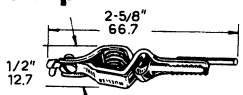
3-Sided Mesh-Teeth Clips



Stock No.	Mfr.'s Type	Amps	Size A	Wt./ 100 Pcs. (Lbs.)	EACH		
					1-9	10-99	100-Up
860-0036	25†	40	3"	6	.57	.45	.43
860-0044	27†	20	2 7/16"	3 1/4	.75	.56	.45
860-0046	27C*	40	2 7/16"	3 1/2	1.03	.77	.62
860-0097	48B†	10	2"	2	.63	.47	.38
860-0099	48C*	20	2"	2 1/4	.75	.56	.45

†Cadmium-plated steel; *solid copper.

Crocodile Clips



Cadmium-plated steel, except Type 85C is solid copper. 85-T has std. solid brass phone tip on lower jaw. **Weight:** 1 1/2 lbs. per 100 pieces.

Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-99	100-Up
860-0167	85	2 1/8" Screw Conn.	.48	.36	.33
860-0169	85C	2 1/8" Screw Conn.	.80	.60	.48

"Pigmy Hippo" And "Hippo" Clips

41A

46A

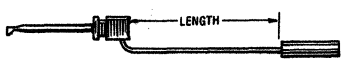
High quality, lead-coated springs are carefully designed for maximum strength and long life. Maximum jaw spread, minimum handle spread. Jaws clamp solidly on terminal, stud or bare battery post. Furnished with tough vinyl insulators in red or black. Steel, bright copper-plated.

Hippo-Clip Type 41-A. For fast chargers, battery booster cables. Cable attaches quickly and securely with built-in solder strap and cable clinching ears. Detachable lug also available. Marked for polarity (+ and −). Length 6". Jaws open 19/16". Shpg. wt. per 100, 41 lbs.

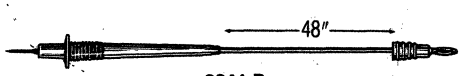
Pigmy-Hippo Clip Type 46-A. For trickle chargers, battery operated devices, automotive test. Choice of high solder strap on one leg for larger wires, lower strap on other leg. Matched clinching ears grip wire securely at end of leg. Won't "squirt away" when squeezed. Length 3". Jaws open 1 1/8". Shpg. wt. per 100, 5 3/4 lbs.

Stock No.	Mfr.'s Type	Amps	Sleeve Color	Marking	EACH	
					1-9	10-99
860-0077	41A	100	Black	− sign	3.61	2.71
860-0079	41A	100	Red	+ sign	3.61	2.71
860-0089	46A	50	Black	None	1.13	.85
860-0091	46A	50	Red	None	1.13	.85

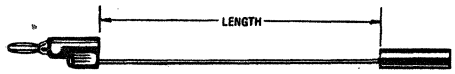
6



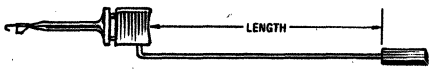
1125-A



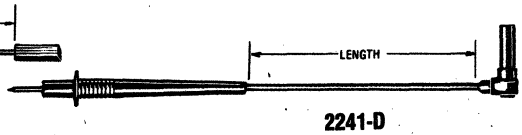
2641-D



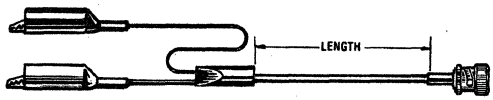
2025-A



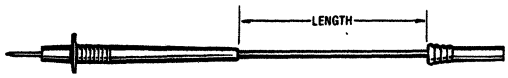
1080-E



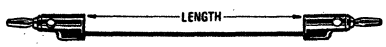
2241-D



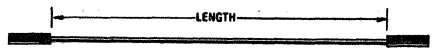
5030-C



2141-D



2020-A



8080-E

6

Test Clips and Prods

"Mini-Clipper" Test Clip to In-Line Banana Jack

Spring-loaded beryllium copper conductor for maximum heat dissipation. Wire #20 AWG. High temperature insulation.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-6012	1125-A-12-0	12″ (304.8 mm)	Black	5.02	4.32	3.77
860-6013	1125-A-12-2	12″ (304.8 mm)	Red	5.02	4.32	3.77
860-6014	1125-A-24-0	24″ (609.6 mm)	Black	5.02	4.32	3.77
860-6015	1125-A-24-2	24″ (609.6 mm)	Red	5.02	4.32	3.77

"Micro-Clipper" Test Clip To .025″ Square Pin Receptacle

For fast and easy terminal connections. Wire #22 AWG, tinned copper, 105°C.

860-6047	1080-E-24-0	24″ (609.6 mm)	Black	4.02	3.46	3.02
860-6048	1080-E-24-2	24″ (609.6 mm)	Red	4.02	3.46	3.02

Multiple Feature Test Prod To Shielded Banana Plug

Offers adaptability for test lead requirements. Wire #18 AWG, tinned copper, 105°C.

860-6020	2141-D-48*	48″ (1219.2 mm)	Black Red	12.00	10.32	9.00

Unshielded Banana Plug To Multiple Feature Test Prod

860-2641	2641-D-48	48″ (1219.2 mm)	—	12.00	10.32	9.00

Multiple Feature Test Prod To Shielded Right Angle Banana Plug

Offers adaptability for test lead requirements. Wire #18 AWG, tinned copper, 105°C.

860-6022	2241-D-48*	48″ (1219.2 mm)	Black Red	12.00	10.32	9.00
860-6023	3916 Kit†	—	—	17.00	14.62	12.75

† (With 2 spring-loaded hooks, 2 insulator extensions, 2 No. 60-TBO clips, and 2 No. 62 insulators).
* Set of two.

Stackable Single Banana Plugs

Stackable Single Banana Plug — Both Ends

Features exclusive nine-leaf phosphor bronze, nickel-plated spring and plug. Wire #20 AWG. High temperature insulation.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-6000	2020-A-12-0	12″ (304.8 mm)	Black	4.88	4.20	3.66
860-6001	2020-A-12-2	12″ (304.8 mm)	Red	4.88	4.20	3.66
860-6002	2020-A-24-0	24″ (609.6 mm)	Black	4.88	4.20	3.66
860-6003	2020-A-24-2	24″ (609.6 mm)	Red	4.88	4.20	3.66
860-6004	2020-A-36-0	36″ (914.4 mm)	Black	4.88	4.20	3.66
860-6005	2020-A-36-2	36″ (914.4 mm)	Red	4.88	4.20	3.66

Stackable Single Banana Plug To In-Line Banana Jack

Features exclusive nine-leaf phosphor bronze, nickel-plated spring. Wire #20 AWG, tinned copper, 105°C.

860-6034	2025-A-12-0	12″ (304.8 mm)	Black	4.40	3.78	3.30
860-6035	2025-A-12-2	12″ (304.8 mm)	Red	4.40	3.78	3.30
860-6036	2025-A-24-0	24″ (606.8 mm)	Black	4.40	3.78	3.30
860-6037	2025-A-24-2	24″ (609.6 mm)	Red	4.40	3.78	3.30

BNC Male To Insulated Alligator Clips

Features gold-plated center contact with silver-plated body. Shielded coax cable, RG-58C/U, MIL-C-17D, 50 Ohms.

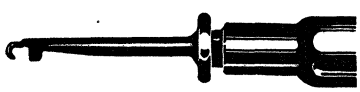
Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-6029	5030-C-12-0	12″ (304.8 mm)	Black	14.54	12.50	10.91
860-6030	5030-C-24-0	24″ (609.6 mm)	Black	14.54	12.50	10.91
860-6031	5030-C-36-0	36″ (914.4 mm)	Black	14.54	12.50	10.91

.025″ Square Pin Receptacle — Both Ends

A patch cord for PC Boards with .025″ square pins. Wire #22 AWG, tinned copper, 105°C.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-6057	8080-E-24-0	24″ (609.6 mm)	Black	3.68	3.16	2.76
860-6058	8080-E-24-2	24″ (609.6 mm)	Red	3.68	3.16	2.76

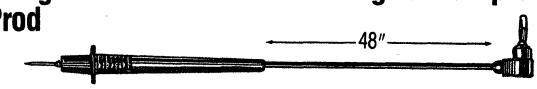
"Clipper" Plunger-Type Test Clip



"Clipper" test clips make difficult IC test connections fast and easy. Spring-loaded hook attaches to delicate component leads and terminals to free hands while troubleshooting and circuit testing. Beryllium copper for maximum heat dissipation. Designed for connection over component leads up to .060 inches in diameter (1.52 mm). Stainless steel compression coil.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-2012	201-2 micro	1¾″ (44.45 mm)	Red	2.13	1.60	1.28
860-2010	201-0 micro	1¾″ (44.45 mm)	Black	2.13	1.60	1.28
860-2022	202-2 mini	2½″ (63.50 mm)	Red	2.21	1.65	1.32
860-2020	202-0 mini	2½″ (63.50 mm)	Black	2.21	1.65	1.32
860-2032	203-2 std	3½″ (88.90 mm)	Red	2.63	1.97	1.58
860-2030	203-0 std	3½″ (88.90 mm)	Black	2.63	1.97	1.58
860-2052	205-2 maxi	5″ (127.00 mm)	Red	2.76	2.07	1.65
860-2050	205-0 maxi	5″ (127.00 mm)	Black	2.76	2.07	1.65

Right Angle Unshielded Banana Plug To Multiple Feature Test Prod

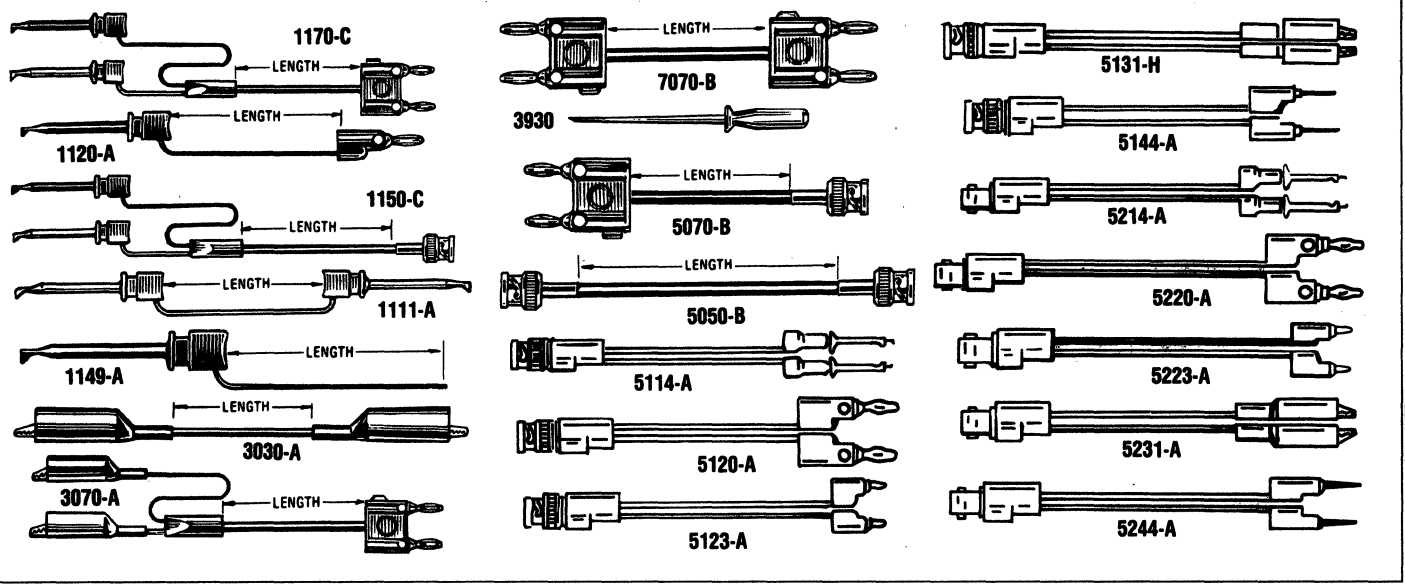


Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-2741	2741-D-48	—	—	12.00	10.32	9.00

"Mini-Micro-Clipper" Plunger-Type Test Clip

Similar to "Clipper" but tiny and extremely lightweight. Has a plastic barrier on tip to prevent shorting between DIP legs. **Plunger Head and Body:** Nylon. **One-Piece Conductor:** Gold-plated beryllium copper, MIL Spec. G45204. For connection to component leads up to .025″ dia. **Spring:** Stainless Steel compresison coil. **Colors:** Black and Red.

Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-99	100-Up
860-2080	208-0	Black	2.13	1.60	1.28
860-2082	208-2	Red	2.13	1.60	1.28



Test Clips

"Mini-Clipper" Test Clips To Stackable Double Banana Plug

Features exclusive nine-leaf phosphor bronze, nickel-plated spring. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-5000	1170-C-24-0	24" (609.6 mm)	Black	12.84	11.04	9.63
860-5001	1170-C-36-0	36" (914.4 mm)	Black	12.84	11.04	9.63

"Mini-Clipper" Test Clip To Stackable Banana Plug

Features exclusive nine-leaf phosphor bronze, nickel-plated spring and plug. Wire #20 AWG High Temperature Insulation.

860-5005	1120-A-24-0	24" (609.6 mm)	Black	4.38	3.77	3.29
860-5006	1120-A-24-2	24" (609.6 mm)	Red	4.38	3.77	3.29
860-5007	1120-A-36-0	36" (914.4 mm)	Black	4.38	3.77	3.29
860-5008	1120-A-36-2	36" (914.4 mm)	Red	4.38	3.77	3.29

"Mini-Clipper" Test Clips To BNC Male

Gold-plated center contact and silver plated body. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

860-5015	1150-C-12-0	12" (304.8 mm)	Black	13.56	11.11	10.17
860-5016	1150-C-24-0	24" (609.6 mm)	Black	13.56	11.11	10.17
860-5017	1150-C-36-0	36" (914.4 mm)	Black	13.56	11.11	10.17

"Mini-Clipper" Test Clip — Both Ends

Spring-loaded beryllium copper conductor. Fast and easy IC connections. Wire #20 AWG High Temperature Insulation.

860-5020	1111-A-12-0	12" (304.8 mm)	Black	4.08	3.51	3.06
860-5021	1111-A-12-2	12" (304.8 mm)	Red	4.08	3.51	3.06
860-5022	1111-A-24-0	24" (609.6 mm)	Black	4.08	3.51	3.06
860-5023	1111-A-24-2	24" (609.6 mm)	Red	4.08	3.51	3.06
860-5024	1111-A-36-0	36" (914.4 mm)	Black	4.08	3.51	3.06
860-5025	1111-A-36-2	36" (914.4 mm)	Red	4.08	3.51	3.06

"Mini-Clipper" Test Clip With Tinned End

Spring-loaded hook to attach to delicate component leads and terminals. Wire #20 AWG High Temperature Insulation.

860-5070	1149-A-24-2	24" (609.6 mm)	Red	3.06	2.67	2.35
860-5067	1149-A-36-0	36" (914.4 mm)	Black	3.06	2.67	2.35
860-5068	1149-A-36-2	36" (914.4 mm)	Red	3.06	2.67	2.35

Alligator Clips

Insulated Alligator Clip — Both Ends

Steel cadmium plated with 5/16" jaw opening. Wire #20 AWG High Temperature Insulation.

860-5040	3030-A-12-0	12" (609.6 mm)	Black	2.20	1.89	1.65
860-5041	3030-A-12-2	12" (609.6 mm)	Red	2.20	1.89	1.65
860-5042	3030-A-24-0	24" (914.4 mm)	Black	2.20	1.89	1.65
860-5043	3030-A-24-2	24" (914.4 mm)	Red	2.20	1.89	1.65
860-5044	3030-A-36-0	36" (1219.2 mm)	Black	2.20	1.89	1.65
860-5045	3030-A-36-2	36" (1219.2 mm)	Red	2.20	1.89	1.65

Insulated Alligator Clips To Stackable Double Banana Plug

Steel cadmium plated with 5/16" jaw opening. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

860-5050	3070-C-24-0	24" (609.6 mm)	Black	13.50	11.61	10.13
860-5051	3070-C-36-0	36" (914.4 mm)	Black	13.50	11.61	10.13

Stackable Double Banana Plug — Both Ends

Exclusive nine-leaf phosphor bronze, nickel-plated spring and plug. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-5075	7070-B-12-0	12" (304.8 mm)	Black	9.76	8.39	7.32
860-5076	7070-B-24-0	24" (609.6 mm)	Black	9.76	8.39	7.32
860-5077	7070-B-36-0	36" (914.4 mm)	Black	9.76	8.39	7.32

"Ultra-Tech" Test Prods

For "Ultra-Flex" test leads and other 3.5mm banana plug terminated leads. Lightweight thermoplastic insulation for temperatures to 300°C (572°F).

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-11	12-99	100-Up
860-3932	3930	5.118" (130 mm)	Black	3.50	3.01	2.85
860-3931	3930	5.118" (130 mm)	Red	3.50	3.01	2.85

BNC Products

BNC Male To Stackable Double Banana Plug

Gold-plated center contact and silver-plated body. Shielded coax cable RG-58C/U, MIL-C-17D, 50 Ohm.

Stock No.	Mfr.'s Type	Length	Color	EACH		
				1-9	10-99	100-Up
860-5030	5070-B-12-0	12" (304.8 mm)	Black	11.62	9.99	8.72
860-5031	5070-B-24-0	24" (609.6 mm)	Black	11.62	9.99	8.72
860-5032	5070-B-36-0	36" (914.4 mm)	Black	11.62	9.99	8.72

BNC Male — Both Ends

Gold-plated center contact and silver-plated body. Shielded coax cable RG-58/U, MIL-C-17D, 50 Ohm.

860-5035	5050-B-12-0	12" (304.8 mm)	Black	12.04	10.35	9.03
860-5036	5050-B-24-0	24" (609.6 mm)	Black	12.04	10.35	9.03
860-5037	5050-B-36-0	36" (914.4 mm)	Black	12.04	10.35	9.03
860-5038	5050-B-48-0	48" (1219.2 mm)	Black	12.66	10.89	9.50
860-5039	5050-B-60-0	60" (1524.0 mm)	Black	12.66	10.89	9.50

BNC Male Breakout Style

Tarnish resistant plated brass body, gold-plated brass center contact. **Housing:** ABS.

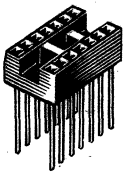
Stock No.	Mfr.'s Type	Length	End Style	EACH		
				1-9	10-99	100-Up
860-5114	5114-A-4-0	4" (101.6 mm)	Mini-Micro-Clipper	13.40	11.50	10.05
860-5120	5120-A-4-0	4" (101.6 mm)	Banana Plug	11.58	9.96	8.69
860-5123	5123-A-4-0	4" (101.6 mm)	Miniature Banana Plug	11.98	10.30	8.99
860-5131	5131-A-4-0	4" (101.6 mm)	No. 30 with PVC insulators No. 31	11.24	9.67	8.43
860-5144	5144-A-4-0	4" (101.6 mm)	Pin Tip Tip Jack	12.32	10.60	9.24

BNC Female Breakout Style

Tarnish resistant plated brass body, gold-plated brass center contact. **Housing:** ABS.

Stock No.	Mfr.'s Type	Length	End Style	EACH		
				1-9	10-99	100-Up
860-5214	5214-A-4-0	4" (101.6 mm)	Mini-Micro-Clipper	10.50	9.03	7.88
860-5220	5220-A-4-0	4" (101.6 mm)	Banana Plug	8.36	7.19	6.27
860-5223	5223-A-4-0	4" (101.6 mm)	Miniature Banana Plug	9.32	8.06	6.99
860-5231	5231-A-4-0	4" (101.6 mm)	No. 30 with PVC insulators No. 31	8.56	7.36	6.42
860-5244	5244-A-4-0	4" (101.6 mm)	Pin Tip Tip Jack	9.20	7.91	6.90

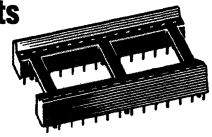
ICN Series Wire Wrap Sockets



Types with WB in Mfr.'s Type number are wire wrap sockets and include terminal barbs which allow self-lock into PC board, rugged socket body design and RN side wipe contact design. **PCB hole:** .037 ± .002″ (.94 ± .05 mm). Socket leads are offset .018″ (.46 mm) from IC leads. Suffix "T" denotes tin contact finish. "TG" denotes gold on contacts, tails tin plated. **Temperature range:** – 65°C to + 125°C.

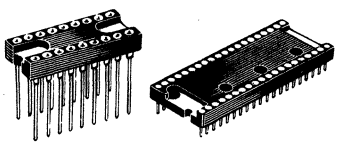
Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
906-5401	ICN-083-WB-T	8	0.395	10.03	.440	11.18	0.62	0.52	0.47
906-5406	ICN-143-WB-T	14	0.695	17.65	.440	11.18	0.80	0.67	0.61
906-5411	ICN-163-WB-T	16	0.795	20.19	.440	11.18	0.92	0.78	0.70
906-5416	ICN-183-WB-T	18	0.895	22.73	.440	11.18	1.04	0.87	0.79
906-5421	ICN-203-WB-T	20	0.995	25.27	.440	11.18	1.16	0.97	0.88
906-5426	ICN-224-WB-T	22	1.095	27.81	.540	13.72	1.27	1.07	0.97
906-5431	ICN-246-WB-T	24	1.195	30.35	.740	18.80	1.39	1.17	1.05
906-5436	ICN-286-WB-T	28	1.395	35.43	.740	18.80	1.62	1.36	1.23
906-5441	ICN-406-WB-T	40	1.995	50.67	.740	18.80	2.31	1.94	1.76
906-5445	ICN-083-WB-TG	8	0.395	10.03	.440	11.18	0.80	0.67	0.60
906-5450	ICN-143-WB-TG	14	0.695	17.65	.440	11.18	1.03	0.87	0.79
906-5455	ICN-163-WB-TG	16	0.795	20.19	.440	11.18	1.18	0.99	0.89
906-5460	ICN-183-WB-TG	18	0.895	22.73	.440	11.18	1.33	1.12	1.01
906-5465	ICN-203-WB-TG	20	0.995	25.27	.440	11.18	1.48	1.24	1.12
906-5475	ICN-246-WB-TG	24	1.195	30.35	.740	18.80	1.77	1.49	1.35
906-5480	ICN-286-WB-TG	28	1.395	35.43	.740	18.80	2.07	1.74	1.57
906-5485	ICN-406-WB-TG	40	1.995	50.67	.740	18.80	2.96	2.49	2.25

ICN Series Solder DIP Production Sockets



The ICN Series features the RN dual leaf side wipe contact design which increases the contact area by 100% over edge-bearing type contacts. The S4 series configuration offers the E-Z entry feature to help guide leads on large LSI devices into the contact area. The contacts are protected from damage by closed entry mold design. Contacts are designed to accept leads up to .015 inch thick. The S4 series has rib type body structure which improves convection cooling. Are supplied with anti-wicking wafers and standoffs for easy flux removal. **Body Material:** black polyester, glass-filled. **Contact Material:** phosphor bronze. **Contact Finish:** Suffix G, 10μinch (.254m) min. gold over 50μ inch (1.27μm) min. nickel. Suffix T, 30μ inch (.762μm) min. hot tin dip and wipe. **Temperature range:** – 65°C to + 125°C. **Flammability:** UL 94V-0. **PCB Hole:** .035″ ± .002″ (0.89 ± 0.05 mm). Socket leads are offset .026″ (0.66 mm) from IC leads.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
906-5300	ICN-063-S3-G	6	0.295	7.49	.405	10.28	0.61	0.52	0.47
906-5305	ICN-083-S3-G	8	0.395	10.03	.405	10.28	0.61	0.52	0.47
906-5310	ICN-143-S3-G	14	0.695	17.65	.405	10.28	0.85	0.71	0.64
906-5315	ICN-163-S3-G	16	0.795	20.19	.405	10.28	0.95	0.79	0.72
906-5325	ICN-203-S3-G	20	0.995	25.27	.405	10.28	1.23	1.04	0.94
906-5335	ICN-246-S4-G	24	1.195	30.35	.775	19.68	1.38	1.16	1.05
906-5340	ICN-286-S4-G	28	1.395	35.43	.775	19.68	1.61	1.35	1.23
906-5345	ICN-406-S4-G	40	1.995	50.67	.775	19.68	2.28	1.92	1.73
906-5307	ICN-083-S3-T	8	0.395	10.03	.405	10.28	0.35	0.29	0.26
906-5313	ICN-143-S3-T	14	0.695	17.65	.405	10.28	0.38	0.32	0.29
906-5317	ICN-163-S3-T	16	0.795	20.19	.405	10.28	0.42	0.35	0.32
906-5323	ICN-183-S3-T	18	0.895	22.73	.405	10.28	0.48	0.40	0.36
906-5327	ICN-203-S3-T	20	0.995	25.27	.405	10.28	0.54	0.45	0.41
906-5337	ICN-246-S4-T	24	1.195	30.35	.775	19.68	0.66	0.55	0.50
906-5347	ICN-406-S4-T	40	1.995	50.67	.775	19.68	1.08	0.91	0.82



Solder DIP

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
906-5000	ICA-083-S-TG30	8	0.395	10.03	.395	10.03	0.66	0.58	0.52
906-5005	ICA-143-S-TG30	14	0.695	17.65	.395	10.03	0.72	0.63	0.56
906-5010	ICA-163-S-TG30	16	0.795	20.19	.395	10.03	0.82	0.72	0.64
906-5015	ICA-183-S-TG30	18	0.895	22.73	.395	10.03	0.92	0.81	0.72
906-5020	ICA-203-S-TG30	20	0.995	25.27	.395	10.03	1.30	1.17	0.98
906-5035	ICA-246-S-TG30	24	1.195	30.35	.695	17.65	1.23	1.09	0.96
906-5040	ICA-286-S-TG30	28	1.395	35.43	.695	17.65	1.81	1.63	1.36
906-5045	ICA-406-S-TG30	40	1.995	50.67	.695	17.65	2.05	1.81	1.61
906-5050	ICA-083-S-GG30	8	0.395	10.03	.395	10.03	0.76	0.67	0.59
906-5055	ICA-143-S-GG30	14	0.695	17.65	.395	10.03	1.10	0.98	0.87
906-5060	ICA-163-S-GG30	16	0.795	20.19	.395	10.03	1.26	1.12	0.99
906-5065	ICA-183-S-GG30	18	0.895	22.73	.395	10.03	1.42	1.26	1.11
906-5070	ICA-203-S-GG30	20	0.995	25.27	.395	10.03	2.00	1.80	1.50
906-5090	ICA-246-S-GG30	24	1.195	30.35	.695	17.65	1.79	1.58	1.40
906-5095	ICA-286-S-GG30	28	1.395	35.43	.695	17.65	2.20	1.95	1.73
906-5100	ICA-406-S-GG30	40	1.995	50.67	.695	17.65	3.16	2.79	2.48
906-6005	ICA-083-S-TT	8	0.395	10.03	.395	10.03	0.51	0.46	0.41
906-6010	ICA-143-S-TT	14	0.695	17.65	.395	10.03	0.56	0.51	0.46
906-6015	ICA-163-S-TT	16	0.795	20.19	.395	10.03	0.64	0.58	0.52
906-6025	ICA-203-S-TT	20	0.995	25.27	.395	10.03	0.79	0.71	0.64
906-6035	ICA-243-S-TT	24	1.195	30.35	.695	17.65	0.87	0.78	0.71
906-6040	ICA-286-S-TT	28	1.395	35.43	.695	17.65	1.11	0.99	0.90
906-6050	ICA-406-S-TT	40	1.995	50.67	.695	17.65	1.58	1.42	1.31

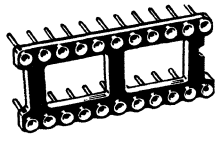
ICA Series Screw Machine Sockets

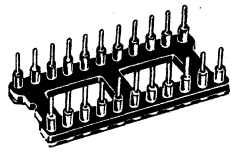
Feature four finger Beryllium copper contacts with high retention design. Low profile body with mounting holes. "S" in Mfr.'s Type number indicates solder dip sockets. "WB" in Mfr.'s Type number indicates 3-level wire wrap. Body material is glass-filled black polyester. PCB hole .035″ ± .002″. IC lead and socket leads are coincident. **Plating:** TG30 has 30μ inch minimum gold on contact area. 200μ inch minimum tin in the terminal area; GG30 has 30μ inch minimum gold on contact area. 10μ inch minimum gold on terminal area. Both options include an underplate of 50μ inch minimum nickel. **Temperature range:** – 65°C to + 125°C.

3-Level Wire Wrap

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
906-5105	ICA-083-WB-GG30	8	0.395	10.03	.395	10.03	1.01	0.90	0.80
906-5110	ICA-143-WB-GG30	14	0.695	17.65	.395	10.03	1.51	1.34	1.19
906-5115	ICA-163-WB-GG30	16	0.795	20.19	.395	10.03	1.68	1.49	1.32
906-5120	ICA-183-WB-GG30	18	0.895	22.73	.395	10.03	1.93	1.71	1.51
906-5125	ICA-203-WB-GG30	20	0.995	25.27	.395	10.03	2.14	1.90	1.68
906-5135	ICA-246-WB-GG30	24	1.195	30.35	.695	17.65	2.38	2.11	1.87
906-5145	ICA-406-WB-GG30	40	1.995	50.67	.695	17.65	4.28	3.79	3.36
906-5150	ICA-083-WB-TG30	8	0.395	10.03	.395	10.03	0.92	0.83	0.69
906-5155	ICA-143-WB-TG30	14	0.695	17.65	.395	10.03	1.12	0.99	0.88
906-5160	ICA-163-WB-TG30	16	0.795	20.19	.395	10.03	1.28	1.13	1.00
906-5165	ICA-203-WB-TG30	20	0.995	25.27	.395	10.03	2.04	1.84	1.53
906-5170	ICA-246-WB-TG30	24	1.195	30.35	.695	17.65	2.40	2.16	1.80
906-5185	ICA-286-WB-TG30	28	1.395	35.43	.695	17.65	2.31	2.05	1.81
906-5190	ICA-406-WB-TG30	40	1.995	50.67	.695	17.65	3.22	2.85	2.53

ICT Series of Open Frame IC Sockets





Feature four finger Beryllium copper contacts with high retention design. Open frame body for excellent connection cooling. "S" in Mfr.'s Type number indicates solder dip sockets. Body material is glass-filled black nylon. PCB hole .035″ ± .002″. IC lead and socket leads are coincident. **Plating:** TG30 has 30μ inch minimum gold on contact area. 200μ inch minimum tin in the terminal area; GG30 has 30μ inch minimum gold on contact area. 10μ inch minimum gold on terminal area. Both options include an underplate of 50μ inch minimum nickel. **Temperature range:** – 65°C to + 125°C.

Solder DIP

Note: Tin Plated Contacts available.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-499
906-5705	ICT-083-S-TG30	8	0.395	10.03	.395	10.03	0.83	0.75	0.62
906-5710	ICT-143-S-TG30	14	0.695	17.65	.395	10.03	0.91	0.82	0.68
905-5715	ICT-163-S-TG30	16	0.795	20.19	.395	10.03	1.04	0.94	0.78
906-5725	ICT-203-S-TG30	20	0.995	25.27	.395	10.03	1.30	1.17	0.98
906-5735	ICT-246-S-TG30	24	1.195	30.35	.695	17.65	1.56	1.41	1.17
906-5740	ICT-286-S-TG30	28	1.395	35.43	.695	17.65	1.82	1.64	1.37
906-5745	ICT-406-S-TG30	40	1.995	50.67	.695	17.65	2.60	2.34	1.95
906-5760	ICT-083-S-GG30	8	0.395	10.03	.695	17.65	0.96	0.87	0.72
906-5765	ICT-143-S-GG30	14	0.695	17.65	.695	17.65	1.40	1.26	1.05
906-5770	ICT-163-S-GG30	16	0.795	20.19	.695	17.65	1.60	1.44	1.20
906-5780	ICT-203-S-GG30	20	0.995	25.27	.695	17.65	2.00	1.80	1.50
906-5790	ICT-246-S-GG30	24	1.195	30.35	.695	17.65	2.28	2.05	1.71
906-5795	ICT-286-S-GG30	28	1.395	35.43	.695	17.65	2.80	2.52	2.10
906-5800	ICT-406-S-GG30	40	1.995	50.67	.695	17.65	4.02	3.52	3.02

ICO Series Solder DIP Production Sockets

Dual contact, low profile socket allows dense board-to-board spacing. Features closed bottom body design and self-locking tail. Dual wiping contact design offers high compression for gas-tight reliability. Phosphor bronze contacts. **Body:** black polyester, glass-filled. **Contact Finishes:** contact Area, 10μ inch min. electro tin over 50μ inch min. nickel. **Temperature Range Rating:** −65°C to +105°C. **PCB Hole Mounting:** .040° ±.002″ dia.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-Up
906-5600	ICO-063-S8-TG	6	0.295	7.49	.400	10.16	0.29	0.24	0.22
906-5605	ICO-083-S8-TG	8	0.395	10.03	.400	10.16	0.29	0.24	0.22
906-5610	ICO-143-S8-TG	14	0.695	17.65	.400	10.16	0.31	0.26	0.24
906-5615	ICO-163-S8-TG	16	0.795	20.19	.400	10.16	0.35	0.29	0.27
906-5620	ICO-183-S8-TG	18	0.895	22.73	.300	7.62	0.50	0.45	0.39
906-5625	ICO-203-S8-TG	20	0.995	25.27	.400	10.16	0.44	0.37	0.33
906-5635	ICO-243-S8-TG	24	1.195	30.35	.400	10.16	0.53	0.44	0.40
906-5640	ICO-246-S8-TG	24	1.195	30.35	.700	17.78	0.53	0.44	0.40
906-5645	ICO-286-S8-TG	28	1.395	35.43	.700	17.78	0.62	0.52	0.47
906-5650	ICO-406-S8-TG	40	1.995	50.67	.700	17.78	0.88	0.74	0.67

NOTE: Sockets available with Tin Contacts.

ICB Series Solder DIP Production Sockets

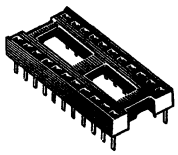
Dual contact, low profile socket allows dense board-to-board spacing. Features closed bottom body design and self-clocking tail. Dual wiping contact design offers high compression for gas-tight reliability. Beryllium copper contacts. **Body:** black polyester, glass-filled. **Contact Finishes:** Contact Area, 10μ inch min. gold over 50μ inch min. nickel. **Terminal Area:** 100μ inch min. electro tin over 50μ inch min. nickel. **Temperature Range Rating:** −65°C to +125°C. **PCB Hole Mounting:** .040″ ±.002″ 3 dia.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-Up
906-2000	ICB-063-S8-TG	6	0.295	7.49	.400	10.16	0.46	0.39	0.35
906-2005	ICB-083-S8-TG	8	0.395	10.03	.400	10.16	0.46	0.39	0.35
906-2010	ICB-143-S8-TG	14	0.695	17.65	.400	10.16	0.50	0.42	0.38
906-2015	ICB-163-S8-TG	16	0.795	20.19	.400	10.16	0.57	0.48	0.43
906-2025	ICB-203-S8-TG	20	0.995	25.27	.400	10.16	0.71	0.60	0.54
906-2035	ICB-243-S8-TG	24	1.195	30.35	.400	10.16	0.86	0.72	0.65
906-2040	ICB-246-S8-TG	24	1.195	30.35	.700	17.78	0.86	0.72	0.65
906-2045	ICB-286-S8-TG	28	1.395	35.43	.700	17.78	1.00	0.84	0.76
906-2050	ICB-406-S8-TG	40	1.995	50.67	.700	17.78	1.43	1.20	1.09
906-2060	ICB-649-S8-TG	64	3.195	81.15	.900	22.86	3.85	3.46	3.08

NOTE: Sockets available with Tin Contacts.

6

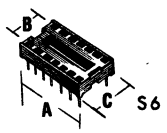
ICL Series Solder DIP Production Sockets

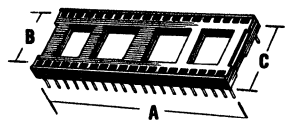


Designed primarily for high volume applications. Low profile (.150″) allows very dense board-to-board spacing; the socket is stackable side-to-side and end-to-end to optimize board surface usage. The body material is glass-filled black polyester. **Contacts:** Beryllium Copper. Suffix "T" denotes tin contact finish, "TG" denotes gold over nickel contact finish. **Temperature range:** −65°C to +125°C. **PCB hole:** .031 ±.002″ (.79 ±.05 mm). IC leads and socket leads are coincident. **Temperature range:** −65°C to +125°C.

Stock No.	Mfr.'s Type	Number of Contacts	Length		Width		EACH		
			In.	mm	In.	mm	1-24	25-99	100-Up
906-5200	ICL-083-S6-TG	8	0.395	10.03	.395	10.03	0.40	0.33	0.30
906-5205	ICL-143-S6-TG	14	0.695	17.65	.395	10.03	0.44	0.37	0.33
906-5210	ICL-163-S6-TG	16	0.795	20.19	.395	10.03	0.50	0.42	0.38
906-5215	ICL-183-S6-TG	18	0.895	22.73	.300	7.62	0.56	0.47	0.43
906-5220	ICL-203-S6-TG	20	0.995	25.27	.395	10.03	0.63	0.53	0.48
906-5230	ICL-246-S7-TG	24	1.195	30.35	.695	17.65	0.75	0.63	0.57
906-5235	ICL-286-S7-TG	28	1.395	35.43	.695	17.65	0.88	0.74	0.67
906-5240	ICL-407-S7-TG	40	1.995	50.67	.695	17.65	1.25	1.05	0.95
906-5245	ICL-083-S6-T	8	0.395	10.03	.395	10.03	0.24	0.20	0.18
906-5250	ICL-143-S6-T	14	0.695	17.65	.395	10.03	0.26	0.22	0.20
906-5255	ICL-163-S6-T	16	0.795	20.19	.395	10.03	0.30	0.25	0.22
906-5260	ICL-183-S6-T	18	0.895	22.73	.300	7.62	0.34	0.28	0.26
906-5265	ICL-203-S6-T	20	0.995	25.27	.395	10.03	0.37	0.31	0.28
906-5270	ICL-224-S7-T	22	1.095	27.81	.400	10.16	0.41	0.34	0.31
906-5275	ICL-246-S7-T	24	1.195	30.35	.695	17.65	0.45	0.37	0.34
906-5280	ICL-286-S7-T	28	1.395	35.43	.695	17.65	0.52	0.44	0.39
906-5285	ICL-406-S7-T	40	1.995	50.67	.695	17.65	0.74	0.62	0.56

ICU Series Solder DIP Production Sockets

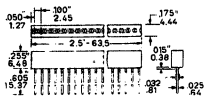




Low-cost variation of ICL series, left. For use where less than 25 in/out cycles are required. Black body, phosphor bronze contacts. **Suffix TG:** gold over nickel. **Suffix T:** hot tin dip.

Stock No.	Mfr.'s Type	Number of Contacts	Dimensions — In. (mm)			EACH		
			A	B	C	1-24	25-99	100-499
906-5500	ICU-083-S6-TG	8	0.395 (10.03)	.300 (7.62)	.395 (10.03)	0.22	0.19	0.17
906-5510	ICU-143-S6-TG	14	0.695 (17.65)	.300 (7.62)	.395 (10.03)	0.25	0.21	0.19
906-5520	ICU-163-S6-TG	16	0.795 (20.19)	.300 (7.62)	.395 (10.03)	0.29	0.24	0.22
906-5530	ICU-183-S6-TG	18	0.895 (22.73)	.300 (7.62)	.395 (10.03)	0.32	0.27	0.25
906-5540	ICU-203-S6-TG	20	0.995 (25.27)	.300 (7.62)	.395 (10.03)	0.36	0.30	0.27
906-5560	ICU-246-S7-TG	24	1.195 (30.35)	.600 (15.24)	.695 (17.65)	0.43	0.36	0.33
906-5570	ICU-286-S7-TG	28	1.395 (35.43)	.600 (15.24)	.695 (17.65)	0.50	0.42	0.38
906-5580	ICU-406-S7-TG	40	1.995 (50.67)	.600 (15.24)	.695 (17.65)	0.72	0.60	0.54
906-5505	ICU-083-S6-T	8	0.395(10.03)	.300 (7.62)	.395 (10.03)	0.10	0.09	0.08
906-5515	ICU-143-S6-T	14	0.695 (17.65)	.300 (7.62)	.395 (10.03)	0.13	0.11	0.10
906-5525	ICU-163-S6-T	16	0.795 (20.19)	.300 (7.62)	.395 (10.03)	0.13	0.11	0.10
906-5535	ICU-183-S6-T	18	0.895 (22.73)	.300 (7.62)	.395 (10.03)	0.15	0.12	0.11
906-5545	ICU-224-S7-T	22	1.095 (27.81)	.400 (10.16)	.395 (10.03)	0.18	0.15	0.14
906-5565	ICU-246-S7-T	24	1.195 (30.35)	.600 (15.24)	.695 (17.65)	0.20	0.17	0.15
906-5575	ICU-286-S7-T	28	1.395 (35.43)	.600 (15.24)	.695 (17.65)	0.23	0.19	0.17
906-5585	ICU-406-S7-T	40	1.995 (50.67)	.600 (15.24)	.695 (17.65)	0.33	0.28	0.25

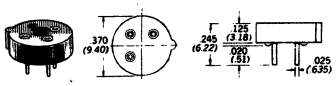
SB and WB Series Strip Sockets



SB Series. Solder dip strip socket. Accepts .015″ dia. pins. Body material is black polyester, glass-filled. Contact material is phosphor bronze and contact finish is gold. **Mounting instructions. PCB hole:** .035 ±.002″ (0.89 ±0.05mm). Socket is offset .026″ (.66mm) from IC leads. **Temperature range:** −65°C to +125°C. **WB Series.** Wire wrap strip socket. Can be mounted end-to-end maintaining .100″ spacing. Body material is black polyester, glass-filled. Contacts are phosphor bronze with gold over nickel contact finish. **Temperature range:** −65°C to +125°C. **Mounting instructions. PCB hole:** .037 ±.002″ (0.94 ±.05mm). Socket leads are offset .018″ (0.46mm) from IC leads.

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-24	25-99
906-7001	SB-20B-G	20	1.96	1.80
906-8005	WB-25-55-TG	25	2.10	1.95

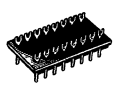
SD/N Series Low Profile TO-5 Socket

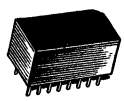


Beryllium copper contacts with gold finish. Terminal material is brass with bright acid tin finish. Socket body is glass filled nylon. **Contact Circle Diameter:** .200″.

Stock No.	Mfr.'s Type	Number of Contacts	EACH		
			1-24	25-99	100-249
906-7105	SD-5173-N	3	1.85	1.67	1.48

DIP Adapter Plugs and Covers





Polarized Glass-filled nylon bodies and covers. 10μ inch Gold plating over 50μ inch of nickel.

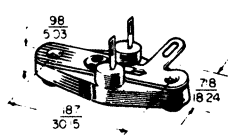
Adapter

Stock No.	Mfr.'s Type	Number of Contacts	Length (In.)	Width (In.)	EACH		
					1-24	25-99	100-499
906-6100	MPB-143	14	0.750	0.300	0.876	0.788	0.701
906-6105	MPB-163	16	0.750	0.300	0.912	0.821	0.730

Covers

906-6200	MPC-143-1	14	0.750	0.470	0.388	0.349	0.310
906-6205	PMC-163-1	16	0.750	0.700	0.388	0.349	0.310

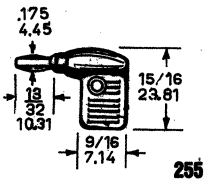
Power Transistor Sockets



Type MP-3452-T. Rated 10 amps. **Case style:** TO-3. **No. of lugs:** 1. **Contact plating:** Tin. Contact plating.

Stock No.	Mfr.'s Type	Number of Contacts	EACH	
			1-24	25-49
906-6010	MP-3452-T	—	1.61	1.48

Molded Right-Angle Meter Plugs



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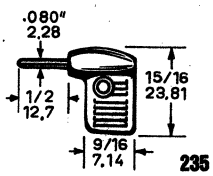


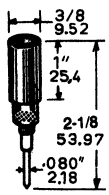
235

Right-angle plugs with plastic handles. Half shells assemble with one screw and nut. Lead wire solders to body.

Stock No.	Mfr.'s Type	Color	Descriptions	EACH			
				1-9	10-24	25-99	100-499
920-0307	255-103	Black	4-leaved Beryllium copper springs, * Banana.	1.72	1.33	1.20	.95
920-0308	255-102	Red	4-leaved Beryllium copper springs, *Banana.	1.72	1.33	1.20	.95
920-0280	235-103	Black	Maximum wire insulation, 9/64". Phone Tip.	1.26	.99	.89	.71
920-0281	235-102	Red	Maximum wire insulation 9/64". Phone Tip.	1.26	.99	.89	.71

*Nickel-plated. Shpg. wt. 2 oz.

Insulated Tip Plugs



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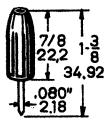
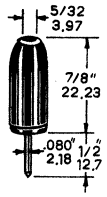


491

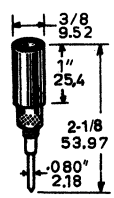


492

Feature nickel-plated brass construction for heavier current applications. Handles are molded phenolic. **Types 491** and **492** molded nylon. 12 amps AC. Av. shpg. wt. 2 oz.

Stock No.	Mfr.'s Type	Color	Descriptions	EACH			
				1-9	10-24	25-99	100-499
920-8000	200	Red	Solderless; wire tightens securely under knurled collar.	.95	.74	.66	.53
920-8001	200	Black		.95	.74	.66	.53
920-0578	491-102	Red	Short, tip plug (7" handle). Inserts flush, no metal exposed, Molded nylon handle. Solder type.	.81	.63	.56	.45
920-0577	491-103	Black		.81	.63	.56	.45
920-0590	491-107	Yellow		.81	.63	.56	.45
920-0580	491-104	Green		.81	.63	.56	.45
920-0571	492-102	Red	Solderless; Inserts flush; no metal exposed; molded nylon handle.	.80	.60	.51	.44
920-0572	492-103	Black		.80	.60	.51	.44

Insulated Tip Jacks



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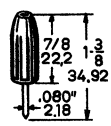

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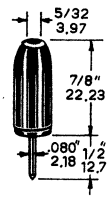
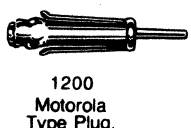


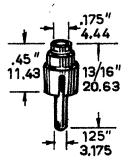
492

Molded heads with nickel-plated brass bodies. Phosphor-bronze contacts. Mount in 5/16" hole. With nut. 750 volts 60 cycle AC continuous working voltage. Capacitance 4.0 pF. **Type 202:** rated 15 amps AC for 10°C temp. rise, continuous duty. **Type 241:** rated 12 amps AC for 10°C temp. rise, continuous duty. Each 2. oz.

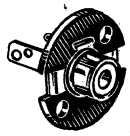
Stock No.	Mfr.'s Type	Color	Descriptions	EACH			
				1-9	10-24	25-99	100-499
920-0181	202-102	Red	With phosphor-bronze spring. Supplied with extruded fiber washer for insulted mounting in panel to 3/8" thick. Molded phenolic head.	.92	.72	.64	.52
920-0208	202-107	Yellow		.92	.72	.64	.52
920-0206	202-104	Green		.92	.72	.64	.52
920-0207	202-105	Blue		.92	.72	.64	.52
920-0182	202-103	Black		.92	.72	.64	.52
920-0292	241	Red	Supplied with molded nylon head, washer.	1.58	1.23	1.11	.88
920-0293	241	Black		1.58	1.23	1.11	.88

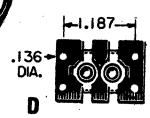
Phono Plugs and Jacks


1200
Motorola
Type Plug.
A



B


1203
RCA Jack
C



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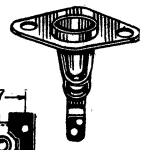

E

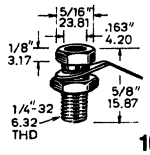
Precision shape guarantees firm contact. Well-anchored insulators prevent turning and wires pulling loose.

Stock No.	Mfr.'s Type	Fig.	Descriptions	EACH			
				1-99	100-499	500-999	1000-Up
920-1200	1200	A	Phono Plug. 1/8" size for coaxial antenna lead-in to auto radio.	.46	.35	.33	.29
920-1214	1214	D	RCA-Type Phono Jack 1 1/2 × 1" Base.	.53	.47	.32	.29

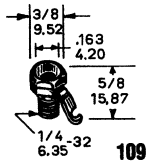
Jack mounted on 1/16" bakelite disc; 11/16" mtg. centers. Shielded pin and plug has 1/8" pin dia., 9/16" long.

920-1207	1207	E	Jack. Motorola Type Plug. RCA Type.	.44	.35	.31	.28
920-0425	1201	B	3-Hole Mount	.17	.14	.13	.11

Non-Insulated Banana Jacks



101



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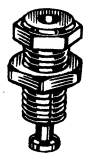
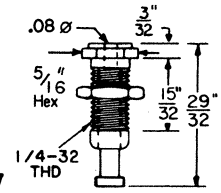

107



Bare brass, nickel-plated body. Fits 1/4" hole. 3/8" panel. Hex nut. 2 oz.

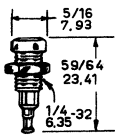
Stock No.	Mfr.'s Type	Color	Descriptions	EACH			
				1-9	10-24	25-99	100-499
920-0101	101	Metal	Tinned lug.	.62	.48	.44	.35
920-0109	109	Metal	With solder lug.	.65	.50	.45	.36

Non-Insulated Tip Jack

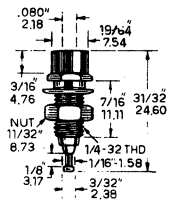
All metal. Nickel-plated brass body, phosphor-bronze contact. With nut. Rated 15 amps AC for 10°C temperature rise, continuous duty. Shpg. wt. 2 oz.

920-0107	107	Nickel-plated	Mounts in 1/4" hole; fits panels to 3/8" thick.	1.00	.78	.70	.56

Insulated Tip Jacks



1505



1501

Each has self-insulating nylon-insulated body. Hex nuts are nickel-plated brass. All accommodate standard phone tip plugs. All rated 15 amps AC for 10°C temperature rise, continuous duty. **Type 1501** has a metal shell to prevent striped threads average shipping wt. each 2 oz.

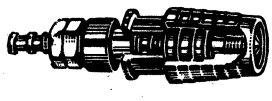
Stock No.	Mfr.'s Type	Color	Descriptions	EACH			
				1-9	10-24	25-99	100-499
920-1512	1505	Black	All nylon body. Wrap-around type. Hex head. Mount in 1/4" hole in panels to 1/4" thick.	.94	.66	.65	.49
920-1516	1505	Yellow		.94	.66	.65	.49
920-1514	1505	Green		.94	.66	.65	.49
920-1515	1505	Blue		.94	.66	.65	.49
920-1513	1505	Red		.94	.66	.65	.49
920-8012	1501	Red	Metal Shell. Wrap-around type made to MIL-C 39024/10.	2.00	1.56	1.40	1.12
920-1501	1501	Black		2.00	1.56	1.40	1.12
920-1502	1501	White		2.00	1.56	1.40	1.12

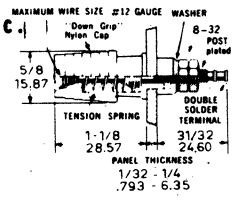
Type AL2000 Quick Connect/Disconnect Binding Posts

Accepts variety of wire terminals, test prods, spades or plugs. Ideal for confined areas. Eliminates needle-eye threading and wrap-around spreading common to conventional binding posts. **Capacity:** 30 amps, 1000V rms.

Stock No.	Mfr.'s Type	Color	EACH			
			1-99	100-299	300-499	500-Up
721-0031	AL2000B	Black	1.55	1.02	.93	.88
721-0032	AL2000R	Red	1.55	1.02	.93	.88

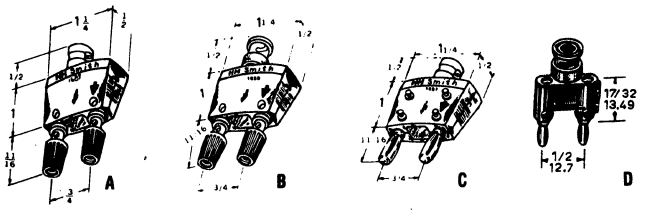
ADMIRAL CONTROLS, Inc.





Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

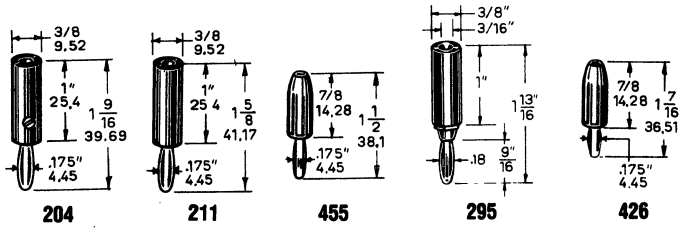
Dual Instrument Adapters



Exellent quality male, female dual binding post adapters. Insulated 5-way binding posts for efficient, reliable service in an infinite amount of applications. Come with red and black heads on 3/4" centers except *1/2" centers. Banana jack holes are provided for side stacking. Packages of 1. Strong molded ABS body to resist breakage or splitting that often occurs due to temperature variations. Brass conductor; beryllium copper spring, molded Lexan head. **Ratings:** Current is 15 amps (*5 amps) AC for 10°C, rise is continuous duty except where limited by coaxial connectors; voltage is 5kV (*2kV) 60 cycle AC. *Miniature. Av. shpg. wt. 1 oz.

Stock No.	Mfr.'s Type	Fig.	Front Connection	EACH			
				1-9	10-24	25-99	100-499
920-1789	1689	A	BNC/female	**9.96**	**9.10**	**8.33**	**7.11**
920-1788	1688	B	BNC male	**10.19**	**9.31**	**8.11**	**6.77**
920-1797	1697	C	BNC female to isolated banana plug	**18.64**	**17.04**	**15.57**	**13.31**
920-1866	1756*	B	Bind. post to BNC male	**10.69**	**9.77**	**8.94**	**7.64**
920-1868	1758*	C	BNC female to banana	**7.63**	**6.98**	**6.37**	**5.45**
920-1869	1759*	D	BNC male to banana	**10.70**	**9.78**	**8.95**	**7.64**

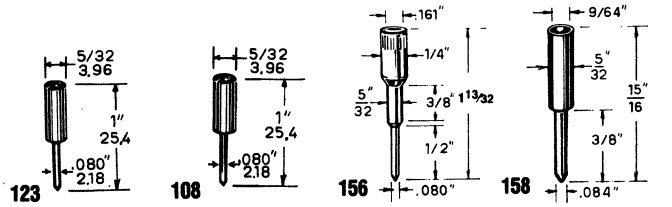
Insulated Banana Plugs



Insulated banana plugs with unbreakable plastic handles. All are machined of the best materials, and inspected. Have sufficient spring tension to assure good holding power and minimum contact resistance. Nickel-plated. Average shpg. wt. 2 oz.

Stock No.	Mfr.'s Type	Color	Description	PER PKG./5			
				1-9	10-24	25-99	100-499
920-0204	204-102	Red	4-leaved beryllium copper nickel-plated sprg. Lead wier conn. with set screw thru handle.	**5.41**	**4.21**	**3.77**	**3.00**
920-0216	204-107	Yellow		**5.41**	**4.21**	**3.77**	**3.00**
920-0203	204-103	Black		**5.41**	**4.21**	**3.77**	**3.00**
920-0185	211-102	White	4-leaved beryllium copper nickel-plated spring. Wire solders to plug or stud; or stud locks wire for solderless connection.	**5.52**	**4.29**	**3.85**	**3.07**
920-0186	211-103	Black		**5.52**	**4.29**	**3.85**	**3.07**
920-0237	211-107	Yellow		**5.52**	**4.29**	**3.85**	**3.07**
920-0233	211-104	Green		**5.52**	**4.29**	**3.85**	**3.07**
920-0232	211-105	Blue		**5.52**	**4.29**	**3.85**	**3.07**
920-0238	211-101	White		**5.52**	**4.29**	**3.85**	**3.07**
920-0569	455-102	Red	4-leaf beryllium copper nylon. Solderless.	**5.33**	**4.12**	**3.70**	**2.95**
920-0570	455-103	Black		**5.33**	**4.12**	**3.70**	**2.95**
920-0360	295-102	Red	4-leaved nickel-plated phos. bronze spring. Theaded space for solderless conn.	**7.99**	**6.22**	**5.56**	**4.45**
920-0361	295-103	Black		**7.99**	**6.22**	**5.56**	**4.45**
920-0525	426-102	Red	4-leaf, phos. bronze spring nylon. Short.	**5.20**	**4.04**	**3.60**	**2.88**
920-0528	426-103	Black		**5.20**	**4.04**	**3.60**	**2.88**

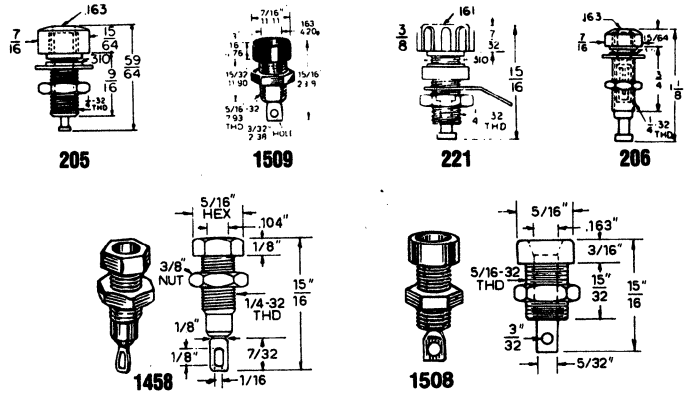
Non-Insulated Tip Plugs



Nickel-plated brass phone tip plugs. Fit standard phone tip jacks. **Type 123.** 159" inside dia. for larger wire. Rated 12 amps AC, 10°C temp. rise, continuous duty. Av. shpg. wt. 2 oz.

Stock No.	Mfr.'s Type	Color	Description	EACH			
				1-9	10-24	25-99	100-499
920-0123	123	Nickel-plated	Heavy-duty solder-type	**.31**	**.23**	**.20**	**.18**
920-0108	108	Nickel-plated	Std. solid phone tip. Solder type.	**.13**	**.11**	**.10**	**.09**
920-0156	156	Nickel-plated	Solder type; force fit	**.79**	**.62**	**.55**	**.44**
920-0158	158	Nickel-plated	Solder type; wire mnt.	**.07**	**.06**	**.05**	**.04**

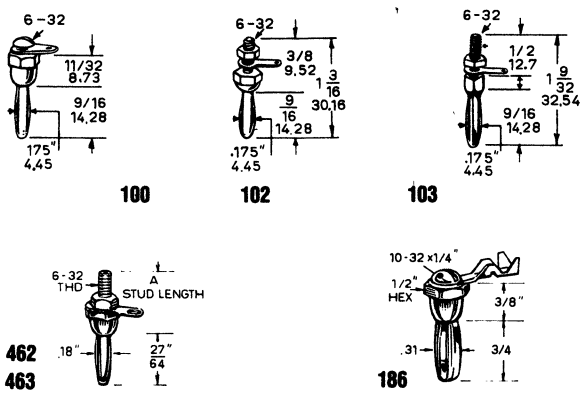
Insulated Banana Jacks



Type 205 supplied with fiber washer. Shpg. wt. 2 oz.

Stock No.	Mfr.'s Type	Color	Descriptions	PER PKG./5			
				1	2-4	5-19	20-99
920-0205	205-102	Red	Plastic head; nickel-plated brass body. For 5/16" hole, panels up to 3" thick. Head captivated to body.	**3.64**	**2.80**	**2.52**	**2.02**
920-0224	205-107	Yellow		**3.64**	**2.80**	**2.52**	**2.02**
920-0210	205-104	Green		**3.64**	**2.80**	**2.52**	**2.02**
920-0211	205-105	Blue		**3.64**	**2.80**	**2.52**	**2.02**
920-0209	205-103	Black		**3.64**	**2.80**	**2.52**	**2.02**
920-1485	1509-102	Red	Molded nylon jack. Locks into panel by means of double "D" body. For 5/16" hole, panel to 5/16". All insulated.	**2.41**	**1.88**	**1.66**	**1.34**
920-1519	1509-103	Black		**2.41**	**1.88**	**1.66**	**1.34**
920-1526	1509-107	Yellow		**2.41**	**1.88**	**1.66**	**1.34**
920-1527	1509-104	Green		**2.41**	**1.88**	**1.66**	**1.34**
920-1528	1509-105	Blue		**2.41**	**1.88**	**1.66**	**1.34**
920-0261	221-102	Red	Nylon head; fit 5/16" mtg. hole; for panels up to 1/4".	**7.40**	**5.77**	**5.18**	**4.12**
920-0260	221-103	Black		**7.40**	**5.77**	**5.18**	**4.12**
920-0225	206-102	Red	Plastic head; nickel-plated brass body; takes banana plug or tip plug; beryllium copper spring. For 1/4" hole, up to 5/8" panel.	**5.83**	**4.54**	**4.09**	**3.14**
—	—	—					
920-0227	206-104	Green		**5.83**	**4.54**	**4.09**	**3.14**
—	—	—					
920-0226	206-103	Black		**5.83**	**4.54**	**4.09**	**3.14**
920-1490	1458-102	Red	Molded polycarbonate head; brass nickel-plated body. Miniature. Insulated from panel in 5/16" holes.	**6.15**	**4.79**	**4.30**	**3.43**
920-1491	1458-103	Black		**6.15**	**4.79**	**4.30**	**3.43**
920-1492	1458-104	Green		**6.15**	**4.79**	**4.30**	**3.43**
920-1535	1508-102	Red	Molded polycarbonate head; brass nickel-plated body. Insulated from panel in 5/16" holes.	**2.41**	**1.88**	**1.66**	**1.34**
920-1536	1508-103	Black		**2.41**	**1.88**	**1.66**	**1.34**
920-1537	1508-104	Green		**2.41**	**1.88**	**1.66**	**1.34**

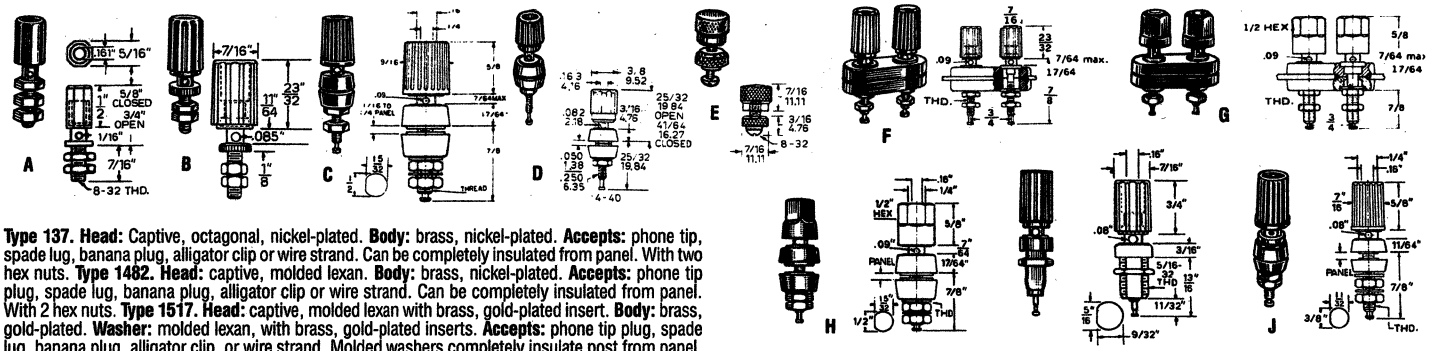
Non-Insulated Banana Plugs



Feature four-leaved, beryllium copper nickel-plated springs. Each is supplied with terminal lug and hex nut. Shpg. wt., 2 oz. **Type 462** stud length is 3/8" **Type 463** stud length is 1/2".

Stock No.	Mfr.'s Type	Color	Descriptions	PER PKG./5			
				1	2-4	5-19	20-99
920-0100	100	Nickel-plated	Panel-mtg. type; 6-32 tapped body. intern'l threads for panel use.	**6.09**	**4.71**	**4.21**	**3.14**
920-0102	102	Nickel-plated	External threaded-shank type; 4-leaf beryllium copper spring.	**6.09**	**4.71**	**4.21**	**3.14**
920-0104	103	Nickel-plated	External threaded-shank type.	**5.83**	**4.54**	**4.09**	**3.26**
920-0462	462	Nickel-plated	Threaded stud and nut type; short std. Beryllium copper spring.	**5.04**	**3.92**	**3.53**	**2.80**
920-0463	463	Nickel-plated	Threaded stud and nut type; short std. Beryllium copper spring.	**5.57**	**4.33**	**3.88**	**3.94**
920-0464	186	Nickel-plated	Threaded stud and nut type; giant. Beryllium copper spring.	**15.02**	**11.72**	**10.42**	**8.05**

Single And Dual Binding Posts



Type 137. Head: Captive, octagonal, nickel-plated. **Body:** brass, nickel-plated. **Accepts:** phone tip, spade lug, banana plug, alligator clip or wire strand. Can be completely insulated from panel. With two hex nuts. **Type 1482. Head:** captive, molded lexan. **Body:** brass, nickel-plated. **Accepts:** phone tip plug, spade lug, banana plug, alligator clip or wire strand. Can be completely insulated from panel. With 2 hex nuts. **Type 1517. Head:** captive, molded lexan with brass, gold-plated insert. **Body:** brass, gold-plated. **Washer:** molded lexan, with brass, gold-plated inserts. **Accepts:** phone tip plug, spade lug, banana plug, alligator clip, or wire strand. Molded washers completely insulate post from panel. Miniature washers and narrow fluted head require min. panel space. Mounts in 3/8" round or "D" hole in panel as indicated. Wrap-around solder terminal on stud for direct connection. **Type 899:** Standard multiple connection insulated Hex Head Binding Post, mounts in 1/2" round or D hole, includes all mounting hardware. **Type 3015:** Miniature multiple connection insulated binding post, mounts in 1/4" round or D hold, includes all mounting hardware. **Type 110:** All metal binding post, brass nickel-plated, mounts in #6 clearance hole, includes all mounting hardware. **Type 459:** Standard multiple connection all insulated fluted head binding post, mounts in 1/2" round or D hole, includes all mounting hardware. Accepts standard banana plugs, .080 phone tips, wire, alligator clips and spade lug. Accepts miniature banana plugs, .080 phone tips, wire, alligator clips and spade lug. 1 K volts 60 cycle AC continous working voltage, when insulated from panel as recommended. **Capacitance:** 5.0 mmfd. (Type 1517, 3.0 mmfd).

Dual Binding Posts Type 1477 and 269: Standard dual insulated binding posts, mounts in two 1/2" holes on 3/4" centers, panels up to 1/4" thick, includes all mounting hardware.

Dual Binding Posts

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-1477	1477BB§	F	Black/black	3.08	2.47	2.20	1.76
920-1478	1477RB	F	Red/black	3.08	2.46	2.20	1.76
920-0325	269BB†	G	Black/black	3.99	3.20	2.85	2.28
920-0326	269RB†	G	Red/black	3.99	3.20	2.85	2.28

§ Capacitance: 2.0 mmfd. between conductors, 3.0 mmfd. top panel. † Rated at 15 amsp AC for 10° Temp. rise continuous duty, 2 KV volts 60 cycle AC continuous working voltage.

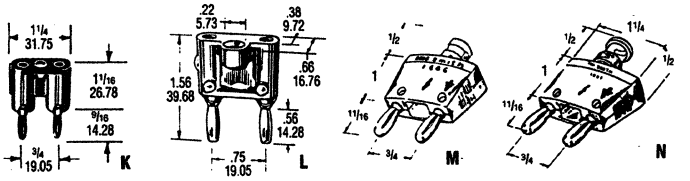
Single Binding Posts

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-0137	137*	A	Metal	2.12	1.70	1.52	1.22
920-0130	257	H	Red	3.75	2.99	2.68	2.14
920-0131	257	H	Black	3.75	2.99	2.68	2.14
920-0312	899	H	Black	2.45	1.96	1.75	1.40
920-9061	899	H	Green	2.45	1.96	1.75	1.40
920-9062	899	H	White	2.45	1.96	1.75	1.40
920-9063	899	H	Red	2.45	1.96	1.75	1.40
920-1482	1482*	B	Red	1.09	0.87	0.78	0.62
920-1483	1482*	B	Black	1.09	0.87	0.78	0.62
920-1460	1463	I	Red	1.68	1.34	1.20	0.96
920-1461	1463	I	Black	1.68	1.34	1.20	0.96
920-2814	3015††	D	Red	3.01	2.41	2.15	1.72
920-2815	3015††	D	Black	3.01	2.41	2.15	1.72
920-0110	110	E	Metal	1.17	0.91	0.82	0.65
920-0563	459	C	Red	3.75	3.00	2.68	2.14
920-0561	459	C	Black	3.75	3.00	2.68	2.14
920-1275	1275	J	Red	2.45	1.96	1.75	1.40
920-1276	1275	J	Black	2.45	1.96	1.75	1.40
920-1517	1517*	J	Red	3.75	3.00	2.68	2.14
920-1518	1517*	J	Black	3.75	3.00	2.68	2.14

†† Rated at 5 amps AC for 10° Temp rise continous duty, 2 KV 60 cycle AC continuous working voltage. * Rated at 15 amps AC for 10° C temp. rise; continuous duty.

Dual Banana Plug Adapters

All are molded standard dual banana plugs on 3/4" centers. **Type 210.** Takes up to #12 wire; stackable; molded polystyrene body. **Type 1675:** Set screws to secure leads to conductor. **Type 1676:** Turret terminals for solder connection of component leads. **Type 1686:** To BNC female. **Type 1687:** To BNC male.



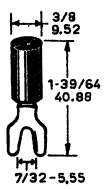
Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-0230	210	K	Black	4.19	3.25	2.92	2.25
920-9070	1675*	L	Black	2.70	2.47	2.26	1.88
920-9071	1675AA*	L	Red	2.70	2.47	2.26	1.88

* Rated at 15 amps AC for 10° temp. rise continuous duty, 5 kV 60 cycle continuous working voltage.

Stock No.	Mfr.'s Type	Fig.	Color	EACH			
				1-9	10-24	25-99	100-499
920-9078	1676AA	L	Black	2.70	2.47	2.26	1.88
920-9085	1686	M	Black	7.49	6.86	6.25	5.35
920-9086	1687	N	Black	9.99	9.14	8.36	7.14

Insulated Spade Lug Adapter

Banana plug to spade lug adapter. Molded butyrate handle meets Federal Specification L-P349A, Type 3, Class MS, in red or black. Electro tinned steel lug. .020" thick. Tapered slot fits all standard binding posts and terminal screws from 1/4" diameter to #6 diameter. Accepts standard banana plugs in rear. Solder bridge for wire connection up to No. 18 American Wire Gauge. Rated 15 amps AC for 10°C temperature rise, continuous duty.

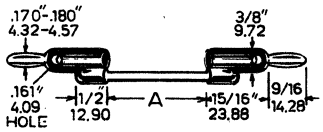


Stock No.	Mfr.'s Type	Color	EACH			
			1-99	100-499	500-999	1000-4999
920-0250	218	Red	0.18	0.16	0.14	0.13
920-0251	218	Black	0.18	0.16	0.14	0.13

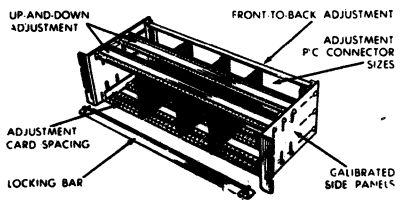
§ Capacitance: 2.0 mmfd. between conductors, 3.0 mmfd. to panel.

Stacking Patch Cords

Type 1510: In-line and cross patch stacking banana plug cords. Standard Ber. copper nickel plated banana plugs each end, #18 AWG 10 kV PVC 10 kV wire.



Stock No.	Mfr.'s Type	Color	Length In.	EACH			
				1-9	10-24	25-99	100-499
920-9042	1510-12	Black	12	3.24	2.97	2.71	2.32
920-9043	1510-12	Red	12	3.24	2.97	2.71	2.32
920-9044	1510-24	Black	24	3.46	3.17	2.88	2.47
920-9045	1510-24	Red	24	3.46	3.17	2.88	2.47



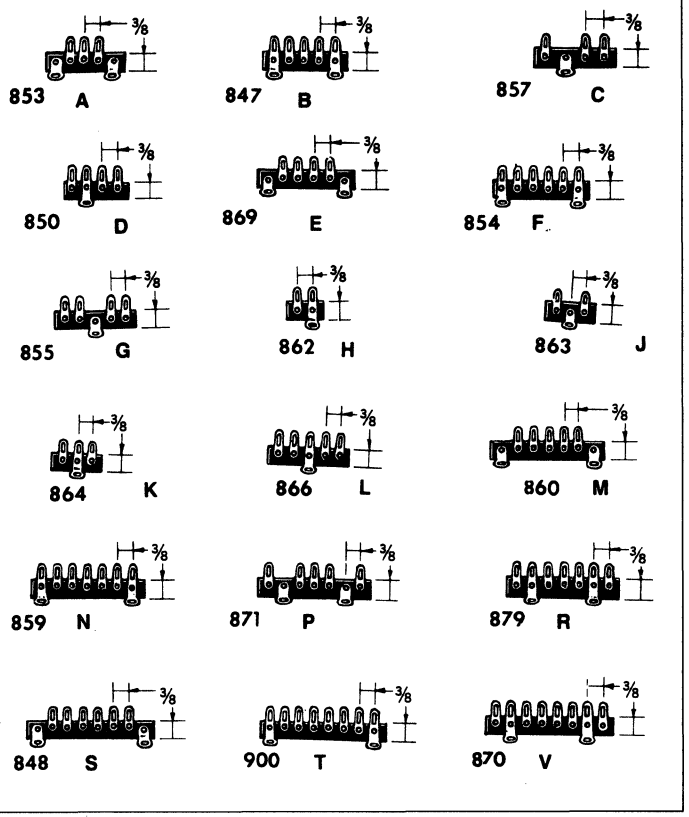
Universal Printed Circuit Card Rack

Type 3050. Fits 19" racks. Card guide, connector rails slide on nylon bushing for easy centering adjustment. Capacity for 39 cards and guides. **For card size:** 1/16" thick, 2 3/8-4 3/4" width, 3 1/2-7 1/4" long. **Card spacing:** .400" minimum, centers adjust in .400" increments. Aluminum. 19 x 5 1/4 x 8". **Wt.:** 2 1/2 lbs.

920R2850. 1-9.....EACH 54.15
10-24.....EACH 49.87 **25-99**.....EACH 43.00

Board Guides. Type 3051.
920-3051. 1-4.....PER PKG./100 6.02
5-9.....PER PKG./100 5.51 **10-Up**.....PER PKG./100 5.04

Terminal Strips

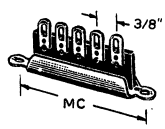


Lug-Type Terminal Strips
- **19 types to choose from**
- **Steel cadmium lugs for fast soldering**
- **Phenolic strips provide dependable insulation**
- **Highest quality materials and workmanship**

Quality lug-type terminal strips, dark brown XP phenolic, 1/16″ thick × 3/8″ wide. Equipped with cadmium steel lugs with 3/8″ centers, 9/64″ diameter mounting holes. **Shipping Weight:** 1 oz. Buy larger quantities and save!

Stock No.	Mfr.'s Type	Fig.	EACH			
			1-99	100-499	500-999	1000-Up
920-0853	853	A	.30	.23	.21	.19
920-0847	847	B	.30	.23	.21	.19
920-0857	857	C	.19	.15	.14	.13
920-0850	850	D	.19	.15	.14	.13
920-0868	869	E	.35	.26	.24	.22
920-0854	854	F	.35	.26	.24	.22
920-0855	855	G	.26	.20	.19	.17
920-0862	862	H	.15	.12	.10	.09
920-0863	863	J	.17	.14	.13	.12
920-0864	864	K	.17	.14	.13	.12
920-0866	866	L	.26	.20	.19	.17
920-0860	860	M	.37	.28	.26	.23
920-0859	859	N	.37	.28	.26	.23
920-0871	871	P	.37	.28	.26	.23
920-0879	879	R	.37	.28	.26	.23
920-0848	848	S	.39	.29	.27	.25
920-0900	900	T	.39	.29	.27	.25
920-0870	870	V	.39	.29	.27	.25

Series 3000 Terminal Strips



Steel terminals with cadmium plating for easy soldering. Spaced on 3/8″ centers. Insulated strip of rugged, molded XP phenolic. Cadmium-plated steel mounting base. Mounting holes at each end of base for No. 6 screws. **Weight:** 1 oz.

Stock No.	Mfr.'s Type	Term.	Mtg. Ctrs.	EACH			
				1-99	100-499	500-999	1000-4999
920-2802	3002	2	1″	.52	.40	.37	.34
920-2803	3003	3	15/16″	.55	.42	.40	.36
920-2804	3004	4	15/8″	.60	.45	.42	.38
920-2805	3005	5	115/16″	.64	.49	.46	.41
920-2806	3006	6	21/4″	.71	.54	.51	.46
920-2810	3010	10	31/2″	.98	.75	.70	.64

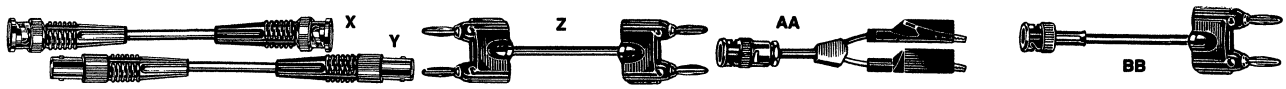
Unshielded Jumpers

Big selection of unshielded jumper cords with a variety of clip and plug styles. All leads are #18 AWG 10 kB insulated wire (except 606, 658—20 AWG). Cadmium-plated steel clips; nickel-plated brass tips; vinyl plastic boots. **Handles:** †Molded butyrate. Types 606 and 658 supplied as pairs—1 red, 1 black. **Weight:** 5 oz.

Stock No.	Mfr.'s Type	Length Feet	Color	Fig.	EACH			
					1-9	10-24	25-99	100-Up
920-1683	1596-12-102	1	Red	T	3.46	3.17	2.88	1.65
920-1684	1596-12-103	1	Black	T	3.46	3.17	2.88	1.65
920-1680	1596-24-102	2	Red	T	3.78	3.46	3.17	2.09
920-1681	1596-24-103	2	Black	T	3.78	3.46	3.17	2.09
920-1685	1596-36-102	3	Red	T	3.15	2.88	2.63	2.25
920-1686	1596-36-103	3	Black	T	3.15	2.88	2.63	2.25
920-1695	1596-48-102	4	Red	T	3.35	3.07	2.80	2.40
920-1696	1596-48-103	4	Black	T	3.35	3.07	2.80	2.40
920-1687	1596-60-102	5	Red	T	3.55	3.25	2.96	2.54
920-1690	1596-60-103	5	Black	T	3.55	3.25	2.96	2.54
920-1688	1597-12-102	1	Red	U	2.72	2.48	2.27	1.94
920-1689	1597-12-103	1	Black	U	2.72	2.48	2.27	1.94

Stock No.	Mfr.'s Type	Length Feet	Color	Fig.	EACH			
					1-9	10-24	25-99	100-Up
920-1691	1597-36-102	3	Red	U	3.15	2.88	2.63	2.25
920-1692	1597-36-103	3	Black	U	3.15	2.88	2.63	2.25
920-1962	1866-24-102†	2	Red	V	2.48	2.27	2.08	1.77
920-1963	1866-24-103†	2	Black	V	2.48	2.27	2.08	1.77
920-1966	1866-36-102†	3	Red	V	2.93	2.67	2.45	2.10
920-1967	1866-36-103†	3	Black	V	2.93	2.67	2.45	2.10
920-1964	1866-48-102†	4	Red	V	3.15	2.88	2.63	2.25
920-1965	1866-48-103†	4	Black	V	3.15	2.88	2.63	2.25
920-1968	1866-60-102†	5	Red	V	3.36	3.08	2.81	2.40
920-1969	1866-60-103†	5	Black	V	3.36	3.08	2.81	2.40
920-0606	606	3	Blk/Rd	DD	3.14	2.87	2.63	2.24
920-0658	658	3	Blk/Rd	CC	3.45	3.16	2.89	2.47

Coaxial Cable Shielded Standard Patch Cords



Five styles of shielded standard patch cords. All leads use RG-58C/U coaxial cable. **Handles:** Butyrate. **Weight:** 5 oz.

Stock No.	Mfr.'s Type	Length Feet	Color	Fig.	EACH			
					1-9	10-24	25-99	100-Up
920-1650	1589-12	1	Black	X	11.47	10.48	9.59	8.19
920-1651	1589-24	2	Black	X	11.85	10.84	9.91	8.48
920-1652	1589-36	3	Black	X	12.27	11.22	10.26	8.76
920-1653	1589-48	4	Black	X	12.64	11.56	10.57	9.02
920-1654	1589-60	5	Black	X	13.07	11.95	10.91	9.33
920-1672	1869-36	3	Black	Y	15.22	13.91	12.72	10.87
920-1674	1869-60	5	Black	Y	16.09	14.71	13.45	11.49

Stock No.	Mfr.'s Type	Length Feet	Color	Fig.	EACH			
					1-9	10-24	25-99	100-Up
920-1610	1580-12	1	Black	Z	9.47	8.65	7.91	6.75
920-1613	1580-36	3	Black	Z	10.28	9.39	8.59	7.34
920-1587	1791-24*	2	Black	AA	12.95	11.85	10.83	9.26
920-1588	1791-36*	3	Black	AA	13.26	12.12	11.07	9.47
920-1987	1584-36	3	Black	BB	13.13	11.99	10.98	9.38
920-1988	1584-60	5	Black	BB	13.98	12.77	11.67	9.98
—	—	—	—	—	—	—	—	—

*Cadmium-plated miniature chips.

Fig. 1

TYPES BP30 and BP31 DIMENSIONS

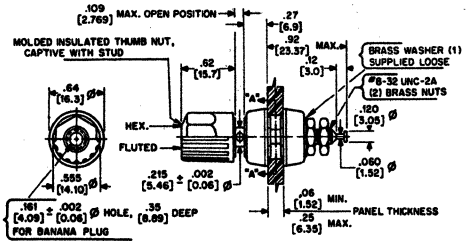


Fig. 2

TYPES BP30 and BP31 DIMENSIONS

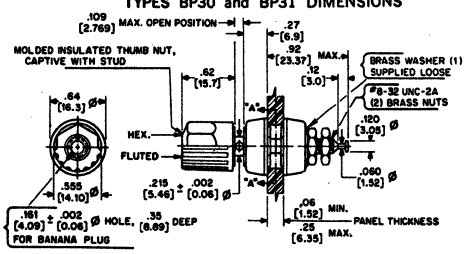


Fig. 3

TYPES BP30-10 and BP31-10 DIMENSIONS

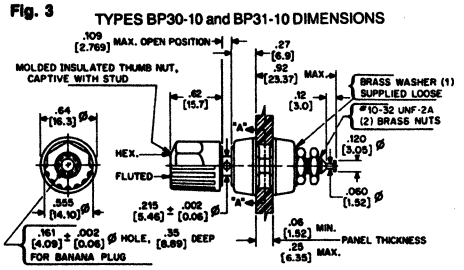
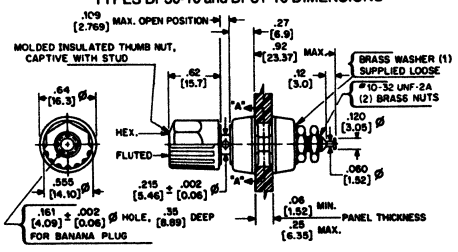


Fig. 4

TYPES BP30-10 and BP31-10 DIMENSIONS



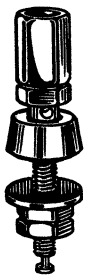


Fig. 5

TYPE BP30GP10 DIMENSIONS

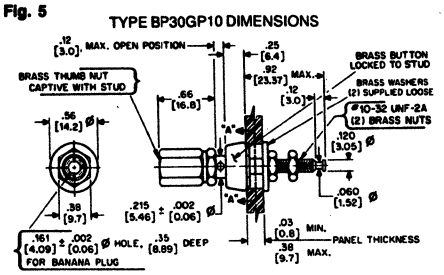
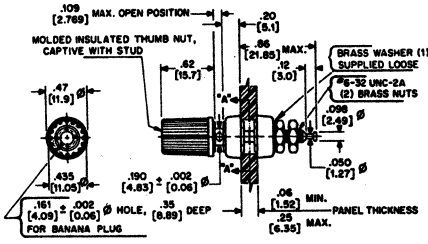


Fig. 6

TYPE BP21 DIMENSIONS



5-Way Binding Posts

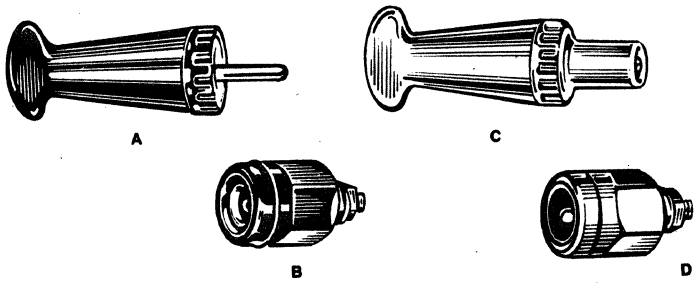
#BP31 Series have LEXAN polycarbonate resin insulating parts. All others have nylon plastic per MIL-P-20693A, Type IV. All metal grounding type designed for rapid ground connections. Made of machined brass, gold plated and polished. Design complements other hex nut 5-way binding post. Hex and fluted nut types are rated for 30 Amps, 1000 Volts working, except BP21 which is 15 Amps. UL recognized standard 1244. IEC 348.p.30 ANSI C39.5-1974. Double assembly type are for use where binding posts are mounted on 3/4" (19 mm) centers. Rated for 30 Amps, 1000 Volts working.

Stock No.	Mfr.'s Type	Color	Fig.	Nut Type	EACH	
					1-24	25-99
645-0030	BP30B	Black	1	Hex	1.80	1.62
645-0032	BP30R	Red	1	Hex	1.80	1.62
645-0031	BP31R	Red	2	Fluted	1.80	1.62
645-0033	BP31B	Black	2	Fluted	1.80	1.62
645-3010	BP30-10R	Red	3	Hex	1.80	1.62
645-3012	BP30-10B	Black	3	Hex	1.80	1.62
645-3110	BP31-10B	Black	4	Fluted	1.80	1.62
645-3111	BP31-10R	Red	4	Fluted	1.80	1.62
645-3011	BP30GP10*	Metal	5	Hex	2.90	2.62
645-0218	BP21B	Black	6	Fluted	1.80	1.62
645-0219	BP21R	Red	6	Fluted	1.80	1.62

*Nickel plated.

NOTE: Also available from factory in White, Blue, Yellow, and Green. Also available as double assembly (1 black and 1 red) and with nickel or tin plated current carrying brass parts.

Supercon Electrical Connectors



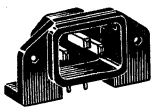
For safe, quick positive panelboard connections. Available in 25, 50, 100, and 250 Amp capacities. 25, 50, and 100 Amp types are rated 125-250 VAC or DC current interrupting; 600 V unenergized connector disconnect use only. CSA certified, File #LR-17812. 250 Amp types rated 600 V unenergized connect or disconnect use only. **Plugs:** Wiring connections to the same plugs can be either soldered or solderless. Cable fastening screws are provided for accommodation of a wide range of cable sizes. Grips are two-piece threaded construction. **Receptacles:** Color-matched nylon caps and bodies. Wiring connection is made to a threaded stud by wire wrap-around, lug, or bus bar connection.

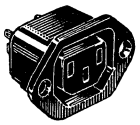
Stock No.	Mfr.'s Type	Color	Amps	Fig.	Overall Length (In.)	Overall Dia. (In.)	EACH	
							1-19	20-29
645-0029	PP25GR	Red	25	A	2.66	.81	11.30	9.61
645-0025	PP25GB	Black	25	A	2.66	.81	11.30	9.61
645-0023	RS25GR	Red	25	B	1.50	.81	11.30	9.61
645-0028	RS25GB	Black	25	B	1.50	.81	11.30	9.61
645-0034	PS25GR	Red	25	C	2.72	.81	11.30	9.61
645-0027	PS25GB	Black	25	C	2.72	.81	11.30	9.61
645-0024	RP25GR	Red	25	D	1.50	.81	11.30	9.61
645-0026	RP25GB	Black	25	D	1.50	.81	11.30	9.61
645-0054	PP50GR	Red	50	A	3.22	1.00	14.30	12.16
645-0050	PP50GB	Black	50	A	3.22	1.00	14.30	12.16
645-0048	RS50GR	Red	50	B	2.00	1.25	14.30	12.16
645-0053	RS50GB	Black	50	B	2.00	1.25	14.30	12.16
645-0055	PS50GR	Red	50	C	3.12	1.00	14.30	12.16
645-0052	PS50GB	Black	50	C	3.12	1.00	14.30	12.16
645-0049	RP50GR	Red	50	D	2.00	1.25	14.30	12.16
645-0051	RP50GB	Black	50	D	2.00	1.25	14.30	12.16
645-0104	PP100GR	Red	100	A	3.66	1.25	19.00	16.16
645-0100	PP100GB	Black	100	A	3.66	1.25	19.00	16.16
645-0098	RS100GR	Red	100	B	2.50	1.50	19.00	16.16
645-0103	RS100GB	Black	100	B	2.50	1.50	19.00	16.16
645-0105	PS100GR	Red	100	C	3.81	1.25	19.00	16.16
645-0102	PS100GB	Black	100	C	3.81	1.25	19.00	16.16
645-0099	RP100GR	Red	100	D	2.50	1.50	19.00	16.16
645-0101	RP100GB	Black	100	D	2.50	1.50	19.00	16.16
645-0254	PP250GR	Red	250	A	4.94	1.50	31.10	26.45
645-0250	PP250GB	Black	250	A	4.94	1.50	31.10	26.45
645-0248	RS250GR	Red	250	B	3.87	2.00	31.10	26.45
645-0253	RS250GB	Black	250	B	3.87	2.00	31.10	26.45
645-0255	PS250GR	Red	250	C	5.00	1.50	31.10	26.45
645-0252	PS250GB	Black	250	C	5.00	1.50	31.10	26.45
645-0249	RP250GR	Red	250	D	3.86	2.00	31.10	26.45
645-0251	RP250GB	Black	250	D	3.86	2.00	31.10	26.45

NOTE: Also available from factory in White, Blue, Yellow, and Green in 20-piece multiples.

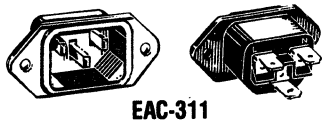
Primary Power Receptacles

UL and CSA Approved, International Standard CCE-22


EAC-303


EAC-306

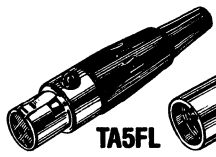
EAC-309

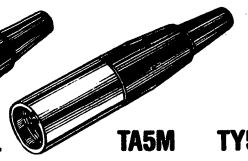

EAC-311

Shell: Black glass reinforced thermoplastic polyester. UL flammability rating 94 V-O, yellow card #E45575. **Pins:** silver-plated brass. **Terminals:** electrotinned brass except EAC-303, silver-plated brass.
EAC-303: 3-pin male receptacle with right angle housing for PC board mount. Rear of panel mounting. PC terminals project .125" to extend through PC board. Ground pin is integral with the ground solder lug on rear of receptacle. Two additional .136" holes for fastening to panel or chassis. **EAC-309:** 3-pin male receptacle with standard lug terminals. Mounts from front or rear of panel with two #5 screws or .125" rivets (not supplied). **EAC-310:** 3-pin male receptacle, similar to EAC-309 except higher current rating. **EAC-311:** 3-pin male receptacle with FASTON terminals. Mounts from front or rear of panel with two #5 screws or .125" diameter rivets (not supplied). **EAC-312:** 3-pin male receptacle, similar to EAC-311, except with a higher current rating. **EAC-306:** 3-contact female receptacle; front mount with two #4 screws or .094" rivets (not supplied).

Stock No.	Mfr.'s Type	Rating	Mating Power Cord	EACH 1-9	EACH 10-24
932-0093	EAC-303	6 A, 250 VAC	523, 535, 545, 537, 538	1.72	1.33
932-0099	EAC-309	6 A, 250 VAC	523, 535, 545, 537, 538	1.38	1.01
932-0100	EAC-310	15 A, 250 VAC	546, 539, 540, 523, 535	1.38	1.01
932-0101	EAC-311	6 A, 250 VAC	545, 537, 538	1.38	1.01
932-0102	EAC-312	15 A, 250 VAC	546, 539, 540	1.38	1.01
932-0096	EAC-306	15 A, 250 VAC	551, 552	1.98	1.46

Male and Female "Q-G" Miniature Connectors


TA5FL


TA5M

TY5F

TB4M

Similar to the standard "Q-G" Connectors Plugs and receptacles offer up to 5 contacts. Neoprene cable strain relief. Die cast or precision machined with nickel finish. Receptacles mate with all miniature connectors.

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-1200	TA3F	Connector, female plug 3 contacts	5.20	4.45
932-1201	TA3FL	Connector, female plug, locking 3 cont	5.10	4.37
932-1202	TA4F	Connector, female plug 4 contacts	5.67	4.85
932-1203	TA4FL	Connector, female plug, locking 4 cont	5.67	4.85
932-1204	TA5F	Connector, female plug 5 contacts	6.10	5.22
932-1205	TA5FL	Connector, female plug, locking 5 cont	6.10	5.22
932-1206	TA3M	Connector, male plug 3 contacts	4.33	3.71
932-1207	TA3ML	Connector, male plug, locking 3 cont	4.33	3.71
932-1208	TA4M	Connector, male plug 4 contacts	4.73	4.06
932-1209	TA4ML	Connector, male plug, locking 4 cont	4.73	4.06
932-1210	TA5M	Connector, male plug 5 contacts	5.23	4.48
932-1211	TA5ML	Connector, male plug, locking, 5 cont	5.23	4.48
932-1212	TY3F	Connector, female panel receptacle 3 cont	5.90	5.06
932-1213	TY4F	Connector, female panel receptacle 4 cont	6.40	5.49
932-1214	TY5F	Connector, female panel receptacle 5 cont	6.83	5.86
932-1215	TB3M	Connector, male panel receptacle 3 cont	6.47	5.54
932-1216	TB4M	Connector, male panel receptacle 4 cont	5.27	4.51
932-1217	TB5M	Connector, male panel receptacle 5 cont	5.73	4.91

6

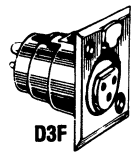
Male and Female Audio Connectors

Plugs and receptacles offer up to 5-contact versatility by means of up to four circuit contacts plug electrically integrated ground terminal on shell. Neoprene cable strain relief bushing keyed to shell; ribbed for easy access to male plugs. Die-cast zinc alloy with satin-nickel finish. Receptacles will mate with all standard audio connectors. Right angle configuration reduces "cable clutter." 2 oz.

A3M

B3M

C3F


D3F

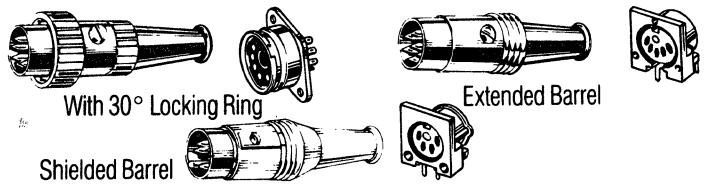
R3F

2501F

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-1027	A3F	Connector, female plug 3 contacts	4.92	4.22
932-1028	A3FB	Connector, female plug 3 contacts (Black)	5.36	4.02
932-1029	A3M	Connector, male plug 3 pins	4.14	3.08
932-1030	A3MB	Connector, male plug 3 pins (Black)	4.78	4.24
932-0008	B3F	Connector, female panel receptacle with spanner nut 3 pins	10.28	7.71
932-0009	B3M	Connector, male panel receptacle with locknut 3 pins	6.64	5.08
932-0011	C3F	Connector, female panel receptacle, 3 contacts	6.28	4.71
932-0012	C3M	Connector, male panel receptacle with screws 3 pins	4.56	3.27
932-1044	D3F	Connector, female panel receptacle, 3 contacts	5.10	3.85
932-0016	D3M	Connector, male panel receptacle with screws 3 pins	3.96	3.02
932-0160	R3F	Connector, right angle female plug, 3 contacts	12.62	9.44
932-0161	R3M	Connector, right angle male plug, 3 pins	10.52	7.95

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-1040	A4F	Connector, female plug 4 contacts	6.38	4.81
932-1041	A4M	Connector, male plug 5 pins	4.74	3.58
932-0044	C4F	Connector, female panel receptacle, 4 contacts	7.96	5.97
932-0045	C4M	Connector, male panel receptacle with screws, 4 pins	4.98	3.71
932-0037	D4F	Connector, female panel receptacle, 4 contacts	7.38	5.56
932-0038	D4M	Connector, male panel receptacle with screws, 4 pins	4.66	3.47
932-0017	A5F	Connector, female plug 5 pins	10.38	7.91
932-0018	A5M	Connector, male plug 5 pins	8.26	6.32
932-0046	C5F	Connector, female panel receptacle, 5 contacts	13.50	10.10
932-0047	C5M	Connector, male panel receptacle with screws, 5 pins	8.86	6.62
932-1045	2501F	Connector, small female MIC with coupling ring	2.94	2.60

DIN Plugs and Sockets



DIN is the name given to this high-quality family of versatile miniature audio connectors. Features include solder lug or PC terminations, as well as bright nickel-plated or colorful plastic snap-on shells. Designed for audio circuitry, they are also ideal for test equipment, computers and other types of low level circuits. Precision manufactured. The parts listed are a small representation of a large and growing family. Call the closest sales office for parts not shown.

Right Angle Receptacles for PC Mounting

Shielded

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-0183	57PC5FS	Mates with 3 or 5 pins, 5 contacts at 180°	2.98	2.21
932-0198	62PC8FS	Mates with 8 pins, 8 contacts at 270°	3.78	2.81

Unshielded

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-0200	57PC5F	Mates with 3 or 5 pins, 5 contacts at 180°	2.42	1.79
932-0201	61PC5F	Mates with 5 pins, 5 contacts at 240°	2.42	1.79
932-0202	62PC8F	Mates with 8 pins, 8 contacts at 270°	3.42	2.54

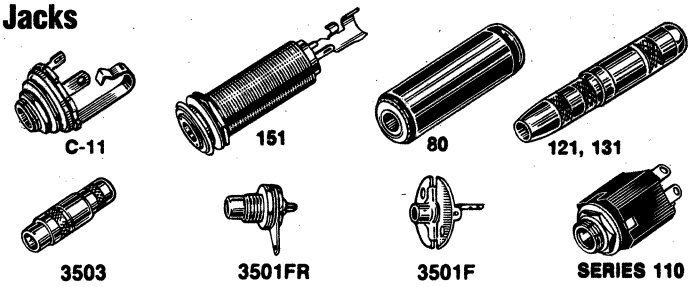
Straight Cord Plugs

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-0153	05CL3M	With 30° locking ring, 3 pins at 180°	4.55	3.53
932-0154	05CL5M	With 30° locking ring, 5 pins at 180°	5.82	4.34
932-0166	12CL5M	With 30° locking ring, 5 pins at 240°	5.54	4.13
932-0156	05GM3M	Shielded barrel, 3 pins at 180°	2.26	1.67
932-0157	05GM5M	Shielded barrel, 5 pins at 180°	3.06	2.76
932-0165	12GM5M	Shielded barrel, 5 pins at 240°	3.06	2.76
932-0167	12GM6M	Shielded barrel, 6 pins at 240°	3.46	2.57
932-0168	15GM7M	Shielded barrel, 7 pins at 270°	3.66	2.72
932-0178	15GM8M	Shielded barrel, 8 pins at 270°	3.86	2.87
932-0162	05BL3M	Extended barrel, 3 pins at 180°	2.44	1.98
932-0155	05BL5M	Extended barrel, 5 pins at 180°	3.26	2.47
932-0164	12BL5M	Extended barrel, 5 pins at 240°	3.46	2.57
932-0163	12BL6M	Extended barrel, 6 pins at 240°	3.66	2.72
932-0169	15BL8M	Extended barrel, 8 pins at 270°	4.02	2.99

Straight Receptacles * Flaired solder terminals

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
932-0182	57HA3F	For locking ring plugs, 3 contacts at 180°	2.18	1.61
932-0185	57HA5F	For locking ring plugs, 5 contacts at 180°	2.42	1.79
932-0186	57HB5F*	For locking ring plugs, 5 contacts at 180°	2.42	1.79
932-0188	61HA5F	For locking ring plugs, 5 contacts at 240°	2.58	1.91
932-0187	57GB3F	For shielded and extended barrel plugs, 3 contacts at 180°	1.70	1.17
932-0181	57GB5F	For shielded and extended barrel plugs, 5 contacts at 180°	2.02	1.49
932-0195	61GA5F	For shielded and extended barrel plugs, 5 contacts at 240°	1.82	1.34
932-0196	61GB6F	For shielded and extended barrel plugs, 6 contacts at 240°	2.14	1.58
932-0197	62GB7F	For shielded and extended barrel plugs, 7 contacts at 270°	2.18	1.61
932-0199	62GB8F	For shielded and extended barrel plugs, 8 contacts at 270°	2.86	2.12

Jacks



'Littel-Jax' Phone Jacks

Mate with standard .25″ (6.35mm) or .21″ (5.33mm) phone plugs. Notched insulating washers. Mounts in single .375″ (9.52mm) hole, panels up to .156″ (3.96mm) thick, except types L-11 and L-12A in panels up to .25″ (6.35mm) thick.

Stock No.	Mfr.'s Type	Number of Conductors	Mating Plug	Description	EACH 1-9	10-24	25-99	100-249
932-1001	11	2	250	open circuit	1.50	1.38	1.27	1.17
932-0013	C-11	2	440, 445, 470	with locating pin	1.96	1.47	1.35	1.23
932-0023	L-11	2	250	.375″ lg. bushing	1.48	1.11	1.02	0.93
932-0033	S-11	2	S-250	.210″ I.D. bushing	1.44	1.08	0.99	0.90
932-1002	12A	2	250	tip shunt	1.54	1.23	1.13	1.03
932-0014	C-12A	2	440, 445, 470	M641/12-1	2.68	1.96	1.86	1.76
932-0024	L-12A	2	250	.375″ lg. bushing	1.58	1.45	1.34	1.23
932-0050	13	2	250	isolated "make" circuit	3.62	2.69	2.46	2.36
932-0051	13A	2	250	transfer circuit	3.70	2.75	2.51	2.46
932-0055	13E	2	250	isolated "break" circuit	3.92	2.90	2.65	2.55
932-0042	12B	3	267	double open cicuit	1.62	1.19	1.08	0.98
932-0015	C-12B	3	480	M641/5-1	3.08	2.26	2.08	1.98
932-0025	L-12B	3	267	.375″ lg. bushing	1.56	1.40	1.26	1.14
932-0035	S-12B	3	480	.21″ I.D. bushing	2.30	1.75	1.62	1.48
932-0052	13B	3	267	tip shunt	3.78	2.81	2.57	2.47
932-1003	14B	3	267	double closed circuit	3.98	3.06	2.81	2.71

Jack Covers

Spring loaded phone jack covers seal jack openings when phone plug is removed. Use with standard 3/8″-32 threaded bushing type phone jacks.

932-1280	512	—	—	bright nickel	5.70	4.25	3.89	3.53
932-1283	515	—	—	black	5.82	4.34	3.97	3.60

'Thick-Panel Jax'

Brass, nickel-plated phone jacks with long bushing. Mounts in .469″ (11.91mm) dia. hole in panels up to 1.25″ (31.75mm) thick. Solder lug terminals.

932-1009	151	2	240,245,250 255,270,280	Standard .25″	4.90	3.75	3.34	3.06
932-1010	152B	3	260,267,269 297,260,267	Standard .25″	5.42	4.04	3.70	3.60

Cable 'Extension Jax'

Standard .25″ (6.35mm) extension phone jacks. **Size:** .688″ (17.48mm) O.D.; 2156″ (54.76mm) lg.; **Types 121 and 131:** .5″ (12.7mm) O.D., 2.5″ (63.5mm) lg. Shielded handles are brass, bright nickel plated. Black handles are plastic.

932-1006	80	2	240	screw term., black handle	4.14	3.66	3.30	3.15
932-1007	120	2	270	screw term., shielded	5.42	4.04	3.70	3.60
932-1008	121	2	280	solder term.,shielded	5.42	4.04	3.70	3.60
932-0065	125	2	740,745,750	solder term., shielded	4.38	3.26	2.98	2.88
932-0071	131	3	297	solder term., shielded	6.78	5.06	4.63	4.53
932-0083	830	3	260	screw term., black handle	5.78	4.41	4.04	3.68
932-0123	1238	3	297	solder term., shielded	6.14	4.68	4.29	3.90

'Hi-D Jax' Enclosed Phone Jacks

Mate with standard .25″ (6.35mm) phone plugs. Molded body protects integral silver-plated springs. Mounts on .625″ (15.88mm) center in single .375″ (9.52mm) hole in panels up to .156″ (3.96mm) thick.

932-9390	111	2	250	open circuit	1.42	1.14	1.04	0.95
932-9400	N-111	2	250	molded nylon bushing	1.66	1.22	1.11	1.01
932-9391	112A	2	250	closed cicuit	1.46	1.17	1.07	0.99
932-9392	N-112A	2	250	molded nylon bushing	1.66	1.22	1.11	1.01
932-9393	112B	3	267	double open circuit	1.50	1.19	1.09	1.00
932-9394	N-112B	3	267	molded nylon bushing	1.78	1.51	1.31	1.19
932-9395	113B	3	267	single closed circuit	1.98	1.71	1.46	1.33
932-9396	N-113B	3	267	molded nylon bushing	2.26	1.98	1.71	1.52
932-9397	114B	3	267	double closed circuit	2.16	1.88	1.61	1.49
932-9398	N-114B	3	267	molded nylon bushing	2.38	2.08	1.81	1.62

'Tini-Jax' Miniature Phone Jacks

Miniature phone jacks approximately 1/3 the size of Littel-Jax jack, otherwise similar in construction. Mounts in .25″ (6.35mm) dia. hole; panels up to .125″ (3.18mm) thick.

932-9403	712A	2	760, 765	with shunted sleeve	1.54	1.13	1.03	0.93
932-9405	722A	2	S-760, S-765	with shunted sleeve	1.54	1.13	1.03	0.93

'Micro-Jax' Subminiature Phone Jacks

Silver plated, special tempered nickel silver springs. Fits .190″ (4.83mm) dia. hole in panels to .094″ (2.39mm) thick. Only 1/25th the isze of standard phone jacks.

932-9404	TR-2A	2	850, 880	closed circuit	1.94	1.43	1.30	1.18

'Power Jax'

Mounts in .312″ (7.92mm) dia. hole in panels up to .125″ (3.18mm) thick. max. Silver-plated solder lug terminals standard. Recessed center pin .100″ (2.54mm) diameter.

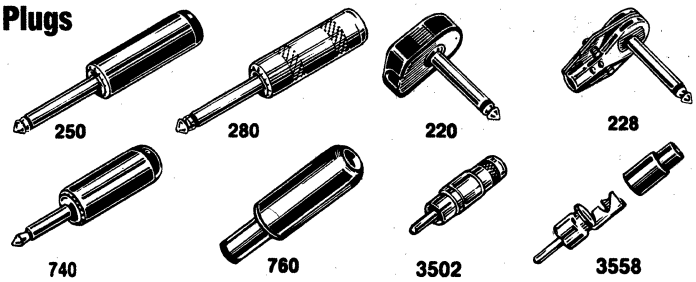
932-9403	712A	2	760, 765	with shunted sleeve	2.46	1.82	1.66	1.50
932-9405	722A	2	S-760, S-765	with shunted sleeve	2.46	1.82	1.66	1.50

Miniature Power Receptacles

Ideal as the power receptacle for portable radios, tape recorders, and battery chargers. Rated 12 VDC, 500 MADC or 125 VAC, 7 Amp.

252-9999	HTJ020-03B	2	760, 765	—	0.27	0.24	0.20	0.17

Plugs



'Littel-Plug' Phone Plugs

Fit standard .25″ (6.35mm) phone jacks. Solder terminal plugs have built-in cable clamp. **Shielded metal handles are nickel-plated brass or durable molded plastic:** 1.688″ (42.88mm) long × .5″ (12.7mm) dia. **Max. cable diameter:** 2.97″ (7.54mm).

Stock No.	Mfr.'s Type	Number of Conductors	Handle	Terminals	EACH 1-9	10-24	25-99	100-249
932-1014	240	2	black	screw	2.58	2.28	2.10	1.93
932-0945	245	2	red	screw	2.58	2.28	2.10	1.93
932-1015	250	2	black	solder lugs	2.58	2.28	2.10	1.93
932-0955	255	2	red	solder lugs	2.46	1.82	1.76	1.54
932-1018	270	2	shielded	screw	3.94	3.03	2.78	2.67
932-1019	280	2	shielded	solder lugs	3.14	2.33	2.13	2.03
932-0950	S-250	2	black	solder lugs	2.58	1.91	1.74	1.69
932-0980	S-280	2	shielded	solder lugs	3.58	2.76	2.53	2.30
932-1016	260	3	black	screw	4.18	3.11	2.84	2.58
932-0960	S-260	3	black	screw	5.54	4.13	3.78	3.52
932-1017	267	3	black	solder lugs	3.70	2.75	2.51	2.28
932-0969	269	3	red	solder lugs	3.75	2.85	2.61	2.38
932-1020	290	3	shielded	screw	4.78	3.56	3.26	3.07
932-0997	297	3	shielded	solder lugs	5.60	4.20	3.85	3.50

Two Conductor Phone Plugs for 'Littel Jax' No. 11

932-0040	40	2	black	screw	3.34	2.48	2.27	2.09
932-0070	70	2	shielded	screw	4.66	3.47	3.17	2.89
932-0170	170	2	shielded	screw	5.56	4.17	3.82	3.59

Three Conductor Phone Plugs for 'Littel Jax' No. 12B

932-0060	60	3	black	solder	3.94	2.93	2.68	2.45
932-9191	190A	3	shielded	solder	6.50	4.85	4.44	4.03

'Flat-Plug' Phone Plugs

.25″ (6.35mm) phone plugs have flat, space-savings handles.

932-0220	220*	2	black	screw	3.66	2.72	2.49	2.29
932-0227	227*	2	black	solder	2.78	2.06	1.88	1.76
932-1013	228*	2	shielded	solder	3.34	2.48	2.27	2.17
932-0230	230†	3	black	screw	4.54	3.38	3.09	2.90
932-0237	237†	3	black	solder	4.30	3.95	3.20	2.90
932-0238	238†	3	shielded	solder	4.62	4.02	3.44	3.15

* Mates with No.11. †Mates with No. 12B.

Tini-Plug Miniature Phone Plugs

For use with Tini-Jax jacks. 1/3 size of standard phone plugs. Overall length, 1.609″ (40.87mm). **Handles:** plastic or nickel-plated brass. **Max. cable diameter:** .218″ (5.54mm).

932-1022	740	2	black	screw	2.26	1.76	1.52	1.38
932-0745	745	2	red	screw	2.26	1.76	1.52	1.38
932-0750	750	2	black	solder	2.18	1.61	1.47	1.33
932-0755	755	2	red	solder	2.18	1.61	1.47	1.33
932-1023	770	2	shielded	screw	3.22	2.39	2.18	1.98
932-0780	780	2	shielded	solder	3.10	2.76	2.54	2.34

Micro-Plug Subminiature Phone Plug

Only 1.106″ (25.81mm) long; .25″ (6.35mm) O.D., .097″ (2.46mm) diameter sleeve. Screw-on anodized aluminum handles. For cables up to .125″ (3.28mm) diameter. Integral cable clamps mates with TR-2A.

932-1024	850	2	black	—	2.12	1.64	1.50	1.35
932-0855	855	2	red	—	2.12	1.64	1.50	1.35
932-0880	880	2	natural	—	2.12	1.64	1.50	1.35

'Power-Plug' Battery Charger Plugs

Mates with sockets used on transistorized portable radios, tape recorders, appliances which have AC adapters, and/or battery chargers. .218″ (5.54mm) O.D. × .375″ (9.53mm) long sleeve. An .062″ (1.57mm) wide insulator. Ring at tip of sleeve insulates and recesses a hollow pin conductor with a center hole of .100″ (2.54mm) I.D.

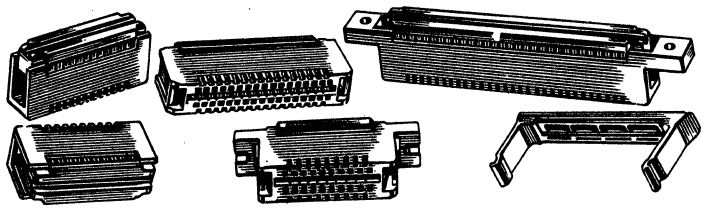
932-0760	760	2	black	solder lugs	2.46	1.82	1.66	1.50
932-0765	765	2	red	solder lugs	2.46	1.82	1.66	1.50

Phono Jacks and Plugs

Type 3501FP for front panel mount in .25″ (6.35mm) holes in panels up to .125″ thick. **Type 3501FR** for rear panel mount in .375″ hole in panels up to .203″ thick. **Type 3502** has unique cable clamp with .406″ O.D. shielded removable handle. **Type 3503** extension jack has shielded removable handle .406″ O.D. with cable clamp. Series 3558 are phono plugs with cable clamp and 'snap-on' color-coded plastic handles in red, black, and white.

Stock No.	Mfr.'s Type	Number of Conductors	Description	EACH 1-9	10-24	25-99	100-Up
932-1011	3501F	2	phono jack	1.06	0.98	0.90	0.83
932-3502	3501FP	2	front of panel jack	0.94	0.76	0.69	0.65
932-3503	3501FR	2	rear mount jack	1.26	0.92	0.84	0.75
932-1025	3502	2	shielded plug	1.42	1.04	0.95	0.85
932-1012	3503	2	extension plug	2.06	1.52	1.49	1.37
932-1098	3558-1	2	red plug	1.02	0.84	0.75	0.69
932-1099	3558-2	2	black plug	1.02	0.84	0.75	0.69
932-1097	3558-5	2	white plug	1.02	0.84	0.75	0.69

Card Edge Connectors



Ansley® Card Edge Connectors are designed to provide a high-performance flat cable interface to double-sided printed circuit boards. A variety of mounting options provide for application versatility. **SPECIFICATIONS. Insulation Material:** Glass reinforced thermo-plastic, rated 94 V-O. **Contact Material:** Beryllium copper. **Contact Plating:** Gold over nickel. **Current Rating:** 1 A. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **DWV:** >500 V rms (Sea level). **Temperature Rating:** −55° to +125°C. **Color:** Blue.

With Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	EACH 1-24	EACH 25-99	EACH 100-Up
515-1000	622-1005	10	2.52	2.34	1.76
515-1005	622-2005	20	4.09	3.80	2.85
515-1010	622-2605	26	4.60	4.28	3.21
515-1015	622-3405	34	5.63	5.24	3.93
515-1020	622-4005	40	6.58	6.12	4.59
515-1025	622-5005	50	7.14	6.64	4.98
515-1030	622-6005	60	9.09	8.18	6.29

With Half Mounting Ears

515-1100	622-1025	10	2.52	2.34	1.76
515-1105	622-2025	20	4.09	3.80	2.85
515-1110	622-2625	26	4.60	4.28	3.21
515-1115	622-3425	34	5.63	5.24	3.93
515-1120	622-4025	40	6.58	6.12	4.59
515-1125	622-5025	50	7.14	6.64	4.98
515-1130	622-6025	60	9.09	8.18	6.29

Without Mounting Ears

515-1200	622-1015	10	2.52	2.34	1.76
515-1205	622-2015	20	4.09	3.80	2.85
515-1210	622-2615	26	4.60	4.28	3.21
515-1215	622-3415	34	5.63	5.24	3.93
515-1220	622-4015	40	6.58	6.12	4.59
515-1225	622-5015	50	7.14	6.64	4.98
515-1230	622-6035	60	9.09	8.18	6.29

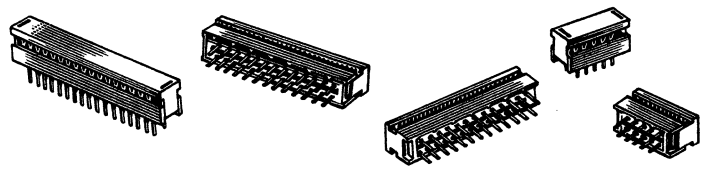
Strain Reliefs

Stock No.	Mfr.'s Type	Contact Style	EACH 1-24	EACH 25-99	EACH 100-Up
515-1300	622-1035	10	0.32	0.30	0.23
515-1305	622-2035	20	0.32	0.30	0.23
515-1310	622-2635	26	0.32	0.30	0.23
515-1315	622-3435	34	0.43	0.40	0.30
515-1320	622-4035	40	0.43	0.40	0.30
515-1325	622-5035	50	0.43	0.40	0.30
515-1328	622-6035	60	0.43	0.40	0.30

Polarizing Key

For 622-1005, 1015 and 1025. Series Card Edge Connectors
515-1330. Type 622-0005 ..... **EACH 0.07**

Slimline PCB Solder Transition Connectors



Design Characteristics

- **Available In Solder Tail Lengths For .062" (1.57mm) or .125" (3.18mm) Board Thicknesses**
- **Narrower In Width Than Standard Ansley® PCB Solder Transition Connectors; Designed To Fit Into A Standard .100 x 100" (2.54 x 2.54mm) Male Header Grid Pattern**
- **Ridges In Connector Top Align With Ansley® Flat Cable**
- **PCB Connectors Are Soldered For Permanent Flat Cable Transition From Printed Circuit Boards**

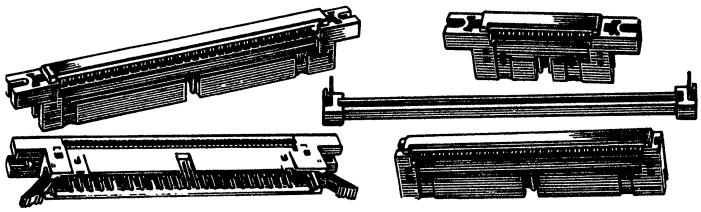
For .062" (1.57mm) PC Boards

Stock No.	Mfr.'s Type	Number of Positions	EACH 1-24	EACH 25-99	EACH 100-Up
515-0005	622-1053	10	1.00	0.90	0.69
515-0010	622-2053	20	2.00	1.80	1.38
515-0015	622-2653	26	2.56	2.30	1.77
515-0020	622-3453	34	3.36	3.02	2.33
515-0025	622-4053	40	3.91	3.52	2.71
515-0030	622-5053	50	4.82	4.34	3.34

For .125" (3.17mm) PC Boards

515-0100	622-1063	10	1.48	1.38	1.03
515-0105	622-2063	20	1.72	1.60	1.20
515-0110	622-2663	26	2.24	2.08	1.56
515-0115	622-3463	34	2.70	2.52	1.89
515-0120	622-4063	40	2.44	2.20	1.69
515-0125	622-5063	50	3.89	3.62	2.71

Male Connectors



Ansley® Male Connectors are designed to mate with female socket transition connectors. Used primarily for in-line cable splice and "T" tap applications, they are available with optional mounting ears for I/O applications, as well as optional retainer/ejector latches for ease of disconnect. **SPECIFICATIONS. Insulation Material:** Glass reinforced thermo-plastic, rated 94 V-O. **Contact Material:** Beryllium copper. **Contact Plating:** Gold over nickel. **Current Rating:** 1 A. **Insulation Resistance:** $>1 \times 10^9$ Ohms @ 500 VDC. **DWV:** >500 V rms (Sea level). **Temperature Rating:** −55° to +125°C. **Color:** Blue.

Without Mounting Ears

Stock No.	Mfr.'s Type	Number of Positions	EACH 1-24	EACH 25-99	EACH 100-Up
515-0600	622-1006	10	4.84	4.50	3.38
515-0605	622-2006	20	5.50	5.12	3.84
515-0610	622-2606	26	6.04	5.62	4.22
515-0615	622-3406	34	6.90	6.42	4.82
515-0620	622-4006	40	7.61	7.08	5.31
515-0625	622-5006	50	8.79	8.18	6.14

With Half Mounting Ears

515-0650	622-1016	10	4.84	4.50	3.38
515-0655	622-2016	20	5.50	5.12	3.84
515-0660	622-2616	26	6.04	5.62	4.22
515-0665	622-3416	34	6.90	6.42	4.82
515-0670	622-4016	40	7.61	7.08	5.31
515-0675	622-5016	50	8.79	8.18	6.14

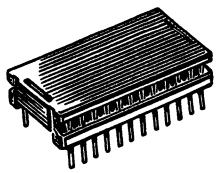
Strain Reliefs and Misc. Accessories

Stock No.	Mfr.'s Type	Contact Style	EACH 1-24	EACH 25-99	EACH 100-Up
515-0692	622-1066	10	0.44	0.40	0.31
515-0693	622-2066	20	0.44	0.40	0.31
515-0694	622-2666	26	0.26	0.24	0.18
515-0695	622-3466	34	0.55	0.50	0.38
515-0696	622-4066	40	0.56	0.50	0.38
515-0697	622-5066	50	0.56	0.50	0.38

Polarizing Key

515-0603. Type 622-0056p ..... **EACH 0.07**

Low Profile DIP Plugs With Heavy Duty Pins

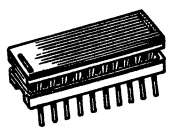


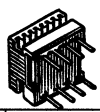
Description/Application

Ansley® Low Profile DIP Plug Connectors are primarily used as a disconnectable interface to DIP sockets. Dip plugs with heavy duty contacts are used in disconnect applications with DIP sockets. DIP Plugs with tin plated contacts provide a permanent flatcable transition to printed circuit boards.

Design Characteristics

- **Low Profile Design**
- **Available In 9 Contact Sizes 8-48 In Both Heavy Duty and Tin Plated Versions**
- **One-Piece Connector Design With Mechanical Side Latches**
- **Strain Relief Available For 24 and 40 Position Configurations**
- **Ridges In Connector Top Align With Ansley® Flat Cable**





With Gold Plated Pins

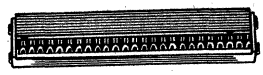
Stock No.	Mfr.'s Type	Number of Leads	EACH 1-99	EACH 100-499	EACH 500-Up
515-7500	609-M085H	8	1.38	1.28	0.96
515-7503	609-M145H	14	1.48	1.38	1.04
515-7505	609-M165H	16	1.68	1.56	1.17
515-7510	609-M185H	18	2.04	1.90	1.43
515-7515	609-M205H	20	2.37	2.20	1.65
515-7520	609-M225H	22	2.67	2.48	1.86
515-7525	609-M245H	24	2.73	2.54	1.91
515-7530	609-M407H	40	4.45	4.14	3.11

Tin-Plated Pins

515-7540	609-M085TH	8	1.23	1.11	0.85
515-7542	609-M145TH	14	1.36	1.22	0.94
515-7544	609-M165TH	16	1.49	1.34	1.03
515-7548	609-M205TH	20	2.22	1.99	1.54
515-7552	609-M245TH	24	2.42	2.18	1.68
515-7554	609-M407TH	40	3.78	3.40	2.62

Female Socket Transition Connectors

- ► Positive Cable Stop Version
- ► Polarization Keyways Standard
- ► 30μ" (Minimum gold plating on the contact mating area)



Standard Socket With Positive Cable Stop

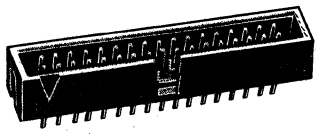
Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0800	609-1000CE	10	2.00	1.80	1.38
515-0805	609-1600CE	16	2.64	2.38	1.83
515-0810	609-2000CE	20	2.93	2.64	2.03
515-0815	609-2600CE	26	3.78	3.40	2.62
515-0820	609-3400CE	34	4.93	4.44	3.42
515-0825	609-4000CE	40	5.76	5.18	3.98
515-0830	609-5000CE	50	7.24	6.52	5.02
515-0835	609-6000CE	60	8.91	8.02	6.17

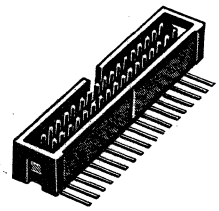
Polarized Socket With Positive Cable Stop

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0850	609-1030CE	10	2.00	1.80	1.38
515-0855	609-1630CE	16	2.64	2.38	1.83
515-0860	609-2030CE	20	2.93	2.64	2.03
515-0865	609-2630CE	26	3.78	3.40	2.62
515-0870	609-3430CE	34	4.93	4.44	3.42
515-0875	609-4030CE	40	5.76	5.18	3.98
515-0880	609-5030CE	50	7.24	6.52	5.02
515-0885	609-6030CE	60	8.91	8.02	6.17

6

Ansley® Standard PCB Male Headers





These headers mate with socket transition connectors with center polarization tab as well as dual bump polarization female socket transition connectors. Parts with an "E" suffix have ears for female sockets without strain relief. Parts with an "ES" suffix have ears for female sockets with strain relief.

Right Angle Contacts

Stock No.	Mfr.'s Type	Number of Positions	Fits In.	PCB MM	EACH		
					1-24	25-99	100-499
515-1500	609-1004	10	.062"	1.57	1.62	1.46	1.12
515-1502	609-1004E	10	.062"	1.57	2.00	1.80	1.38
515-1504	609-1004ES	10	.062"	1.57	2.00	1.80	1.38
515-1506	609-1404	14	.062"	1.57	1.78	1.60	1.23
515-1508	609-1404E	14	.062"	1.57	2.20	1.98	1.52
515-1510	609-1404ES	14	.062"	1.57	2.20	1.98	1.52
515-1512	609-1604	16	.062"	1.57	1.84	1.66	1.28
515-1514	609-1604E	16	.062"	1.57	2.22	2.00	1.54
515-1516	609-1604ES	16	.062"	1.57	2.22	2.00	1.54
515-1518	609-2004	20	.062"	1.57	1.98	1.78	1.37
515-1520	609-2004E	20	.062"	1.57	2.40	2.16	1.66
515-1522	609-2004ES	20	.062"	1.57	2.40	2.16	1.66
515-1524	609-2604	26	.062"	1.57	2.47	2.22	1.71
515-1526	609-2604E	26	.062"	1.57	2.91	2.62	2.02
515-1528	609-2604ES	26	.062"	1.57	2.91	2.62	2.02
515-1530	609-3404	34	.062"	1.57	3.20	2.88	2.22
515-1532	609-3404E	34	.062"	1.57	3.58	3.22	2.48
515-1534	609-3404ES	34	.062"	1.57	3.58	3.22	2.48
515-1536	609-4004	40	.062"	1.57	3.64	3.28	2.52
515-1538	609-4004E	40	.062"	1.57	4.04	3.64	2.80
515-1540	609-4004ES	40	.062"	1.57	4.04	3.64	2.80
515-1542	609-5004	50	.062"	1.57	4.38	3.94	3.03
515-1544	609-5004E	50	.062"	1.57	4.82	4.34	3.34
515-1546	609-5004ES	50	.062"	1.57	4.82	4.34	3.34
515-1548	609-1014	10	.125"	3.18	1.76	1.58	1.22
515-1550	609-1014E	10	.125"	3.18	2.13	1.92	1.48
515-1552	609-1014ES	10	.125"	3.18	2.13	1.92	1.48
515-1554	609-1414	14	.125"	3.18	1.87	1.68	1.29
515-1556	609-1414E	14	.125"	3.18	2.31	2.08	1.60
515-1558	609-1414ES	14	.125"	3.18	2.31	2.08	1.60
515-1560	609-1614	16	.125"	3.18	1.96	1.76	1.35
515-1562	609-1614E	16	.125"	3.18	2.36	2.12	1.63
515-1564	609-1614ES	16	.125"	3.18	2.36	2.12	1.63
515-1566	609-2014	20	.125"	3.18	2.16	1.94	1.49
515-1568	609-2014E	20	.125"	3.18	2.60	2.34	1.80
515-1570	609-2014ES	20	.125"	3.18	2.60	2.34	1.80
515-1572	609-2614	26	.125"	3.18	2.67	2.40	1.85
515-1574	609-2614E	26	.125"	3.18	3.11	2.80	2.15
515-1576	609-2614ES	26	.125"	3.18	3.11	2.80	2.15
515-1578	609-3414	34	.125"	3.18	3.42	3.08	2.37
515-1580	609-3414E	34	.125"	3.18	3.87	3.48	2.68
515-1582	609-3414ES	34	.125"	3.18	3.87	3.48	2.68
515-1584	609-4014	40	.125"	3.18	3.89	3.50	2.69
515-1586	609-4014E	40	.125"	3.18	4.36	3.92	3.02
515-1588	609-4014ES	40	.125"	3.18	4.36	3.92	3.02
515-1590	609-5014	50	.125"	3.18	4.71	4.24	3.26
515-1592	609-5014E	50	.125"	3.18	5.36	4.82	3.71
515-1594	609-5014ES	50	.125"	3.18	5.36	4.82	3.71

Straight Contacts

Stock No.	Mfr.'s Type	Number of Positions	Fits In.	PCB MM	EACH		
					1-24	25-99	100-499
515-1600	609-1024	10	.062"	1.57	1.62	1.46	1.12
515-1602	609-1024E	10	.062"	1.57	2.00	1.80	1.38
515-1604	609-1024ES	10	.062"	1.57	2.00	1.80	1.38
515-1606	609-1424	14	.062"	1.57	1.78	1.60	1.23
515-1608	609-1424E	14	.062"	1.57	2.20	1.98	1.52
515-1610	609-1424ES	14	.062"	1.57	2.20	1.98	1.52
515-1612	609-1624	16	.062"	1.57	1.84	1.66	1.28
515-1614	609-1624E	16	.062"	1.57	2.22	2.00	1.54
515-1616	609-1624ES	16	.062"	1.57	2.22	2.00	1.54
515-1618	609-2024	20	.062"	1.57	1.98	1.78	1.37
515-1620	609-2024E	20	.062"	1.57	2.40	2.16	1.66
515-1622	609-2024ES	20	.062"	1.57	2.40	2.16	1.66
515-1624	609-2624	26	.062"	1.57	2.47	2.22	1.71
515-1626	609-2624E	26	.062"	1.57	2.91	2.62	2.02
515-1628	609-2624ES	26	.062"	1.57	2.91	2.62	2.02
515-1630	609-3424	34	.062"	1.57	3.20	2.88	2.22
515-1632	609-3424E	34	.062"	1.57	3.58	3.22	2.48
515-1634	609-3424ES	34	.062"	1.57	3.58	3.22	2.48
515-1636	609-4024	40	.062"	1.57	3.64	3.28	2.52
515-1638	609-4024E	40	.062"	1.57	4.04	3.64	2.80
515-1640	609-4024ES	40	.062"	1.57	4.04	3.64	2.80
515-1642	609-5024	50	.062"	1.57	4.38	3.94	3.03
515-1644	609-5024E	50	.062"	1.57	4.82	4.34	3.34
515-1646	609-5024ES	50	.062"	1.57	4.82	4.34	3.34
515-1648	609-1034	10	.125"	3.18	1.76	1.58	1.22
515-1650	609-1034E	10	.125"	3.18	2.13	1.92	1.48
515-1652	609-1034ES	10	.125"	3.18	2.13	1.92	1.48
515-1654	609-1434	14	.125"	3.18	1.87	1.68	1.29
515-1656	609-1434E	14	.125"	3.18	2.31	2.08	1.60
515-1658	609-1434ES	14	.125"	3.18	2.31	2.08	1.60
515-1660	609-1634	16	.125"	3.18	1.96	1.76	1.35
515-1662	609-1634E	16	.125"	3.18	2.36	2.12	1.63
515-1664	609-1634ES	16	.125"	3.18	2.36	2.12	1.63
515-1666	609-2034	20	.125"	3.18	2.16	1.94	1.49
515-1668	609-2034E	20	.125"	3.18	2.60	2.34	1.80
515-1670	609-2034ES	20	.125"	3.18	2.60	2.34	1.80
515-1672	609-2634	26	.125"	3.18	2.67	2.40	1.85
515-1674	609-2634E	26	.125"	3.18	3.11	2.80	2.15
515-1676	609-2634ES	26	.125"	3.18	3.11	2.80	2.15
515-1678	609-3434	34	.125"	3.18	3.42	3.08	2.37
515-1680	609-3434E	34	.125"	3.18	3.87	3.48	2.68
515-1682	609-3434ES	34	.125"	3.18	3.87	3.48	2.68
515-1684	609-4034	40	.125"	3.18	3.89	3.50	2.69
515-1686	609-4034E	40	.125"	3.18	4.36	3.92	3.02
515-1688	609-4034ES	40	.125"	3.18	4.36	3.92	3.02
515-1690	609-5034	50	.125"	3.18	4.71	4.24	3.26
515-1692	609-5034E	50	.125"	3.18	5.36	4.82	3.71
515-1694	609-5034ES	50	.125"	3.18	5.36	4.82	3.71

Female Socket Connectors

► Polarization Keyways Standard, Polarization Tabs Optional
► Snap-On Strain Reliefs (Optional)
► One-Piece Connector Design With Mechanical Side Latches
► Positive Cable Stop Design
► Ridges In Connector Top Align With Ansley® Flat Cable
► 30 Microinches (Minimum) Gold Plating In Contact Mating Area

Socket Connectors With Strain Relief

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0400	609-1001M	10	2.24	2.08	1.56
515-0405	609-2001M	20	3.10	2.88	2.16
515-0410	609-2601M	26	3.87	3.60	2.70
515-0415	609-3401M	34	5.07	4.72	3.54
515-0420	609-4001M	40	5.87	5.46	4.10
515-0425	609-5001M	50	7.29	6.78	5.09

With Center Polarization Bump

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0700	609-1030	10	2.00	1.80	1.38
515-0705	609-1430	14	2.44	2.20	1.69
515-0710	609-1630	16	2.64	2.38	1.83
515-0715	609-2030	20	2.93	2.64	2.03
515-0720	609-2630	26	3.78	3.40	2.62
515-0725	609-3430	34	4.93	4.44	3.42
515-0730	609-4030	40	5.76	5.18	3.98
515-0735	609-5030	50	7.24	6.52	5.02
515-0740	609-6030	60	8.91	8.02	6.17
515-0745	609-6430	64	9.49	8.54	6.57

Standard W/O Center Polarization Bump

Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0401	609-1000M	10	2.00	1.80	1.38
515-0402	609-1400M	14	2.44	2.20	1.69
515-0404	609-1600M	16	2.64	2.38	1.83
515-0406	609-2000M	20	2.93	2.64	2.03
515-0411	609-2600M	26	3.78	3.40	2.62
515-0416	609-3400M	34	4.93	4.44	3.42
515-0421	609-4000M	40	5.76	5.18	3.98
515-0426	609-5000M	50	7.24	6.52	5.02
515-0431	609-6000M	60	8.91	8.02	6.17
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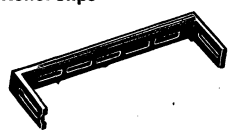
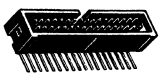
Strain Relief Clips

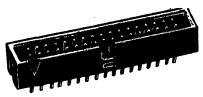


Stock No.	Mfr.'s Type	Number of Positions	EACH		
			1-24	25-99	100-499
515-0435	609-1031HD	10	0.27	0.24	0.18
515-0440	609-1431HD	14	0.27	0.24	0.18
515-0445	609-1631HD	16	0.27	0.24	0.18
515-0450	609-2031HD	20	0.27	0.24	0.18
515-0455	609-2631HD	26	0.27	0.24	0.18
515-0460	609-3431HD	34	0.31	0.28	0.22
515-0465	609-4031HD	40	0.31	0.28	0.22
515-0470	609-5031HD	50	0.31	0.28	0.22
515-0475	609-6031HD	60	0.31	0.28	0.22
515-0480	609-6431	64	0.31	0.28	0.22

6

PCB Male Headers, Low Profile With Lock and Eject Option





Design Characteristics

► Center Polarizaiton Slot Mates With Center Polarization Tab On Ansley® Female Socket Transition Connectors
► 30 Microinches (Minimum) Gold Plating In Contact Mating Area
► Fully-Shrouded (Four-Walled) Header For Maximum Protection Of .025" (.635mm) Square Mating Pins
► Ansley Low-Profile Headers Are Also Available In Ejector/Retainer-Versions, Add Suffix "E" For Headers With Ears To Accommodate Female Socket Without Strain Relief; Add Suffix "ES" For Header With Ears To Accommodate Female Socket With Strain Reliefs.

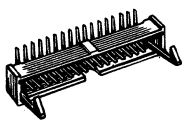
Right Angle Contacts

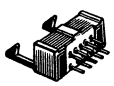
Stock No.	Mfr.'s Type	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-Up
515-0200	609-1007	10	1.57	.062	1.62	1.46	1.12
515-0202	609-1407	14	1.57	.062	1.78	1.60	1.23
515-0204	609-1607	16	1.57	.062	1.84	1.66	1.28
515-0205	609-2007	20	1.57	.062	1.91	1.78	1.34
515-0210	609-2607	26	1.57	.062	2.39	2.22	1.67
515-0215	609-3407	34	1.57	.062	3.10	2.88	2.16
515-0220	609-4007	40	1.57	.062	3.53	3.28	2.46
515-0225	609-5007	50	1.57	.062	4.24	3.94	2.96
515-0226	609-6007	60	1.57	.062	5.33	4.80	3.69
515-0230	609-1017	10	3.18	.125	1.70	1.58	1.19
515-0232	609-1417	14	3.18	.125	1.87	1.68	1.29
515-0234	609-1617	16	3.18	.125	1.96	1.76	1.35
515-0235	609-2017	20	3.18	.125	2.09	1.94	1.46
515-0240	609-2617	26	3.18	.125	2.58	2.40	1.80
515-0245	609-3417	34	3.18	.125	3.31	3.08	2.31
515-0250	609-4017	40	3.18	.125	3.76	3.50	2.63
515-0255	609-5017	50	3.18	.125	4.56	4.24	3.18
515-0256	609-6017	60	3.18	.125	5.71	5.14	3.95

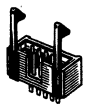
Straight Contacts

Stock No.	Mfr.'s Type	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-Up
515-0300	609-1027	10	1.57	.062	1.57	1.46	1.10
515-0302	609-1427	14	1.57	.062	1.78	1.60	1.23
515-0304	609-1627	16	1.57	.062	1.84	1.66	1.28
515-0305	609-2027	20	1.57	.062	1.91	1.78	1.67
515-0310	609-2627	26	1.57	.062	2.39	2.22	1.67
515-0315	609-3437	34	1.57	.062	3.10	2.88	2.16
515-0320	609-4027	40	1.57	.062	3.53	3.28	2.46
515-0325	609-5027	50	1.57	.062	4.24	3.94	2.96
515-0326	609-6027	60	1.57	.062	5.33	4.80	3.69
515-0330	609-1037	10	3.18	.125	1.70	1.58	1.19
515-0332	609-1437	14	3.18	.125	1.87	1.68	1.29
515-0334	609-1637	16	3.18	.125	1.96	1.76	1.35
515-0335	609-2037	20	3.18	.125	2.09	1.94	1.46
515-0340	609-2637	26	3.18	.125	2.58	2.40	1.80
515-0345	609-3437	34	3.18	.125	3.31	3.08	2.31
515-0350	609-4037	40	3.18	.125	3.76	3.50	2.63
515-0355	609-5037	50	3.18	.125	4.56	4.24	3.18
515-0356	609-6037	60	3.18	.125	5.71	5.14	3.95

Vertical Ejector Headers







Description/Application

The Ansley® Vertical Ejector Header Connects with Standard Female Socket Transition Connectors in PC board applications requiring repeated disconnect/reconnect cycles. While retaining all the advantages of conventional ejector header designs, if maximizes PC board real estate. Unlike conventional designs, where the ear swing radius is out at the ends, the swing radius of the vertical ejector headers is up at the side. This permits headers to be butted end to end with no wasted board space.

Right Angle Contacts

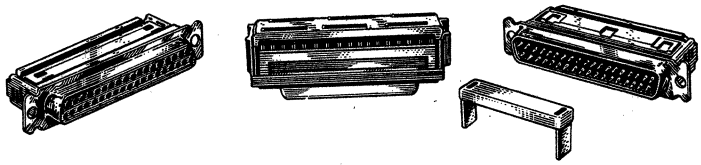
Stock No.	Mfr.'s Type*	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-Up
515-0500	501-1007E	10	1.57	.062	2.13	1.98	1.49
515-0502	501-2007E	20	1.57	.062	2.56	2.38	1.79
515-0504	501-2607E	26	1.57	.062	3.10	2.88	2.16
515-0506	501-3407E	34	1.57	.062	3.81	3.54	2.66
515-0508	501-4007E	40	1.57	.062	4.30	4.00	3.00
515-0510	501-5007E	50	1.57	.062	5.14	4.78	3.59
515-0512	501-1017E	10	3.18	.125	2.28	2.12	1.59
515-0514	501-2017E	20	3.18	.125	2.77	2.58	1.94
515-0516	501-2617E	26	3.18	.125	3.31	3.08	2.31
515-0518	501-3417E	34	3.18	.125	4.11	3.82	2.87
515-0520	501-4017E	40	3.18	.125	4.64	4.32	3.24
515-0522	501-5017E	50	3.18	125	5.70	4.60	3.98
515-0524	501-1007ES	10	1.57	.062	2.13	1.98	1.49
515-0526	501-2007ES	20	1.57	.062	2.56	2.38	1.79
515-0528	501-2607ES	26	1.57	.062	3.10	2.88	2.16
515-0530	501-3407ES	34	1.57	.062	3.81	3.54	2.66
515-0532	501-4007ES	40	1.57	.062	4.30	4.00	3.00
515-0534	501-5007ES	50	1.57	.062	5.14	4.78	3.59
515-0536	501-1017ES	10	3.18	.125	2.28	2.12	1.59
515-0538	501-2017ES	20	3.18	.125	2.77	2.58	1.94
515-0540	501-2617ES	26	3.18	.125	3.31	3.08	2.31
515-0542	502-3417ES	34	3.18	.125	4.11	3.82	2.87
515-0544	501-4017ES	40	3.18	.125	4.64	4.32	3.24
515-0546	501-5017ES	50	3.18	.125	5.70	4.60	3.98

Straight Contacts

Stock No.	Mfr.'s Type*	Number of Positions	Fits PCB		EACH		
			mm	In.	1-24	25-99	100-Up
515-0550	501-1027E	10	1.57	.062	2.13	1.98	1.49
515-0552	501-2027E	20	1.57	.062	2.56	2.38	1.79
515-0554	501-2627E	26	1.57	.062	3.10	2.88	2.16
515-0556	501-3427E	34	1.57	.062	3.81	3.54	2.66
515-0558	501-4027E	40	1.57	.062	4.30	4.00	3.00
515-0560	501-5027E	50	1.57	.062	5.14	4.78	3.59
515-0562	501-1037E	10	3.18	.125	2.28	2.12	1.59
515-0564	501-2037E	20	3.18	.125	2.77	2.58	1.94
515-0566	501-2637E	26	3.18	.125	3.31	3.08	2.31
515-0568	501-3437E	34	3.18	.125	4.11	3.82	2.87
515-0570	501-4037E	40	3.18	.125	4.64	4.32	3.24
515-0572	501-5037E	50	3.18	125	5.70	4.60	3.98
515-0574	501-1027ES	10	1.57	.062	2.13	1.98	1.49
515-0576	501-2027ES	20	1.57	.062	2.56	2.38	1.79
515-0578	501-2627ES	26	1.57	.062	3.10	2.88	2.16
515-0580	501-3427ES	34	1.57	.062	3.81	3.54	2.66
515-0582	501-4027ES	40	1.57	.062	4.30	4.00	3.00
515-0584	501-5027ES	50	1.57	.062	5.14	4.78	3.59
515-0586	501-1037ES	10	3.18	.125	2.28	2.12	1.59
515-0588	501-2037ES	20	3.18	.125	2.77	2.58	1.94
515-0590	501-2637ES	26	3.18	.125	3.31	3.08	2.31
515-0592	502-3437ES	34	3.18	.125	4.11	3.82	2.87
515-0594	501-4037ES	40	3.18	.125	4.64	4.32	3.24
515-0596	501-5037ES	50	3.18	.125	5.70	4.60	3.98

* Suffix "E" indicates headers with ears for Female sockets WITHOUT Strain Relief. Suffix "ES" for sockets WITH Strain Relief.

"D" Connectors, Metal Shell (Tin)



Description/Application
Ansley® Metal Shell "D" Connectors have been designed to aid in electronic system EMI/RFI suppression, as mandated by recent FCC directives. Used in panel-mounted I/O applications, they provide the same mass termination benefits as Ansley® plastic "D" Connector, and terminate to all types of Ansley flat cable including shields, jacketed shielded and ground plane cable for spurious signal suppression in intercabinet applications. Backshell strain reliefs and a full complement of mounting hardware accessories are available for this series.

Design Characteristics
Available in 9, 15, 23, 37 and 50 position configurations. Pin connector and socket connector versions available. Choice of zinc or tin-plated metal shell. SPREAD PITCH™ contact design enables mass termination to .050" (1.27 mm) pitch flat cable while maintaining I/O compatibility with .109" (2.77 mm) industry standard "D" connectors. Ridges in connector top align with Ansley® flat cable. One-piece connectors are design with mechanical side latches.

6

Pin Type

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
515-3000	622-09PM2	9	3.44	3.10	2.38
515-3005	622-15PM2	15	4.49	4.04	3.11
515-3010	622-25PM2	25	5.84	5.26	4.05
515-3015	622-37PM2	37	8.20	7.38	5.68
515-3020	622-50PM2	50	11.29	10.16	7.82

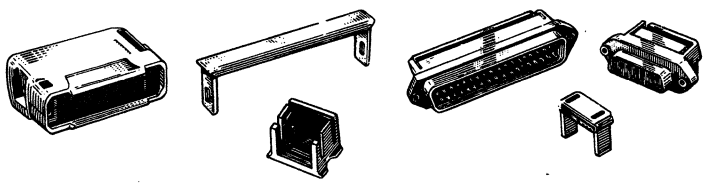
Socket Type

515-3100	622-09SM2	9	4.20	3.78	2.91
515-3105	622-15SM2	15	5.67	5.10	3.92
515-3110	622-25SM2	25	6.89	6.20	4.77
515-3115	622-37SM2	37	9.76	8.78	6.75
515-3120	622-50SM2	50	11.91	10.72	8.25

Shielding Backshells (Metal) for Flat Cable

515-3200	609-009DM	9	2.99	2.78	2.09
515-3205	609-015DM	15	3.50	3.26	2.45
515-3210	609-025DM	25	4.06	3.78	2.84
515-3215	609-037DM	37	5.03	4.68	3.51
515-3220	609-050DM	50	6.13	5.70	4.27

"D" Connectors, Plastic



Description/Application
Ansley® Plastic "D" Connectors are used in panel-mounted I/O applications, providing mass termination IDC convenience and integrity while maintaining compatibility with all industry standard "D" connectors. Backshell strain reliefs and a full complement of mounting hardware accessories are available for this series. Strain Reliefs are included with these connectors.

Design Characteristics
Available in 9, 15, 25, 27 and 50 position configurations. Pin connector and socket connector versions also available. Backshell strain relief in straight and right angle styles. SPREAD PITCH™ contact design enables mass termination to .050" (1.27 mm) pitch flat cable while maintaining I/O compatible with .109" (1.27 mm) industry standard "D" connectors. One-piece connectors are designed with mechanical side latches. Ridges in the connectors are top aligned with Ansley® flat cable.

Pin Type

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
515-3300	609-9P	9	3.91	3.64	2.73
515-3305	609-15P	15	5.20	4.84	3.63
515-3310	609-25P	25	6.64	6.18	4.64
515-3315	609-37P	37	9.78	9.10	6.83
515-3320	609-50P	50	13.22	12.30	9.23

Socket Type

515-3400	609-9S	9	4.56	4.24	3.18
515-3405	609-15S	15	6.24	5.80	4.35
515-3410	609-25S	25	7.63	7.10	5.33
515-3415	609-37S	37	11.35	10.56	7.42
515-3420	609-50S	50	14.72	13.70	10.27

Standard Backshells (Plastic) for Flat Cable

515-3500	609-09	9	1.14	1.06	.79
515-3505	609-015	15	1.29	1.21	.91
515-3510	609-025	25	1.46	1.36	1.01
515-3515	609-037	37	1.61	1.51	1.13
515-3520	609-050D	50	2.36	2.20	1.65

Miscellaneous

Strain Reliefs

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99
515-3525	622-09SR	9	.44	.40
515-3530	522-15SR	15	.44	.40
515-3535	622-25SR	25	.44	.40
515-3540	622-37SR	37	.44	.40

Backshell Screwlock Assembly. Used with backshell strain relief to retain two "D" connectors to each other through a Panel or PC Board. Stainless steel.
515-4020. Type 609-005 ..... **EACH 5.40**

Jacksocket Assembly. Used with 609-002 for Front Panel Mounting or 609-004. Stainless steel.
515-4010. Type 609-003 ..... **EACH 2.43**

Jackscrew Assembly. Used with 609-003 to retain Two "D" connectors (Plastic only) to each other as a mated pair cable splice. Stainless steel.
515-4005. Type 609-002 ..... **EACH 2.73**

Screwlock Assembly. To retain two "D" connectors (Plastic only) to each other through a Panel or PC Board. Stainless steel.
515-4000. Type 609-001 ..... **EACH 3.23**

Slide Lock Post. Used with slide lock retainer assembly 609-50-SL. Discard flat washer for 3/32" panel; retain for 1/16" panel. Discard lock washer when No. 609-008-50 is used with No. 609-50S-M(1) or 609-50P-M(2).
515-4040. Type 609-008-50 ..... **EACH 1.50**

Backshell Jackscrew Assembly. Used with Backshell Strain Relief and 609-003 to retain two "D" connectors to each other as a mated pair cable splice. Stainless steel.
515-4015. Type 609-004 ..... **EACH 4.11**

Rear Panel Mount Jacksocket Assembly. 609-006 for .090 In. panels, 609-007 for .125 In. panels.
515-4025. Type 609-006-1 ..... **EACH 3.36**
515-4030. Type 609-007-1 ..... **EACH 3.36**

Slide Lock Retainer. Used to lock a mated pair of 50-position "D" connectors. Must be used with slide lock post 609-008-50. Discard lock washers when 609-50SL is used with 609-50S-M(1) or 609-50P-M(2).
515-4035. Type 609-50SL ..... **EACH 2.79**

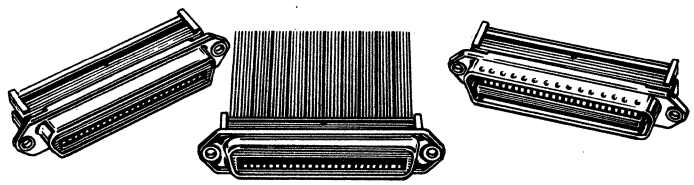
Jacksocket. Used to lock a 50-position "D" connector to a metal shell "D" connector with jackscrew. Mounting holes in panel are 3.99" + .05" (.157" + .002") diameter.
515-4045. Type 609-009-50 ..... **EACH 1.50**

Bale Lock Assembly. To lock a mated pair of 50-position "D" connectors with a backshell. **Bracket Material:** Stainless steel, spring temper. **Screw:** Zinc-plated.
515-4050. Type 609-50BL ..... **EACH 1.76**

Installation Tools
Type 779-6210. Retaining Ring Tool for No. 609-002 and 609-004 Jackscrews.
515-4150 ..... **EACH 6.34**

Type 515-779-6211. Retaining Ring Tool for No. 609-001 and 609-005 screwlocks.
515-4155 ..... **EACH 6.34**

Metal Shell Ribbon Connectors



Ansley® Metal Shell Ribbon Connectors are designed primarily for I/O applications where EMI/RFI suppression is required. They provide maximum installation versatility by maintaining I/O compatibility with all industry standard Ribbon Connectors while mass terminating to Ansley® flat cable. **Specifications. Insulation Material:** Glass reinforced thermoplastic, rated 94V-0. **Contact Plating:** Gold over nickel. **Current Rating:** 1A. **Insulation Resistance:** > 1×10^9 Ohms @ 500 VDC. **DWV:** > 500 V rms (Sea level). **Temperature Rating:** – 55° to + 125°C. **Color:** Blue.

Male

Thru-Hole Mount Stock No.	Thru-Hole Mount Mfr.'s Type	Bail Mount Stock No.	Bail Mount Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-99	EACH 100-Up
515-2000	622-14MM	515-2020	622-14MAM	14	4.09	3.80	2.85
515-2005	622-24MM	515-2025	622-24MAM	24	5.07	4.72	3.54
515-2010	622-36MM	515-2030	622-36MAM	36	6.26	5.82	4.37
515-2015	622-50MM	515-2035	622-60MAM	50	7.35	6.84	5.13

Female

515-2100	622-14FM	515-2120	622-14FAM	14	4.00	3.72	2.79
515-2105	622-24FM	515-2125	622-24FAM	24	4.95	4.60	3.45
515-2110	622-36FM	515-2130	622-36FAM	36	6.15	5.72	4.29
515-2115	622-50FM	515-2135	622-60FAM	50	6.88	6.40	4.80

Mounting Hardware
Type 622-320M. Bail Mounting Clip with 4-40 mounting screw. (Use w/622-XXX on 2 scales).
515-2200 ..... **PER SET .68**

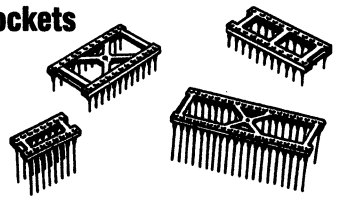
Type 622-325M1. Jacksocket Assembly (METRIC).
515-2205 ..... **PER SET 1.14**

Type 622-325M2. Jacksocket Assembly (4-40).
515-2210 ..... **PER SET 1.14**

Type 622-326M1. Jackscrew Assembly (METRIC).
515-2215 ..... **PER SET 1.14**

Type 622-326M21. Jackscrew Assembly (4-40).
515-2220 ..... **PER SET 1.14**

Low Profile Open Frame Dip Sockets



► Open Frame Construction, With Reinforcing "X" Supports in .100 × .600 × .900" Sockets
► End-to-End, and Side-to-Side Stackable On .100" Spacing Without Pin Position Loss
► Polarity Notch for Identification and Auto-Insertion Applications
► Precision Machined Sleeves

.125" (3.18 mm) Solder Tail — Tin Plated

Stock No.	Mfr.'s Type	Number of Leads	EACH		
			1-99	100-499	500-999
515-7000	SMO-06-S6T	6	0.30	0.28	0.22
515-7005	SMO-08-S6T	8	0.41	0.38	0.30
515-7010	SMO-14-S6T	14	0.74	0.68	0.53
515-7015	SMO-16-S6T	16	0.83	0.76	0.59
515-7020	SMO-18-S6T	18	0.93	0.86	0.67
515-7025	SMO-20-S6T	20	1.04	0.96	0.75
515-7030	SMO-22-S6T	22	1.15	1.06	0.83
515-7035	SMO-24-S6T	24	1.26	1.16	0.91
515-7040	SMO-243-S6T	24	1.26	1.16	0.91
515-7045	SMO-28-S6T	28	1.46	1.34	1.05
515-7050	SMO-32-S6T	32	1.67	1.54	1.20
515-7055	SMO-36-S6T	36	1.87	1.72	1.34
515-7060	SMO-40-S6T	40	2.09	1.92	1.50
515-7065	SMO-48-S6T	48	2.50	2.30	1.80
515-7070	SMO-64-S6T	64	3.35	3.08	2.41

.125" (3.18 mm) Solder Tail — Gold Plated

515-7001	SMO-06-S6G	6	0.43	0.40	0.31
515-7006	SMO-08-S6G	8	0.57	0.52	0.41
515-7011	SMO-14-S6G	14	1.00	0.92	0.72
515-7016	SMO-16-S6G	16	1.15	1.06	0.83
515-7021	SMO-18-S6G	18	1.28	1.18	0.92
515-7026	SMO-20-S6G	20	1.43	1.32	1.03
515-7031	SMO-22-S6G	22	1.59	1.46	1.14
515-7036	SMO-24-S6G	24	1.72	1.58	1.23
515-7041	SMO-243-S6G	24	1.72	1.58	1.23
515-7046	SMO-28-S6G	28	2.00	1.84	1.44
515-7051	SMO-32-S6G	32	2.30	2.12	1.66
515-7056	SMO-36-S6G	36	2.59	2.38	1.86
515-7061	SMO-40-S6G	40	2.87	2.64	2.06
515-7066	SMO-48-S6G	48	3.43	3.16	2.47
515-7071	SMO-64-S6G	64	4.59	4.22	3.30

.546" (13.87 mm) Wire Wrap Tails — Gold Plated

515-7100	SMO-06-W3G	6	0.83	0.76	0.59
515-7105	SMO-08-W3G	8	1.17	1.08	0.84
515-7110	SMO-14-W3G	14	1.78	1.64	1.28
515-7115	SMO-16-W3G	16	2.04	1.88	1.47
515-7120	SMO-18-W3G	18	2.50	2.30	1.80
515-7125	SMO-20-W3G	20	2.87	2.64	2.06
515-7130	SMO-22-W3G	22	3.00	2.76	2.16
515-7135	SMO-24-W3G	24	3.46	3.18	2.48
515-7140	SMO-243-W3G	24	3.46	3.18	2.48
515-7145	SMO-28-W3G	28	3.80	3.50	2.73
515-7150	SMO-32-W3G	32	3.07	2.82	2.20
515-7155	SMO-36-W3G	36	4.74	4.36	3.41
515-7160	SMO-40-W3G	40	5.28	4.86	3.80
515-7165	SMO-48-W3G	48	6.35	5.84	4.56
515-7170	SMO-64-W3G	64	8.46	7.78	6.08

SIP Socket (Single In-Line Package)

► 64 Position Strip — Easily Separated Into Smaller Sizes
► .100" (2.54 mm) Contact Spacing
► Housing Flammability Rating UL94 V-0

.126" Straight Pins

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
515-7310	SIP-64-S6TT1	Tin plated	1.79	1.67	1.56
515-7315	SIP-64-56TG2	15μ Gold on clip	2.02	1.88	1.75
515-7320	SIP-64-56TG3	30μ Gold on clip	2.46	2.24	2.14

.142" Right Angle Pins

515-7325	SIP-64-RITG2	15μ Gold on clip	3.70	3.44	3.22
515-7330	SIP-64-RITG3	30μ Gold on clip	4.14	3.86	3.61

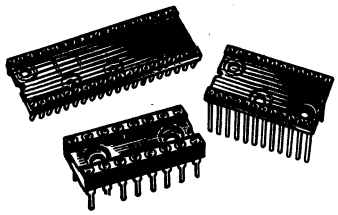
Peel-Off Carrier Socket Strip

► Available in a 32 Position Strip for For Flexibility
► Contact Body is Tin Plated
► Designed to Snap into Metalized Hole of .053" to .055" Diameter
► High Quality Screw Machine Contact

.165" Pin Type

Stock No.	Mfr.'s Type	Description	EACH		
			1-99	100-499	500-999
515-7350	PS0-32-S2TG2	15μ" Gold clip plating	1.88	1.75	1.64
515-7355	PS0-32-S2TG3	30μ" Gold clip plating	2.34	2.18	2.04
515-7360	PS0-32-S2TT1	Tin clip plating	1.76	1.64	1.53

Ansley® Low Profile Closed Frame Dip Sockets



► Extremely Low Profile Frame .115" (2.92 mm) Thick
► Accepts .011" × .018" (.28 mm × .46 mm) Rectangular and .016" to .021" (.40 mm × .53 mm) Diameter Round IC Leads in Lengths From .100" (2.54 mm) to .155" (3.94 mm)
► End-to-End and Side-to-Side Stacking for Maximum IC Packaging Density
► Precision Machined Sleeves Recommended PCB Hole Diameter .035" (.88 mm) for Solder Tail Pin and .045" (1.14 mm) for Wrap Post Pin

.125" (3.18 mm) Solder Tails — Tin Plated

Stock No.	Mfr.'s Type	Number of Leads	EACH		
			1-99	100-499	500-999
515-7200	CMO-06-S6T	6	0.30	0.28	0.22
515-7205	CMO-08-S6T	8	0.41	0.38	0.30
515-7210	CMO-14-S6T	14	0.74	0.68	0.53
515-7215	CMO-16-S6T	16	0.83	0.76	0.59
515-7220	CMO-18-S6T	18	0.93	0.86	0.67
515-7225	CMO-20-S6T	20	1.04	0.96	0.75
515-7230	CMO-22-S6T	22	1.15	1.06	0.83
515-7235	CMO-24-S6T	24	1.26	1.16	0.91
515-7240	CMO-28-S6T	28	1.46	1.34	1.05
515-7245	CMO-40-S6T	40	2.09	1.92	1.50

.125" (3.18 mm) Solder Tails — Gold Plating Over Nickel

515-7201	CMO-06-S6G	6	0.43	0.40	0.31
515-7206	CMO-08-S6G	8	0.57	0.52	0.41
515-7211	CMO-14-S6G	14	1.00	0.92	0.72
515-7216	CMO-16-S6G	16	1.15	1.06	0.83
515-7221	CMO-18-S6G	18	1.28	1.18	0.92
515-7226	CMO-20-S6G	20	1.43	1.32	1.03
515-7231	CMO-22-S6G	22	1.59	1.46	1.14
515-7236	CMO-24-S6G	24	1.72	1.58	1.23
515-7241	CMO-28-S6G	28	2.00	1.84	1.44
515-7246	CMO-40-S6G	40	2.87	2.64	2.06

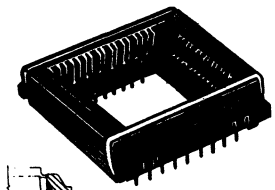
.546" (13.87 mm) Wire Wrap Tail Gold Plating Over Nickel

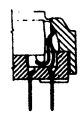
515-7251	CMO-06-W3G	6	0.83	0.76	0.59
515-7256	CMO-08-W3G	8	1.17	1.08	0.84
515-7261	CMO-14-W3G	14	1.78	1.64	1.28
515-7266	CMO-16-W3G	16	2.04	1.88	1.47
515-7271	CMO-18-W3G	18	2.50	2.30	1.80
515-7276	CMO-20-W3G	20	2.87	2.64	2.06
515-7281	CMO-22-W3G	22	3.00	2.76	2.16
515-7286	CMO-24-W3G	24	3.46	3.18	2.48
515-7291	CMO-28-W3G	28	3.80	3.50	2.73
515-7296	CMO-40-W3G	40	5.28	4.86	3.80

Plastic Chip Carrier Sockets

Description/Application
This state-of-the art series of Ansley® Chip Carrier sockets provides for high performance interconnection of microprocessors, gate arrays, and other high density semiconductor devices.

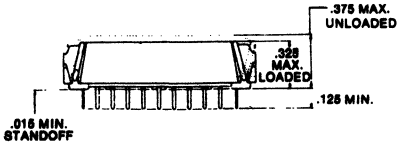
Design Characteristics — Plastic Chip Carrier Socket
► Accepts EIA/JEDEC Leaded Plastic Packages on .050" Center Lines
► Operating Temperature Range: −40°C to 105°C
► Contacts Solder Tails on .100" Square Grid Pattern
► Overall installed height of socket above the PC Board is only .390"
► .015" nominal standoffs for cleaning

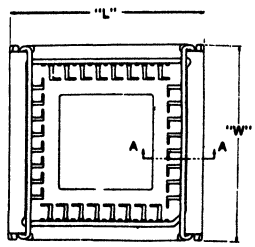




SECTION A-A

Pos.	"L"	"W"
44	0.925 Max.	0.925 Max.
52	1.025 Max.	1.025 Max.
68	1.225 Max.	1.225 Max.
84	1.425 Max.	1.425 Max.

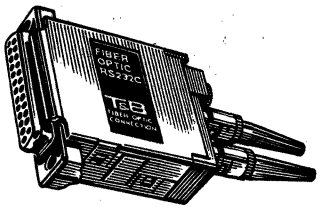




Stock No.	Mfr.'s Type	Number of Leads	EACH		
			1-99	100-499	500-999
515-7298	PCC-044TA-01	44	2.57	2.38	1.89
515-7299	PCC-052TA-01	52	2.96	2.72	2.16
515-7300	PCC-068TA-01	68	3.24	2.98	2.36
515-7305	PCC-084TA-01	84	3.57	3.28	2.60

6

RS-232-C Fiber Optic Data Interface Connector



The RS-232-C Fiber Optic Data Interface Connector links data communication equipment and fiber optic cable. For use in computer, terminal and printer applications, it accommodates either duplex plastic or glass fiber optic cables. Data rates up to 19.2 kBaud (async) can be accommodated.

Installation is user-friendly, on-site; ground loops are eliminated; and no modifications are required for existing RS-232-C equipment. The T&B RS-232-C is competitively priced with shielded copper cables, and designed to bring all the advantages of fiber optics to compatible RS-232-C equipment.

For Plastic Fiber

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-Up
513-3700	94811P	Male-DTE Compatible	45.00	42.00	39.00
513-3705	94812P	Male-DCE Compatible	45.00	42.00	39.00
513-3710	94811FP	Female-DTE Compatible	45.00	42.00	39.00
513-3715	94812FP	Female-DCE Compatible	45.00	42.00	39.00

For Glass Fiber

515-3720	94811G	Male-DTE Compatible	65.00	63.00	58.00
515-3725	94812G	Male-DCE Compatible	65.00	63.00	58.00
515-3730	94811FG	Female-DTE Compatible	65.00	63.00	58.00
515-3745	94812FG	Female-DCE Compatible	65.00	63.00	58.00

ST* Compatible Plug
Plastic Fiber ST* Compatible Connector for up to 200′ lengths. Use PRE-CAP™ ST* Connectors with glass fiber for requirements up to 2 KM in length. Four connectors are required per link.

515-3750	91720	ST* Compatible Plug	4.65	4.40	4.10

Power Supply
12 Volt Power Supply Cube power to units must be supplied from an external source or from pins 9 and 10 of the DB25 pin connector.

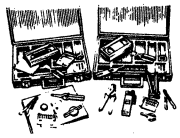
515-3755	94801PS	Power Supply	17.50	16.50	15.25

Assembly Kit for Plastic Fiber ST* Connector

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-Up
515-3760	91720AT	Assembly Tool	12.50	9.95

*ST is a trademark of AT&T Technologies

Installation Kits



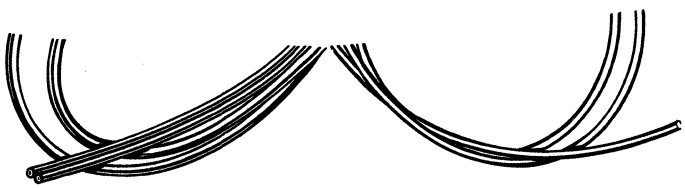
The Thomas & Betts installation kits provide all components necessary for complete assembly of the Pre-Cap™ Series Connectors multimode connectors. Durable, compact and lightweight, the termination kits are ideal for in-field, laboratory and production/assembly connector terminations. **Contents:** polishing plate, polishing fixtures, 6-3 micron polishing films, 6 approximately .3 micron polishing films, cleaving wipes, hand cleve tool.

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-Up
515-3825	91000AKP	For Pre-Cap™ Connectors	563.50	545.00

Crimp Tool

Stock No.	Mfr.'s Type	Description	EACH
515-3840	92299KT	With dies 00, 03	241.56

Plastic Fiber Optic Cable



Thomas & Betts Plastic Fiber Optic Cable consists of a PMMA core, polymer clad with a durable black polyethylene jacket.

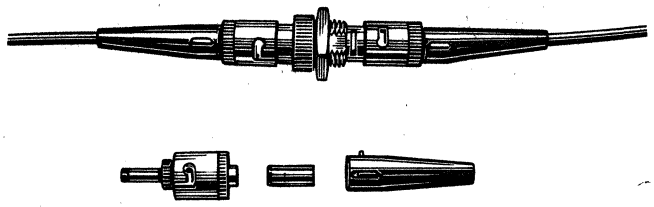
The cable is compatible with a complete line of T&B connector products which include: the T&B PCB Data Link System, Active duplex Connector, Bulkhead connector, RS-232-C Modem and Splice Kit.

Stock No.	Mfr.'s Type	Description	PER COIL 1-9	10-49
515-3850	93902-100	Simplex, 100′ Coil	38.00	35.00
515-3855	93902-500	Simplex, 500′ Coil	146.00	136.00
515-3860	93802-100	Duplex, 100′ Coil	57.00	53.00
515-3865	93802-500	Duplex, 500′ Coil	240.00	225.00

Splice Kit for Plastic Fiber

515-3870	93800SK	Splice Kit	31.60	26.40

ST* Compatible Connector



The PRE-CAP™ Series ST* compatible connector combines the rugged construction advantages of a durable composite polymer alloy with the precision manufacturing tolerance of a glass capillary for high-performance and durability in multimode fiber applications.

The connector is easily mounted via a polarized and spring-loaded quarter-turn bayonet lock. The lock ensures positive connector contact.

These connectors are for glass optical fiber. They feature a 1 micron tolerance, 10 mm long glass capillary for superior alignment matches the thermal stability of the cable. Termination is by crimp and polish which results in a smooth, flat non-concave fiber and surface. Suitable for use with automated polishing equipment. Can be terminated on all styles of optical fiber cables available from the major cable manufacturers.

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-999
515-3765	91810-140-1P	For 140 micron, 3.0 mm jacket	9.25	8.95	8.50
515-3770	91810-140-2P	For 140 micron, 2.5 mm jacket	9.25	8.95	8.50
515-3775	91810-125-1P	For 125 micron, 3.0 mm jacket	9.25	8.95	8.50
515-3780	91810-125-2P	For 125 micron, 2.5 mm jacket	9.25	8.95	8.50
515-3785	91840	Passive coupler	3.70	3.45	3.20
515-3790	91850	Active coupler	2.50	2.25	2.00

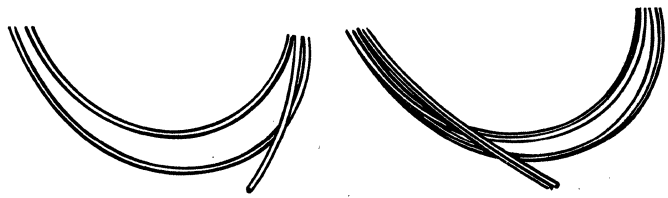
SMA-Compatible Connectors

The Pre-Cap™ Series SMA-compatible connector is intermateable with SMA connectors designed to EIA-475-01 standards.

No heat curing of epoxies are required. It incorporates a knurled nut for easy thread-on connection, and thermally-matched glass capillary and fiber. The uniform surface of the capillary and fiber increases installer yield, and is suitable for both manual and automated polishing.

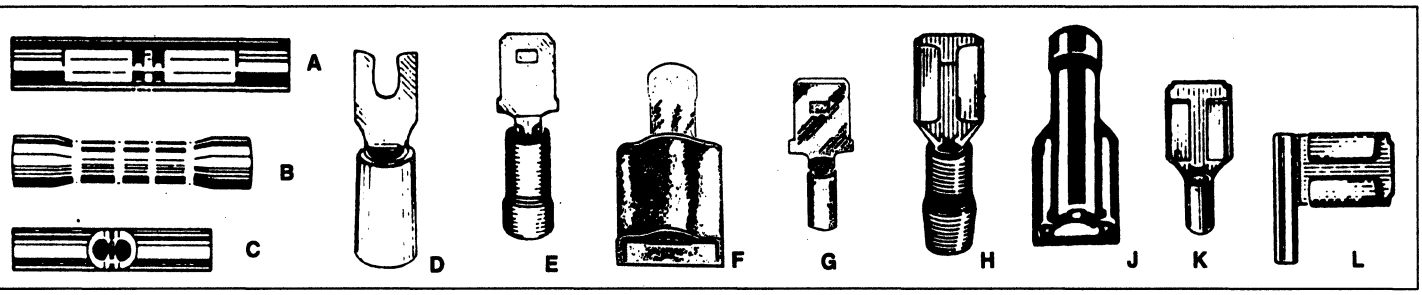
Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-999
515-3795	91710-140-1P	For 140 micron, 3.0 mm jacket	7.70	7.40	7.10
515-3800	91710-140-2P	For 140 micron, 2.5 mm jacket	7.70	7.40	7.10
515-3805	91710-125-1P	For 125 micron, 3.0 mm jacket	7.70	7.40	7.10
515-3810	91710-125-2P	For 125 micron, 2.5 mm jacket	7.70	7.40	7.10
515-3815	91740	Passive coupler	9.90	9.65	9.35
515-3820	91750	Active coupler	3.25	3.00	2.75

Glass Fiber Optic Cable



Cables are available in simplex and duplex polyurethane jacket constructions, with 900 micron, mechanically-strippable buffer coating. Strain relief is achieved via high-strength aramid yarns stranded around the buffered fiber. Fiber diameters available include 50/125, 62.5/125 and 100/140 (micron). The fiber is completely compatible with the Pre-Cap™ Series Glass Fiber Optic Connectors in the most popular designs (SMA, ST* and FC types).

Stock No.	Mfr.'s Type	Description	PER 1000 METERS 1-4	5-Up
515Q3890	93610-125	Simplex, 50/125 micron	1235.00	1145.00
515Q3895	93612-125	Duplex, 50/125 micron	2290.00	2140.00
515Q3900	93610-140	Simplex, 100/140 micron	1580.00	1480.00
515Q3905	93612-140	Duplex, 100/140 micron	3120.00	2925.00
515Q3910	93610-625	Simplex, 62.5/125 micron	1395.00	1305.00
515Q3915	93612-625	Duplex, 62.5/125 micron	2665.00	2500.00



These same products are available in larger, bulk packaging at substantial savings. Add 1 to the Allied stock number to get the same part in bulk.

Butt-type Splices

Nylon Insulated—Figure A

Stock No.	Mfr.'s Type	Wire Range	Length	Width	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0660	2RA18	22-18	1.19	.18	100	28.00	22.40
534-0665	2RB14	16-14	1.19	.21	100	28.00	22.40
534-0670	2RC10	12-10	1.26	.28	50	20.50	16.40
534-0675	2RD8	8	1.69	—	25	22.63	17.85
534-0680	2RE6	6	1.85	—	20	23.32	18.66
534-0685	2RF4	4	1.85	—	15	20.63	16.50

Vinyl Insulated—Figure B

534-0690	2RA18X	22-18	1.13	.25	100	22.62	18.10
534-0695	2RB14X	16-14	1.13	.26	100	22.62	18.10
534-0700	2RC10X	12-10	1.31	.31	50	16.56	13.25

Non-insulated—Figure C

534-0705	2A-18	22-18	.62	.12	100	16.25	13.00
534-0710	2B-14	16-14	.62	.16	100	16.25	13.00
534-0715	2C-10	12-10	.72	.22	50	11.31	9.05
534-0720	2D-8	9-8-7	1.03	.28	25	14.44	11.55
534-0725	2E-6	6-5	1.12	.37	20	16.30	13.04
534-0730	2F-4	4-3	1.25	.44	15	17.40	13.82
534-0735	2G-21	2-1	1.72	.55	5	7.63	6.10

Locking Fork Terminals

Vinyl Insulated—Figure D

These have a specially designed tongue that lets them go on like a fork and stay on like a ring.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	Length	Width	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0740	18RA-6FL	22-18	6	.97	.25	100	24.37	19.50
534-0745	18RA-8FL	22-18	8	.97	.29	100	24.37	19.50
534-0750	18RA-10FL	22-18	10	.97	.29	100	24.37	19.50
534-0755	14RB-6FL	16-14	6	.97	.25	100	24.37	19.50
534-0760	14RB-8FL	16-14	8	.97	.29	100	24.37	19.50
534-0765	14RB-10FL	16-14	10	.97	.29	100	24.37	19.50
534-0770	10RC-6FL	12-10	6	1.09	.31	50	16.31	13.05
534-0775	10RC-8FL	12-10	8	1.09	.37	50	16.31	13.05
534-0780	10RC-10FL	12-10	10	1.09	.37	50	16.31	13.05
534-0782	10RC-14FL	12-10	1/4"	1.09	.49	50	20.00	16.00

Nylon Insulated—Figure D

534-0785	RA18-6FL	22-18	6	.86	.25	100	32.00	25.60
534-0790	RA18-8FL	22-18	8	.86	.29	100	32.00	25.60
534-0795	RA18-10FL	22-18	10	.86	.29	100	32.00	25.60
534-0800	RB14-6FL	16-14	6	.87	.25	100	32.00	25.60
534-0805	RB14-8FL	16-14	8	.87	.29	100	32.00	25.60
534-0810	RB14-10FL	16-14	10	.87	.29	100	32.00	25.60
534-0815	RC10-6FL	12-10	6	.97	.31	50	19.63	15.70
534-0820	RC10-8FL	12-10	8	1.00	.37	50	19.63	15.70
534-0825	RC10-10FL	12-10	10	1.00	.37	50	19.63	15.70
534-0830	RC10-14FL	12-10	1/4"	1.12	.50	50	21.31	17.05

Insulated Male Tabs

Mate with female disconnects on this page. **Material:** brass. **Finish:** tin-plated.

Vinyl Self-insulated Male Tabs

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0575	18RA-250T	E	22-18	.250 × .032	100	30.87	24.70
534-0580	18RAD-187	E	22-18	.187 × .032	100	31.25	25.00
534-0585	18RAD-188	E	22-18	.187 × .020	100	31.25	25.00
534-0590	14RB-250T	E	16-14	.250 × .032	100	30.87	24.70
534-0595	14RBD-187	E	16-14	.187 × .032	100	31.25	25.00
534-0600	14RBD-188	E	16-14	.187 × .020	100	31.25	25.00
534-0605	10RC-250T	E	12-10	.250 × .032	50	18.06	14.45

Nylon Fully Insulated Male Tabs

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0610	18RA-251T	F	22-18	.250 × .032	50	16.00	12.80
534-0615	14RB-251T	F	16-14	.250 × .032	50	16.00	12.80
534-0620	10RC-251T	F	12-10	.250 × .032	25	10.28	8.23

Non-insulated Male Tabs

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0625	A18-251T	G	22-18	.250 × .032	100	19.62	15.70
534-0630	AD18-187	G	22-18	.187 × .032	100	20.62	16.50
534-0635	AD18-188	G	22-18	.187 × .020	100	20.62	16.50
534-0640	B14-251T	G	16-14	.250 × .032	100	19.62	15.70
534-0645	BD14-187	G	16-14	.187 × .032	100	20.62	16.50
534-0650	BD14-188	G	16-14	.187 × .020	100	20.62	16.50
534-0655	C10-251T	G	12-10	.250 × .032	50	10.31	8.25

Nylon Insulated Female Disconnects

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0400	RA18-250F	H	22-18	.250 × .032	100	31.75	25.40
534-0405	RAD18-183	H	22-18	.187 × .032	100	32.00	25.60
534-0410	RAD18-182	H	22-18	.187 × .020	100	32.00	25.60
534-0415	RA18-111F	H	22-18	.110 × .020	100	34.62	27.70
534-0420	RA18-110F	H	22-18	.110 × .032	100	34.62	27.70
534-0425	18RA-2577	J	22-18	.250 × .032	100	32.00	25.60
534-0430	18RAD-18377	J	22-18	.187 × .032	100	32.37	25.90
534-0435	18RAD-18277	J	22-18	.187 × .020	100	32.37	25.90
534-0440	RB14-250F	H	16-14	.250 × .032	100	31.75	25.40
534-0445	RBD14-183	H	16-14	.187 × .032	100	32.00	25.60
534-0450	RBD14-182	H	16-14	.187 × .020	100	32.00	25.60
534-0455	RB14-111F	H	16-14	.110 × .020	100	34.62	27.70
534-0460	RB14-110F	H	16-14	.110 × .032	100	34.62	27.70
534-0465	14RB-2577	J	16-14	.250 × .032	100	32.00	25.60
534-0470	14RBD-18377	J	16-14	.187 × .032	100	32.37	25.90
534-0475	14RBD-18277	J	16-14	.187 × .020	100	32.37	25.90
534-0480	RC10-250F	H	12-10	.250 × .032	50	20.38	16.30
534-0485	10RC-2577	J	12-10	.250 × .032	50	20.50	16.40

Vinyl Insulated Female Disconnects

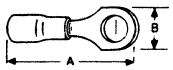
Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0490	18RA-250F	H	22-18	.250 × .032	100	28.12	22.50
534-0495	18RAD-183	H	22-18	.187 × .032	100	28.37	22.70
534-0500	18RAD-182	H	22-18	.187 × .020	100	28.37	22.70
534-0505	14RB-250F	H	16-14	.250 × .032	100	28.12	22.50
534-0510	14RBD-183	H	16-14	.187 × .032	100	28.37	22.70
534-0515	14RBD-182	H	16-14	.187 × .020	100	28.37	22.70
534-0520	10RC-250F	H	12-10	.250 × .032	50	17.88	14.30

Non-insulated Female Disconnects

Stock No.	Mfr.'s Type	Fig.	Wire Range	Tab Size (In.)	Pkg. Qty.	PER PKG. 1-4	PER PKG. 5-9
534-0525	A18-250	K	22-18	.250 × .032	100	18.00	14.40
534-0530	A18-250A	L	22-18	.250 × .032	50	11.00	8.80
534-0535	AD18-183	K	22-18	.187 × .032	100	21.37	17.10
534-0540	AD18-182	K	22-18	.187 × .020	100	21.37	17.10
534-0545	B14-250	K	16-14	.250 × .032	100	18.00	14.40
534-0550	B14-250A	L	16-14	.250 × .032	50	11.00	8.80
534-0555	BD14-183	K	16-14	.187 × .032	100	21.37	17.10
534-0560	BD14-182	K	16-14	.187 × .020	100	21.37	17.10
534-0565	C10-250F	K	12-10	.250 × .032	50	16.25	13.00
534-0570	C10-250A	L	12-10	.250 × .032	50	18.06	14.45

These same terminals are available in larger, bulk packaging at substantial savings. Add 1 to the Allied stock number to get the same part in bulk.

Vinyl Insulated Ring—Insulation Support

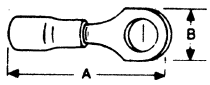


STA-KON terminals and tools exceed test specification requirements of military, UL and CSA. These ring terminals are insulated with a PVC insulation sleeve of extra length to give protection and relieve bending stress at wire's flex point. Brazed seam barrel is serrated to obtain high pull-out value. Terminal is made of high conductivity electrolytic copper, electro-tin plated. Insulation material is color-coded.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0100	18RA-6	22-18	#6	.94	.25	22.00	17.60
534-0105	18RA-8	22-18	#8	.97	.31	22.00	17.60
534-0110	18RA-10	22-18	#10	.97	.31	22.00	17.60
534-0120	14RB-6	16-14	#6	.97	.31	22.00	17.60
534-0125	14RB-8	16-14	#8	.97	.31	22.00	17.60
534-0130	14RB-10	16-14	#10	.97	.31	22.00	17.60
534-0135	10RC-6	12-10	#6	1.06	.31	14.19*	11.35*
534-0140	10RC-8	12-10	#8	1.06	.31	14.19*	11.35*
534-0145	10RC-10	12-10	#10	1.06	.31	14.19*	11.35*
534-0150	10RC-14	12-10	1/4"	1.16	.50	17.75*	13.80*

*Package of 50

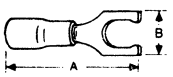
Nylon Insulated Ring—Insulation Grip



Self-insulated with high dielectric-strength nylon sleeves, these ring terminals are recommended for temperatures up to 105°C. An inner bronze insulation grip sleeve lengthens the flexing radius of the conductor and eliminates conductor creep. The nylon jacket is color-coded.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0155	RA18-6	22-18	#6	.83	.26	31.00	24.80
534-0160	RA18-8	22-18	#8	.83	.26	31.00	24.80
534-0165	RA18-10	22-18	#10	.86	.31	31.00	24.80
534-0170	RB14-6	16-14	#6	.87	.31	31.00	24.80
534-0175	RB14-8	16-14	#8	.87	.31	31.00	24.80
534-0180	RB14-10	16-14	#10	.87	.31	31.00	24.80
534-0185	RC10-6	12-10	#6	1.00	.37	18.63*	14.90*
534-0190	RC10-8	12-10	#8	1.00	.31	18.63*	14.90*
534-0195	RC10-10	12-10	#10	1.00	.31	18.63*	14.90*

*Package of 50

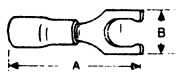


Vinyl Insulated Fork—Insulation Support

These fork terminals have extra-long PVC insulation sleeve for protection and stress relief at wire's flex point. Brazed seam barrel is serrated for high pull-out value. Terminal is high conductivity electrolytic copper, electro-tin plated. Insulation is color coded.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0200	18RA-6F	22-18	#6	.94	.25	22.00	17.60
534-0205	18RA-8F	22-18	#8	.97	.31	22.00	17.60
534-0210	18RA-10F	22-18	#10	.97	.31	22.00	17.60
534-0220	14RB-6F	16-14	#6	.97	.31	22.00	17.60
534-0225	14RB-8F	16-14	#8	.97	.31	22.00	17.60
534-0230	14RB10F	16-14	#10	.97	.31	22.00	17.60
534-0240	10RC-6F	12-10	#6	1.09	.38	14.19*	11.35*
534-0245	10RC-8F	12-10	#8	1.09	.38	14.19*	11.35*
534-0250	10RC-10F	12-10	#10	1.09	.38	14.19*	11.35*

*Package of 50



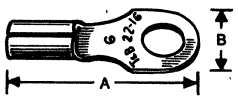
Nylon Insulated Fork—Insulation Grip

Fork terminals with nylon insulation sleeves, recommended for temperatures up to 105°C. Inner bronze insulation grip sleeve lengthens flex radius of conductor and eliminates conductor creep. Nylon jacket is color coded.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0255	RA18-6F	22-18	#6	.83	.25	31.00	24.80
534-0260	RA18-8F	22-18	#8	.83	.31	31.00	24.80
534-0265	RA18-10F	22-18	#10	.86	.31	31.00	24.80
534-0270	RB14-6F	16-14	#6	.87	.31	31.00	24.80
534-0275	RB14-8F	16-14	#8	.87	.31	31.00	24.80
534-0280	RB14-10F	16-14	#10	.87	.38	31.00	24.80
534-0285	RC10-6F	12-10	#6	1.00	.31	18.63*	14.90*
534-0290	RC10-8F	12-10	#8	1.00	.37	18.63*	14.90*
534-0295	RC10-10F	12-10	#10	1.00	.37	18.63*	14.90*

*Package of 50

Non-insulated Ring

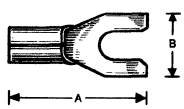


These non-insulated ring terminals are made of electrolytic copper for high conductivity and have a brazed seam barrel which provides maximum tensile strength. The wire barrel is serrated which increases grip on wire.

Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0300	A18-6	22-18	#6	.72	.25	13.50	10.80
534-0305	A18-8	22-18	#8	.75	.31	13.50	10.80
534-0310	A18-10	22-18	#10	.75	.31	13.50	10.80
534-0315	B14-6	16-14	#6	.75	.31	13.50	10.80
534-0320	B14-8	16-14	#8	.75	.31	13.50	10.80
534-0325	B14-10	16-14	#10	.75	.31	13.50	10.80
534-0330	C10-6	12-10	#6	.82	.31	9.44*	7.55*
534-0335	C10-8	12-10	#8	.82	.31	9.44*	7.55*
534-0340	C10-10	12-10	#10	.85	.38	9.44*	7.55*
534-0345	C10-14	12-10	1/4"	.91	.50	10.75*	8.60*

*Package of 50

Non-insulated Fork

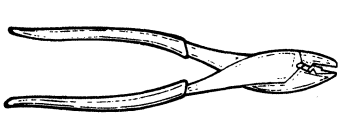


These non-insulated fork terminals are made of electrolytic copper for high conductivity and have a brazed seam barrel which provides maximum tensile strength. Serrated barrel increases grip on wire.

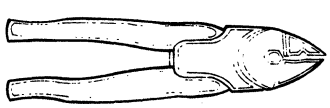
Stock No.	Mfr.'s Type	Wire Range	Bolt Hole	A Length (In.)	B Width (In.)	PKG. OF 100	
						1-4	5-Up
534-0355	A18-6F	22-18	#6	.72	.25	13.50	10.80
534-0360	A18-8F	22-18	#8	.75	.31	13.50	10.80
534-0365	A18-10F	22-18	#10	.75	.31	13.50	10.80
534-0370	B14-6F	16-14	#6	.75	.31	13.50	10.80
534-0375	B14-8F	16-14	#8	.75	.31	13.50	10.80
534-0380	B14-10F	16-14	#10	.75	.31	13.50	10.80
534-0385	C10-8F	12-10	#8	.82	.38	9.44*	7.55*
534-0390	C10-10F	12-10	#10	.82	.38	9.44*	7.55*
534-0395	C10-14F	12-10	1/4"	.98	.50	10.81*	8.65*

*Package of 50

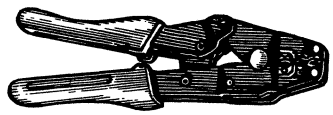
Application Tools



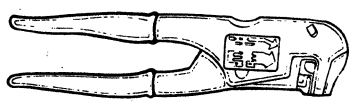
WT111M



WT2000



WT1455 WT1300

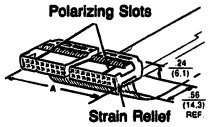


WT145A WT145C

Stock No.	Mfr.'s Type	For Use With STA-KON Series	EACH
534-1000	WT111M	A, B, C, PT non-insulated terminals and splices	20.40
534-1005	WT2000	A, B, C, PT, RA, RB, RC insulated and non-insulated terminals and splices	22.70
534-1100	WT1455	RA, RB, RC Nylon and vinyl terminals, splices and disconnects	124.50
534-1110	WT1300	A, B, C non-insulated terminal, splices, disconnects	118.70
534-1120	WT145A	Nylon terminal, splices, disconnects	155.00
534-1130	WT145C	Nylon vinyl terminals, splices, disconnects	190.00

Socket Connectors

These connectors terminate to 25 or 28 AWG solid/stranded and 30 AWG solid wire, and are compatible with most headers on a 0.1″ × 0.1″ grid. Dual and center bump polarity. 30μ gold on wiping surface, beryllium copper contacts.



Connectors

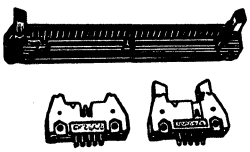
Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4000	3473-6600	10	1.73	1.64	1.56	1.48
617-4001	3385-6600	14	2.09	1.98	1.88	1.79
617-4002	3452-6600	16	2.28	2.16	2.05	1.95
617-4003	3421-6600	20	2.53	2.40	2.28	2.16
617-4004	3399-6600	26	3.26	3.09	2.94	2.79
617-4005	3419-6600	30	3.76	3.57	3.39	3.22
617-4006	3414-6600	34	4.25	4.03	3.83	3.64
617-4007	3417-6600	40	4.99	4.74	4.50	4.27
617-4008	3425-6600	50	6.22	5.90	5.61	5.33
617-4009	3334-6600	60	7.72	7.33	6.96	6.61

Clip-On Strain Relief

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4010	3448-3010	10	0.20	0.19	0.18	0.17
617-4011	3448-3014	14	0.20	0.19	0.18	0.17
617-4012	3448-3016	16	0.20	0.19	0.18	0.17
617-4013	3448-3020	20	0.20	0.19	0.18	0.17
617-4014	3448-3026	26	0.20	0.19	0.18	0.17
617-4015	3448-3030	30	0.23	0.21	0.20	0.19
617-4016	3448-3034	34	0.23	0.21	0.20	0.19
617-4017	3448-3040	40	0.23	0.21	0.20	0.19
617-4018	3448-3050	50	0.23	0.21	0.20	0.19
617-4019	3448-3060	60	0.23	0.21	0.20	0.19

Click Headers

(Optional ejector latches supplied as a separate item.) Durable, fully-shrouded housing protects .025″ square pins with 30μ gold plating. The ejector latches provide secure retention and removal. Available right angle and straight pin models.



Right Angle .112″ Solder Pins For .062″ Board

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4020	3446-5002	10	1.38	1.31	1.24	1.18
617-4021	3314-5002	14	1.53	1.45	1.38	1.31
617-4022	3408-5002	16	1.60	1.52	1.44	1.37
617-4023	3428-5002	20	1.69	1.60	1.52	1.44
617-4024	3429-5002	26	2.09	1.98	1.88	1.79
617-4025	3440-5002	30	2.39	2.27	2.15	2.04
617-4026	3431-5002	34	2.70	2.56	2.43	2.31
617-4027	3432-5002	40	3.08	2.92	2.77	2.64
617-4028	3433-5002	50	3.71	3.52	3.34	3.18
617-4029	3372-5002	60	4.58	4.35	4.13	3.92

Straight, .112″ Solder Pins For .062″ Board

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4030	3446-6002	10	1.38	1.31	1.24	1.18
617-4031	3314-6002	14	1.53	1.45	1.38	1.31
617-4032	3408-6002	16	1.60	1.52	1.44	1.37
617-4033	3428-6002	20	1.69	1.60	1.52	1.44
617-4034	3429-6002	26	2.09	1.98	1.88	1.79
617-4035	3440-6002	30	2.39	2.27	2.15	2.04
617-4036	3431-6002	34	2.70	2.56	2.43	2.31
617-4037	3432-6002	40	3.08	2.92	2.77	2.64
617-4038	3433-6002	50	3.71	3.52	3.34	3.18
617-4039	3372-6002	60	4.58	4.35	4.13	3.92

Right Angle, .155″ Solder Pins For .094″, .125″ Boards

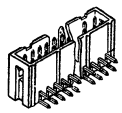
Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4040	3446-5003	10	1.48	1.40	1.33	1.26
617-4041	3314-5003	14	1.63	1.54	1.47	1.39
617-4042	3408-5003	16	1.69	1.60	1.52	1.44
617-4043	3428-5003	20	1.86	1.76	1.67	1.59
617-4044	3429-5003	26	2.30	2.18	2.07	1.97
617-4045	3440-5003	30	2.64	2.50	2.38	2.26
617-4046	3431-5003	34	3.00	2.85	2.70	2.57
617-4047	3432-5003	40	3.41	3.23	3.07	2.92
617-4048	3433-5003	50	4.11	3.90	3.70	3.52
617-4049	3372-5003	60	4.92	4.67	4.44	4.21

Straight, .155″ Solder Pins For .094″, .125″ Boards

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4050	3446-6003	10	1.48	1.40	1.33	1.26
617-4051	3314-6003	14	1.63	1.54	1.47	1.39
617-4052	3408-6003	16	1.69	1.60	1.52	1.44
617-4053	3428-6003	20	1.86	1.76	1.67	1.59
617-4054	3429-6003	26	2.30	2.18	2.07	1.97
617-4055	3440-6003	30	2.64	2.50	2.38	2.26
617-4056	3431-6003	34	3.00	2.85	2.70	2.57
617-4057	3432-6003	40	3.41	3.23	3.07	2.92
617-4058	3433-6003	50	4.11	3.90	3.70	3.52
617-4059	3372-6003	60	4.92	4.67	4.44	4.21

Ejector Latches

Stock No.	Mfr.'s Type	Description	EACH	
			1-99	100-499
617-4060	3505-2	Ejector Latches/Retainer Clip Short	0.07	0.06
617-4061	3505-3	Ejector Latches/Retainer Clip Long	0.07	0.06



Low Profile Headers

(Optional ejector latches supplied as a separate item.) Units have same specifications as CLICK series headers, except these are low profile. Available in right angle and straight pin models.

Right Angle, .112″ Solder Pins For .062″ Board

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4062	3591-5002	10	1.45	1.37	1.30	1.24
617-4063	3598-5002	14	1.61	1.52	1.45	1.38
617-4064	3599-5002	16	1.66	1.57	1.49	1.42
617-4065	3592-5002	20	1.78	1.69	1.60	1.52
617-4066	3593-5002	26	2.20	2.09	1.98	1.88
617-4067	3531-5002	30	2.53	2.40	2.28	2.16
617-4068	3594-5002	34	2.85	2.70	2.57	2.44
617-4069	3595-5002	40	3.26	3.09	2.94	2.79
617-4070	3596-5002	50	3.93	3.93	3.54	3.36
617-4071	3597-5002	60	4.86	4.61	4.38	4.16

Straight, .112″ Solder Pins For .062″ Boards

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4072	3591-6002	10	1.45	1.37	1.30	1.24
617-4073	3598-6002	14	1.61	1.52	1.45	1.38
617-4074	3599-6002	16	1.66	1.57	1.49	1.42
617-4075	3592-6002	20	1.78	1.69	1.60	1.52
617-4076	3593-6002	26	2.20	2.09	1.98	1.88
617-4077	3531-6002	30	2.53	2.40	2.28	2.16
617-4078	3594-6002	34	2.85	2.70	2.57	2.44
617-4079	3595-6002	40	3.26	3.09	2.94	2.79
617-4080	3596-6002	50	3.93	3.93	3.54	3.36
617-4081	3597-6002	60	4.86	4.61	4.38	4.16

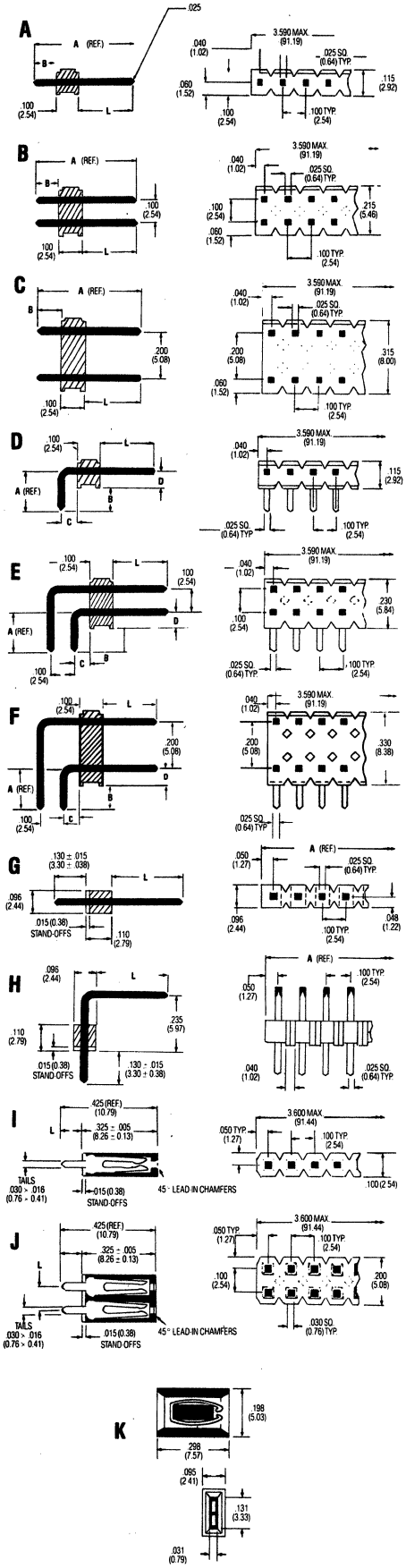
Right Angle, .155″ Solder Pins For .094″, .125″ Boards

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4082	3591-5003	10	1.60	1.52	1.44	1.37
617-4083	3598-5003	14	1.74	1.65	1.57	1.49
617-4084	3599-5003	16	1.81	1.71	1.63	1.55
617-4085	3592-5003	20	1.96	1.86	1.76	1.68
617-4086	3593-5003	26	2.43	2.30	2.19	2.08
617-4087	3531-5003	30	2.80	2.66	2.52	2.40
617-4088	3594-5003	34	3.14	2.98	2.83	2.69
617-4089	3595-5003	40	3.58	3.40	3.23	3.06
617-4090	3596-5003	50	4.32	4.10	3.89	3.70
617-4091	3597-5003	60	5.18	4.92	4.67	4.44

Straight, .155″ Solder Pins For .094″, .125″ Boards

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4092	3591-6003	10	1.60	1.52	1.44	1.37
617-4093	3598-6003	14	1.74	1.65	1.57	1.49
617-4094	3599-6003	16	1.81	1.71	1.63	1.55
617-4095	3592-6003	20	1.96	1.86	1.76	1.68
617-4096	3593-6003	26	2.43	2.30	2.19	2.08
617-4097	3531-6003	30	2.80	2.66	2.52	2.40
617-4098	3594-6003	34	3.14	2.98	2.83	2.69
617-4099	3595-6003	40	3.58	3.40	3.23	3.06
617-4100	3596-6003	50	4.32	4.10	3.89	3.70
617-4101	3597-6003	60	5.18	4.92	4.67	4.44

PC Board Connectors, Unprotected Headers, Socket Strips and Shunts



Finish Options

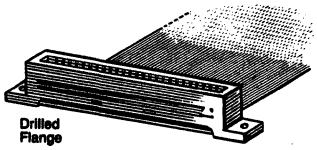
► **10-microinch selective gold over 50-microinch nickel on contact post; 100-microinch 90/10 solder plate on tail portion.**

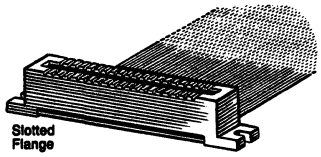
► **100-microinch 90/10 solder plate on posts and tails.**

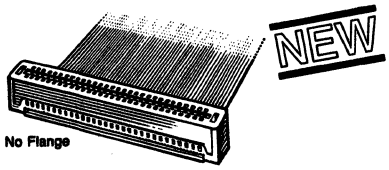
Description	Fig.	Dimensions L In.	A (ref)	B In.	C In.	D In.	Solder Plated Stock No.	Mfr.'s Type	EACH	Gold Plated Stock No.	Mfr.'s Type	EACH
Straight Single-Row Male	A	.235	.445	.110	—	—	**617-5001**	929834-01-36	**1.31**	**617-5002**	929647-01-36	**1.70**
Straight Single-Row Male	A	.235	.480	.145	—	—	**617-5003**	929834-09-36	**1.42**	**617-5004**	929647-09-36	**1.83**
Straight Single-Row Male	A	.235	.510	.175	—	—	**617-5005**	929834-10-36	**1.50**	**617-5006**	929647-10-36	**2.12**
Straight Single-Row Male	A	.235	.545	.210	—	—	**617-5007**	929834-02-36	**1.81**	**617-5008**	929647-02-36	**2.33**
Straight Single-Row Male	A	.235	.645	.310	—	—	**617-5009**	929834-08-36	**2.03**	**617-5010**	929647-08-36	**2.64**
Straight Single-Row Male	A	.235	.745	.410	—	—	**617-5011**	929834-03-36	**2.26**	**617-5012**	929647-03-36	**2.92**
Straight Single-Row Male	A	.235	.845	.510	—	—	**617-5013**	929834-04-36	**2.43**	**617-5014**	929647-04-36	**3.16**
Straight Single-Row Male	A	.235	.945	.610	—	—	**617-5015**	929834-05-36	**2.75**	**617-5016**	929647-05-36	**3.44**
Straight Single-Row Male	A	.235	1.045	.710	—	—	**617-5017**	929834-06-36	**2.94**	**617-5018**	929647-06-36	**3.68**
Straight Single-Row Male	A	.235	1.245	.910	—	—	**617-5019**	929834-07-36	**3.43**	**617-5020**	929647-07-36	**4.45**
Straight Single-Row Male	A	.318	.528	.110	—	—	**617-5021**	929700-01-36	**1.57**	**617-5022**	929705-01-36	**2.13**
Straight Single-Row Male	A	.318	.593	.175	—	—	**617-5023**	929700-10-36	**1.79**	**617-5024**	929705-10-36	**2.33**
Straight Single-Row Male	A	.318	.828	.410	—	—	**617-5025**	929700-03-36	**2.77**	**617-5026**	929705-03-36	**3.51**
Straight Single-Row Male	A	.318	1.128	.710	—	—	**617-5027**	929700-06-36	**3.51**	**617-5028**	929705-06-36	**4.42**
Straight Polarized Male	G	.295	.300	—	—	—	**617-5155**	929400-01-36	**1.10**	**617-5157**	929450-01-36	**3.20**
Straight Dual-Row Male*	B	.235	.445	.110	—	—	**617-5030**	929836-01-36	**2.75**	**617-5031**	929665-01-36	**3.58**
Straight Dual-Row Male*	B	.235	.480	.145	—	—	**617-5032**	929836-09-36	**2.96**	**617-5033**	929665-09-36	**3.86**
Straight Dual-Row Male*	B	.235	.510	.175	—	—	**617-5034**	929836-10-36	**3.14**	**617-5035**	929665-10-36	**4.10**
Straight Dual-Row Male*	B	.235	.545	.210	—	—	**617-5036**	929836-02-36	**3.75**	**617-5037**	929665-02-36	**4.86**
Straight Dual-Row Male*	B	.235	.645	.310	—	—	**617-5038**	929836-08-36	**4.19**	**617-5039**	929665-08-36	**5.45**
Straight Dual-Row Male*	B	.235	.745	.410	—	—	**617-5040**	929836-03-36	**4.64**	**617-5041**	929665-03-36	**6.04**
Straight Dual-Row Male*	B	.235	.845	.510	—	—	**617-5042**	929836-04-36	**4.99**	**617-5043**	929665-04-36	**6.50**
Straight Dual-Row Male*	B	.235	.945	.610	—	—	**617-5044**	929836-05-36	**5.62**	**617-5045**	929665-05-36	**7.08**
Straight Dual-Row Male*	B	.235	1.045	.710	—	—	**617-5046**	929836-06-36	**6.02**	**617-5047**	929665-06-36	**7.54**
Straight Dual-Row Male*	B	.235	1.245	.910	—	—	**617-5048**	929836-07-36	**7.00**	**617-5049**	929665-07-36	**9.07**
Straight Dual-Row Male*	B	.318	.528	.110	—	—	**617-5050**	929710-01-36	**3.27**	**617-5051**	929715-01-36	**4.27**
Straight Dual-Row Male*	B	.318	.593	.175	—	—	**617-5052**	929710-10-36	**3.73**	**617-5053**	929715-10-36	**4.82**
Straight Dual-Row Male*	B	.318	.828	.410	—	—	**617-5054**	929710-03-36	**5.56**	**617-5055**	929715-03-36	**7.17**
Straight Dual-Row Male*	B	.318	1.128	.710	—	—	**617-5056**	929710-06-36	**7.17**	**617-5057**	929715-06-36	**8.98**
Straight Dual-Row Male**	C	.235	.445	.110	—	—	**617-5061**	929837-01-36	**3.21**	**617-5062**	929666-01-36	**4.04**
Straight Dual-Row Male**	C	.235	.480	.145	—	—	**617-5063**	929837-09-36	**3.42**	**617-5064**	929666-09-36	**4.42**
Straight Dual-Row Male**	C	.235	.510	.175	—	—	**617-5065**	929837-10-36	**3.60**	**617-5066**	929666-10-36	**4.74**
Straight Dual-Row Male**	C	.235	.545	.210	—	—	**617-5067**	929837-02-36	**4.21**	**617-5068**	929666-02-36	**5.33**
Straight Dual-Row Male**	C	.235	.645	.310	—	—	**617-5069**	929837-08-36	**4.73**	**617-5070**	929666-08-36	**5.91**
Straight Dual-Row Male**	C	.235	.745	.410	—	—	**617-5071**	929837-03-36	**5.10**	**617-5072**	929666-03-36	**6.49**
Straight Dual-Row Male**	C	.235	.845	.510	—	—	**617-5073**	929837-04-36	**5.45**	**617-5074**	929666-04-36	**7.13**
Straight Dual-Row Male**	C	.235	.945	.610	—	—	**617-5075**	929837-05-36	**6.08**	**617-5076**	929666-05-36	**7.54**
Straight Dual-Row Male**	C	.235	1.045	.710	—	—	**617-5077**	929837-06-36	**6.48**	**617-5078**	929666-08-36	**5.91**
Straight Dual-Row Male**	C	.235	1.245	.910	—	—	**617-5079**	929837-07-36	**7.46**	**617-5080**	929666-07-36	**9.52**
Straight Dual-Row Male**	C	.318	.528	.110	—	—	**617-5081**	929720-01-36	**3.73**	**617-5082**	929725-01-36	**4.73**
Straight Dual-Row Male**	C	.318	.593	.175	—	—	**617-5083**	929720-10-36	**4.19**	**617-5084**	929725-10-36	**5.28**
Straight Dual-Row Male**	C	.318	.828	.410	—	—	**617-5085**	929720-03-36	**6.02**	**617-5086**	929725-03-36	**7.63**
Straight Dual-Row Male**	C	.318	1.128	.710	—	—	**617-5087**	929720-06-36	**7.63**	**617-5088**	929725-08-36	**6.41**
Right-Angle Single-Row Male	D	.235	.180	.105	.070	.075	**617-5090**	929835-01-36	**1.55**	**617-5091**	929648-01-36	**1.98**
Right-Angle Single-Row Male	D	.235	.215	.140	.070	.075	**617-5092**	929835-10-36	**1.66**	**617-5093**	929648-10-36	**2.14**
Right-Angle Single-Row Male	D	.235	.245	.170	.070	.075	**617-5094**	929835-11-36	**1.76**	**617-5095**	929648-11-36	**2.27**
Right-Angle Single-Row Male	D	.235	.480	.405	.070	.075	**617-5096**	929835-02-36	**2.10**	**617-5097**	929648-02-36	**2.73**
Right-Angle Single-Row Male	D	.235	.680	.605	.070	.075	**617-5098**	929835-03-36	**2.51**	**617-5099**	929648-03-36	**3.25**
Right-Angle Single-Row Male	D	.235	.280	.220	.170	.060	**617-5100**	929835-04-36	**1.91**	**617-5101**	929648-04-36	**2.46**
Right-Angle Single-Row Male	D	.235	.315	.255	.170	.060	**617-5102**	929835-12-36	**2.03**	**617-5103**	929648-12-36	**2.64**
Right-Angle Single-Row Male	D	.235	.345	.285	.170	.060	**617-5104**	929835-13-36	**2.11**	**617-5105**	929648-13-36	**2.73**
Right-Angle Single-Row Male	D	.235	.380	.320	.170	.060	**617-5106**	929835-07-36	**2.10**	**617-5107**	929648-07-36	**2.73**
Right-Angle Single-Row Male	D	.235	.580	.520	.170	.060	**617-5108**	929835-05-36	**2.47**	**617-5109**	929648-05-36	**3.21**
Right-Angle Single-Row Male	D	.235	.680	.620	.170	.060	**617-5110**	929835-08-36	**2.62**	**617-5111**	929648-08-36	**3.40**
Right-Angle Single-Row Male	D	.235	.780	.720	.170	.060	**617-5112**	929835-06-36	**2.85**	**617-5113**	929648-06-36	**3.68**
Right-Angle Single-Row Male	D	.235	.880	.820	.170	.060	**617-5114**	929835-09-36	**3.03**	**617-5115**	929648-09-36	**3.92**
Right-Angle Single-Row Male	D	.318	.180	.105	.070	.075	**617-5116**	929730-01-36	**1.85**	**617-5117**	929735-01-36	**2.40**
Right-Angle Single-Row Male	D	.318	.480	.405	.070	.075	**617-5118**	929730-02-36	**2.51**	**617-5119**	929735-02-36	**3.27**
Right-Angle Single-Row Male	D	.318	.345	.285	.170	.060	**617-5120**	929730-13-36	**2.53**	**617-5121**	929735-13-36	**3.27**
Right-Angle Single-Row Male	D	.318	.680	.620	.170	.060	**617-5122**	929730-08-36	**3.14**	**617-5123**	929735-08-36	**4.08**
Right-Angle Polarized Male	H	.295	3.600	—	—	—	**617-5158**	929500-01-36	**1.35**	**617-5159**	929550-01-36	**4.06**
Right-Angle Double-Row Male*	E	.235	.180	.105	.070	.075	**617-5125**	929838-01-36	**3.58**	**617-5126**	929667-01-36	**4.64**
Right-Angle Double-Row Male*	E	.235	.215	.140	.070	.075	**617-5127**	929838-04-36	**3.82**	**617-5128**	929667-04-36	**4.95**
Right-Angle Double-Row Male*	E	.235	.245	.170	.070	.075	**617-5129**	929838-05-36	**3.99**	**617-5130**	929667-05-36	**4.89**
Right-Angle Double-Row Male*	E	.235	.480	.405	.070	.075	**617-5131**	929838-02-36	**4.71**	**617-5132**	929667-02-36	**6.10**
Right-Angle Double-Row Male*	E	.235	.680	.605	.070	.075	**617-5133**	929838-03-36	**5.47**	**617-5134**	929667-03-36	**7.13**
Right-Angle Double-Row Male*	E	.318	.180	.105	.070	.075	**617-5135**	929740-01-36	**4.27**	**617-5136**	929745-01-36	**5.49**
Right-Angle Double-Row Male*	E	.318	.215	.140	.070	.075	**617-5137**	929740-04-36	**4.56**	**617-5138**	929745-04-36	**5.85**
Right-Angle Double-Row Male*	E	.318	.245	.170	.070	.075	**617-5139**	929740-05-36	**4.75**	**617-5140**	929745-05-36	**6.14**
Right-Angle Double-Row Male*	E	.318	.480	.405	.070	.075	**617-5141**	929740-02-36	**5.60**	**617-5142**	929745-02-36	**7.24**
Right-Angle Double-Row Male**	F	.235	.180	.105	.070	.075	**617-5144**	929839-01-36	**4.23**	**617-5145**	929668-01-36	**5.30**
Right-Angle Double-Row Male**	F	.235	.480	.405	.070	.075	**617-5146**	929839-02-36	**5.30**	**617-5147**	929668-02-36	**6.71**
Right-Angle Double-Row Male**	F	.235	.680	.605	.070	.075	**617-5148**	929839-03-36	**6.13**	**617-5149**	929668-03-36	**7.78**
Right-Angle Double-Row Male**	F	.318	.180	.105	.070	.075	**617-5150**	929750-01-36	**4.97**	**617-5151**	929755-01-36	**6.26**
Right-Angle Double-Row Male**	F	.318	.480	.405	.070	.075	**617-5152**	929750-02-36	**6.25**	**617-5153**	929755-02-36	**7.94**
Straight Single-Row Female	I	.125	—	—	—	—	**617-5161**	929974-01-36	**1.94**	**617-5162**	929850-01-36	**3.59**
Straight Dual-Row Female*	J	.125	—	—	—	—	**617-5164**	929975-01-36	**3.90**	**617-5165**	929852-01-36	**7.29**
Shunts Shorting Jumpers	K	—	—	—	—	—	**617-5167**	929950-00	**.11†**	**617-5168**	929955-06‡	**.15†**
Shunts Shorting Jumpers	K	—	—	—	—	—	—	—	—	**617-5169**	929957-08‡	**.19†**

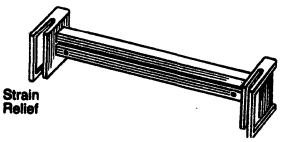
*(.1" × .1" matrix).
**(.1" × .2" matrix).
†Price Per 10.
‡929955-06 = 10 μ in. gold, 929957-08 = 30 μ in. gold.

Card Edge Connectors









Rugged overall construction and bifurcated beryllium copper contacts, plated with 30 μ gold, in the card wiping area, provide high reliability in performance and assembly. All sizes are available with slotted flange, hole flange or without flange.

With Drilled Flange

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4102	3358-0000	10	2.53	2.40	2.28	2.17
617-4103	3368-0000	16	3.49	3.32	3.15	2.99
617-4104	3461-0000	20	4.34	4.12	3.92	3.72
617-4105	3462-0000	26	5.14	4.88	4.64	4.41
617-4106	3463-0000	34	5.98	5.68	5.40	5.13
617-4107	3464-0000	40	7.34	6.97	6.62	6.29
617-4108	3415-0000	50	7.53	7.15	6.80	6.46
617-4109	3666-0000	60	9.49	9.02	8.56	8.14
617-4110	3403-0000	64	9.96	9.46	8.99	8.54

Without Mounting Flange

617-4111	3358-0001	10	2.53	2.40	2.28	2.17
617-4112	3368-0001	16	3.49	3.32	3.15	2.99
617-4113	3461-0001	20	4.34	4.12	3.92	3.72
617-4114	3462-0001	26	5.14	4.88	4.64	4.41
617-4115	3463-0001	34	5.98	5.68	5.40	5.13
617-4116	3464-0001	40	7.34	6.97	6.62	6.29
617-4117	3415-0001	50	7.53	7.15	6.80	6.46
617-4118	3666-0001	60	9.49	9.02	8.56	8.14
617-4119	3403-0001	64	9.96	9.46	8.99	8.54

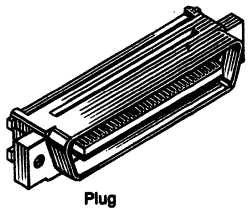
With Slotted Flange

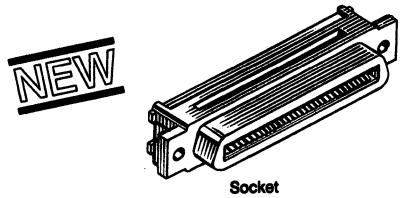
617-4120	3358-0002	10	2.53	2.40	2.28	2.17
617-4121	3368-0002	16	3.49	3.32	3.15	2.99
617-4122	3461-0002	20	4.34	4.12	3.92	3.72
617-4123	3462-0002	26	5.14	4.88	4.64	4.41
617-4124	3463-0002	34	5.98	5.68	5.40	5.13
617-4125	3464-0002	40	7.34	6.97	6.62	6.29
617-4126	3415-0002	50	7.53	7.15	6.80	6.46
617-4127	3666-0002	60	9.49	9.02	8.56	8.14
617-4128	3403-0002	64	9.96	9.46	8.99	8.54

Without Flange/With Strain Relief

617-4129	3358-0003	10	3.24	3.08	2.92	2.78
617-4130	3368-0003	16	4.40	4.18	3.97	3.77
617-4131	3461-0003	20	5.25	4.99	4.74	4.50
617-4132	3462-0003	26	6.10	5.80	5.51	5.23
617-4133	3463-0003	34	6.89	6.55	6.22	5.91
617-4134	3464-0003	40	8.29	7.88	7.48	7.11
617-4135	3415-0003	50	8.45	8.03	7.63	7.24
617-4136	3666-0003	60	10.46	9.94	9.44	8.97
617-4137	3403-0003	64	10.57	10.04	9.54	9.06

Delta Ribbon Connectors





These connectors are available in bail mount, screw mount, and combination mount. Those with type number suffix 1000 are combination; with 1001 bail mount; with 1002 screw mount. Come in 14, 24, 36 and 50 contact sizes.

Plug Version

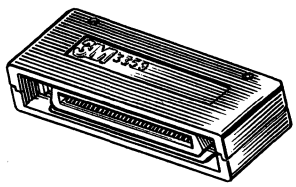
Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4138	3572-1000	14	3.98	3.78	3.59	3.41
617-4139	3572-1001	14	4.10	3.89	3.70	3.52
617-4140	3572-1002	14	4.10	3.89	3.70	3.52
617-4141	3548-1000	24	4.82	4.58	4.35	4.13
617-4142	3548-1001	24	4.93	4.68	4.45	4.23
617-4143	3548-1002	24	4.93	4.68	4.45	4.23
617-4144	3366-1000	36	5.92	5.62	5.34	5.07
617-4145	3366-1001	36	6.01	5.71	5.42	5.15
617-4146	3366-1002	36	6.01	5.71	5.42	5.15
617-4147	3564-1000	50	6.70	6.37	6.05	5.74
617-4148	3564-1001	50	7.59	7.21	6.85	6.51
617-4149	3564-1002	50	7.59	7.21	6.85	6.51

Socket Version

617-4150	3573-1000	14	3.98	3.78	3.59	3.41
617-4151	3573-1001	14	4.10	3.89	3.70	3.52
617-4152	3573-1002	14	4.10	3.89	3.70	3.52
617-4153	3549-1000	24	4.82	4.58	4.35	4.13
617-4154	3549-1001	24	4.93	4.68	4.45	4.23
617-4155	3549-1002	24	4.93	4.68	4.45	4.23
617-4156	3367-1000	36	5.92	5.62	5.34	5.07
617-4157	3367-1001	36	6.01	5.71	5.42	5.15
617-4158	3367-1002	36	6.01	5.71	5.42	5.15
617-4159	3565-1000	50	6.70	6.37	6.05	5.74
617-4160	3565-1001	50	7.59	7.21	6.85	6.51
617-4161	3565-1002	50	7.59	7.21	6.85	6.51

Delta Ribbon Metal Junction Shells

Shells protect against EMI/ESD. Those with type number suffix "R" are for round cable; those with suffix "F" are for flat cable. Available 14, 24, 36, and 50 contact sizes.

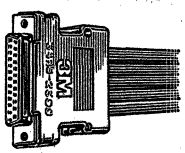


Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4162	3359-0014F	14	4.13	3.92	3.73	3.54
617-4163	3359-0014R	14	4.13	3.92	3.73	3.54
617-4164	3359-0024F	24	4.30	4.09	3.88	3.69
617-4165	3359-0024R	24	4.30	4.09	3.88	3.69
617-4166	3359-0036F	36	4.45	4.23	4.02	3.82
617-4167	3359-0036R	36	4.45	4.23	4.02	3.82
617-4168	3359-0050F	50	4.63	4.40	4.18	3.97
617-4169	3359-0050R	50	4.63	4.40	4.18	3.97

Accessories

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
617-4170	3429-2000	Polarizing Key Strain Relief for Card Edge Conn.	.15	.14	.135	.129
617-4171	3448-52	Type 3358 Card Edge Conn.	.81	.77	.730	.690
617-4172	3448-53	Type 3368 Card Edge Conn.	.81	.77	.730	.690
617-4173	3448-54	Type 3461 Card Edge Conn.	.81	.77	.730	.690
617-4174	3448-55	Type 3462 Card Edge Conn.	.81	.77	.730	.690
617-4175	3448-56	Type 3463 Card Edge Conn.	.81	.77	.730	.690
617-4176	3448-57	Type 3464 Card Edge Conn.	.81	.77	.730	.690

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
617-4177	3448-58	Type 3415 Card Edge Conn.	.81	.77	.730	.690
617-4178	3448-31	Type 3666 Card Edge Conn.	.81	.77	.730	.690
617-4179	3448-59	Type 3403 Card Edge Conn.	.81	.77	.730	.690
617-4180	3448-60	Strain Relief/14 Contact Ribbon Conn.	.31	.29	.280	.266
617-4181	3448-61	Strain Relief/24 Contact Ribbon Conn.	.32	.30	.290	.275
617-4182	3448-62	Strain Relief/36 Contact Ribbon Conn.	.34	.32	.310	.290
617-4183	3448-63	Strain Relief/50 Contact Ribbon Conn.	.35	.33	.320	.300
—	—	—	—	—	—	—



D Subminiature Connectors

Connectors are fully compatible with all .050" spaced flat cables with 26 and 28 AWG solid/stranded or 30 AWG solid wire. The low profile tin-plated metal shell ensures long-term reliability and EMI/ESD reduction. Pins and wiping leaf are plated with 30 μ gold.

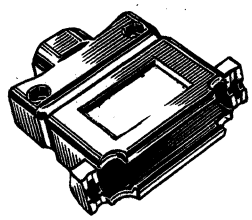
Pin Version

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4200	8209-6000	9	4.49	4.27	4.05	3.85
617-4201	8215-6000	15	5.10	4.85	4.60	4.37
617-4202	8225-6000	25	5.79	5.50	5.23	4.96
617-4203	8237-6000	37	7.48	7.11	6.75	6.41

Socket Version

617-4204	8309-6000	9	4.60	4.37	4.15	3.94
617-4205	8315-6000	15	5.29	5.02	4.77	4.54
617-4206	8325-6000	25	5.88	5.29	5.31	5.04
617-4207	8337-6000	37	7.59	7.21	6.85	6.51

D Subminiature Junction Shells for EMI/ESD Protection



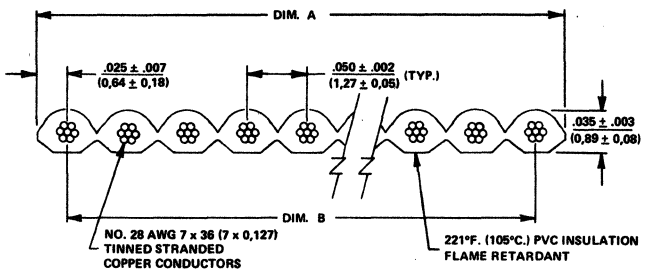
Designed for use with 3659 Round-Jacketed Flat Cable.

Stock No.	Mfr.'s Type	Contact	EACH			
			1-24	25-49	50-99	100-249
617-4208	3357-9209	9	2.17	2.06	1.96	1.86
617-4209	3357-9215	15	2.60	2.47	2.35	2.23
617-4210	3357-9225	25	2.87	2.73	2.59	2.46
617-4211	3357-9237	37	4.00	3.80	3.61	3.43

6

Scotchflex Flat Cable

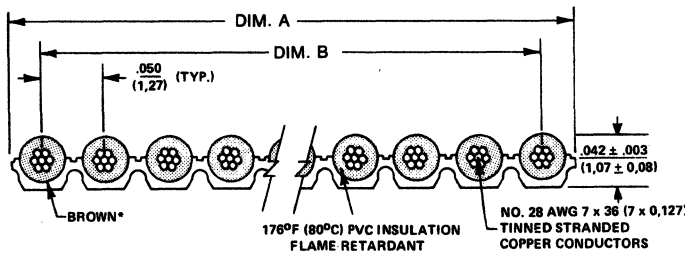
Flat Cable



Easily zippable gray flat cable is on .050" (1.27 mm) spacing with #1 conductor colored red, 28 AWG, 7/36" stranded, tinned copper wire; flame retardant PVC insulator. **Voltage Rating:** 300 V. **Insulation:** .1 × 10^{10} ohms (3 m). **Nominal Thickness:** .035".

Stock No.	Mfr.'s Type	Contact	Width (In.)	PER 100' SPOOL			
				1-4	5-9	10-24	25-Up
617-4212	3365-9	9	.45	16.93	16.08	15.27	14.51
617-4213	3365-10	10	.50	18.79	17.85	16.95	16.11
617-4214	3365-14	14	.70	26.28	24.96	23.71	22.53
617-4215	3365-16	16	.80	30.05	28.54	27.12	25.76
617-4216	3365-20	20	1.00	37.57	35.69	33.90	32.21
617-4261	3365-25	25	1.05	46.96	44.61	42.38	40.26
617-4217	3365-26	26	1.30	48.82	46.37	44.06	41.85
617-4218	3365-34	34	1.70	63.84	60.64	57.61	54.73
617-4219	3365-37	37	1.85	69.48	66.00	62.70	59.57
617-4220	3365-40	40	2.00	75.11	71.35	67.78	64.39
617-4221	3365-50	50	2.50	93.89	89.19	84.73	80.49
617-4222	3365-60	60	3.00	112.66	107.02	101.67	96.59

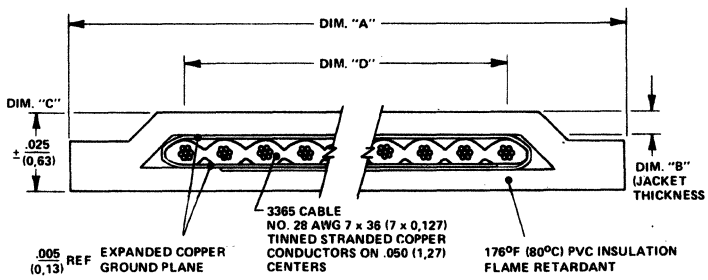
Color-Coded Flat Cable



Easily zippable on .050" (1.27 mm) spacing, with a 10-color repeat allowing for wire identification. 28 AWG, 7/36" stranded, tinned copper wire; flame-retardant insulator with nominal thickness of .042". **Voltage Rating:** 300 V. **Insulator Resistance:** > 1 × 10^{10} ohms/10' (3 m).

Stock No.	Mfr.'s Type	Contact	Width (In.)	PER 100' SPOOL			
				1-4	5-9	10-24	25-Up
617-4223	3302-9	9	.45	25.89	24.59	23.35	22.19
617-4224	3302-10	10	.50	28.76	27.32	25.95	24.65
617-4225	3302-14	14	.70	40.28	38.26	36.35	34.53
617-4226	3302-16	16	.80	46.05	43.74	41.56	39.48
617-4227	3302-20	20	1.00	57.54	54.66	51.92	49.33
617-4262	3302-25	25	1.05	69.04	65.59	62.31	59.19
617-4228	3302-26	26	1.30	74.79	71.05	67.49	64.12
617-4229	3302-34	34	1.70	97.80	92.91	88.26	83.85
617-4230	3302-37	37	1.80	106.44	101.11	96.06	91.25
617-4231	3302-40	40	2.00	115.05	109.29	102.83	98.64
617-4232	3302-50	50	2.50	143.83	136.63	129.80	123.31
617-4233	3302-60	60	3.00	172.59	163.95	155.76	147.97

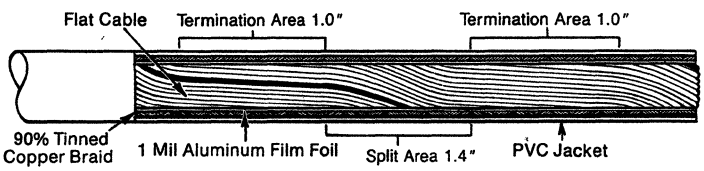
Shielded, Jacketed, Flat Cable



3365 series flat cable, core-wrapped 360° with a strong, expanded copper mesh shield for EMI/ESD protection. Jacketed with durable PVC for flexibility, insulation resistance .1 × 10^{10} ohms/10' (3 m).

Stock No.	Mfr.'s Type	Contact	Width (In.)	Jacket Thickness	PER 100' SPOOL			
					1-4	5-9	10-24	25-Up
617-4234	3517-9	9	1.00	.032	88.03	83.63	79.23	74.83
617-4235	3517-10	10	1.00	.032	92.57	87.94	83.31	78.68
617-4236	3517-15	15	1.30	.032	119.24	113.28	107.32	101.35
617-4237	3517-16	16	1.30	.032	127.30	120.94	114.57	108.21
617-4238	3517-20	20	1.50	.032	130.78	143.24	135.70	128.16
617-4239	3517-24	24	1.85	.032	164.21	156.00	147.79	139.58
617-4240	3517-25	25	1.85	.032	181.15	172.09	163.04	153.98
617-4241	3517-26	26	1.85	.032	188.75	179.31	169.88	160.44
617-4242	3317-34	34	2.16	.047	236.56	224.73	212.90	201.08
617-4243	3317-36	36	2.31	.047	251.33	238.76	226.20	—
617-4244	3317-37	37	2.31	.047	258.22	245.31	232.40	219.49
617-4245	3317-40	40	2.46	.047	278.75	264.81	250.88	236.51
617-4246	3317-50	50	2.96	.047	333.40	316.73	300.06	283.39
617-4247	3517-60	60	3.58	.062	413.74	393.05	372.37	351.68

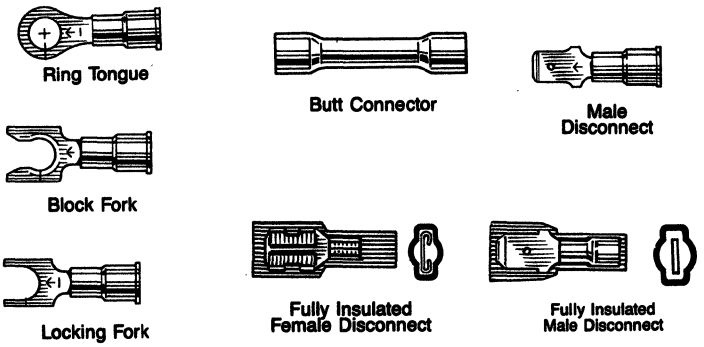
Round, Jacketed, Flat Cable with Shield



The inner 3365 Series gray flat cable has repeating areas of split and unsplit lengths to accommodate discrete or flat cable terminations. The flat cable is folded, wrapped with an aluminum/polyester film foil and then enclosed in a round, tinned copper braid for complete EMI/ESD protection. The outer jacket is flexible PVC. Combines the flexibility of round cable with the labor/cost efficiency of flat cable.

Stock No.	Mfr.'s Type	Contact	EACH			
			1-4	5-9	10-24	25-Up
617-4248	3659-9	9	89.83	85.33	81.07	77.01
617-4249	3659-10	10	94.03	89.32	84.86	80.61
617-4250	3659-15	15	106.29	100.97	95.92	91.13
617-4251	3659-20	20	114.48	108.75	103.31	98.15
617-4252	3659-24	24	122.64	116.50	110.68	105.14
617-4253	3659-25	25	126.51	120.18	114.17	108.46
617-4254	3659-26	26	130.83	124.28	118.07	112.17
617-4255	3659-34	34	147.18	139.82	132.82	126.18
617-4256	3659-36	36	151.27	143.70	136.52	129.69
617-4257	3659-37	37	155.36	147.59	140.21	133.20
617-4258	3659-40	40	159.44	151.46	143.89	136.69
617-4259	3659-50	50	183.98	174.78	166.04	157.73
617-4260	3659-60	60	206.25	195.93	186.14	176.83

Vinyl Insulated Terminals

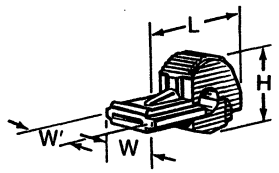


All insulated terminals feature funnel entry construction to prevent strand hangup and a crimp ridge for proper tool location. Nylon insulated terminals and connectors have butted seam barrels with insulation grip sleeves. All terminal barrels feature "U" grooves for maximum conductor retention.

Stock No.	Mfr.'s Type	Wire Size	Stud Size	Description	PER PKG.
617-2100	MV18-2R/SK	22-18	2	Ring Tongue—Brazed Seam — PK/1000	105.690
617-2105	MV18-4R/SX	22-18	4	Ring Tongue—Brazed Seam — PK/100	23.640
617-2110	MV18-6R/SX	22-18	6	Ring Tongue—Brazed Seam — PK/100	23.640
617-2115	MV18-8R/LX	22-18	8	Ring Tongue—Brazed Seam — PK/100	23.890
617-2120	MV18-10R/LX	22-18	10	Ring Tongue—Brazed Seam — PK/100	23.890
617-2125	MV18-14R/SX	22-18	1/4	Ring Tongue—Brazed Seam — PK/100	28.800
617-2130	MV18-38RX	22-18	3/8	Ring Tongue—Brazed Seam — PK/100	24.330
617-2135	MV14-4R/S	16-14	4	Ring Tongue—Brazed Seam — PK/100	23.890
617-2140	MV14-6R/S	16-14	6	Ring Tongue—Brazed Seam — PK/100	23.890
617-2145	MV14-8R/S	16-14	8	Ring Tongue—Brazed Seam — PK/1000	105.690
617-2150	MV14-8R/L	16-14	8	Ring Tongue—Brazed Seam — PK/100	23.890
617-2155	MV14-10R	16-14	10	Ring Tongue—Brazed Seam — PK/1000	105.690
617-2160	MV14-10R/L	16-14	10	Ring Tongue—Brazed Seam — PK/100	23.890
617-2165	MV14-14R/S	16-14	1/4	Ring Tongue—Brazed Seam — PK/100	29.090
617-2170	MV14-516R/S	16-14	5/16	Ring Tongue—Brazed Seam — PK/1000	138.430
617-2175	MV14-38R	16-14	3/8	Ring Tongue—Brazed Seam — PK/100	28.800
617-2180	MV10-4R/SK	12-10	4	Ring Tongue—Brazed Seam — PK/500	71.610
617-2185	MV10-6R	12-10	6	Ring Tongue—Brazed Seam — PK/50	15.340
617-2190	MV10-8R	12-10	8	Ring Tongue—Brazed Seam — PK/50	15.485
617-2195	MV10-10R	12-10	10	Ring Tongue—Brazed Seam — PK/50	15.485
617-2200	MV10-14R/S	12-10	1/4	Ring Tongue—Brazed Seam — PK/50	12.330
617-2205	MV10-516R/S	12-10	5/16	Ring Tongue—Brazed Seam — PK/50	12.155
617-2210	MV10-38R/S	12-10	3/8	Ring Tongue—Brazed Seam — PK/500	80.455
617-2215	MV10-12R	12-10	1/2	Ring Tongue—Brazed Seam — PK/50	28.320
617-2220	MV18-4FB/S	22-18	4	Block Fork—Brazed Seam — PK/1000	105.690
617-2225	MV18-6FB/S	22-18	6	Block Fork—Brazed Seam — PK/1000	105.690
617-2230	MV18-6FB	22-18	6	Block Fork—Brazed Seam — PK/100	23.890
617-2235	MV18-8FB	22-18	8	Block Fork—Brazed Seam — PK/100	23.890
617-2240	MV18-10FB	22-18	10	Block Fork—Brazed Seam — PK/100	23.640
617-2245	MV14-4FB/S	16-14	4	Block Fork—Brazed Seam — PK/1000	105.690
617-2250	MV14-6FB/S	16-14	6	Block Fork—Brazed Seam — PK/1000	105.690
617-2255	MV14-6FB	16-14	6	Block Fork—Brazed Seam — PK/100	23.890
617-2260	MV14-8FB	16-14	8	Block Fork—Brazed Seam — PK/100	23.890
617-2265	MV14-10FB	16-14	10	Block Fork—Brazed Seam — PK/100	23.890
617-2270	MV10-6FB	12-10	6	Block Fork—Brazed Seam — PK/50	15.340
617-2275	MV10-8FB	12-10	8	Block Fork—Brazed Seam — PK/50	15.485
617-2280	MV10-10FB	12-10	10	Block Fork—Brazed Seam — PK/50	15.485
617-2285	MVU18-4FL	22-18	4	Locking Fork—Butted Seam — PK/1000	86.860
617-2290	MVU18-6FL	22-18	6	Locking Fork—Butted Seam — PK/1000	86.860
617-2295	MVU18-8FL	22-18	8	Locking Fork—Butted Seam — PK/1000	86.860
617-2300	MVU18-10FL	22-18	10	Locking Fork—Butted Seam — PK/1000	86.860
617-2305	MVU14-4FL	16-14	4	Locking Fork—Butted Seam — PK/1000	86.860
617-2310	MVU14-6FL	16-14	6	Locking Fork—Butted Seam — PK/1000	86.860
617-2315	MVU14-8FL	16-14	8	Locking Fork—Butted Seam — PK/1000	86.860
617-2320	MVU14-10FL	16-14	10	Locking Fork—Butted Seam — PK/1000	86.860
617-2325	MVU14-14FL	16-14	1/4	Locking Fork—Butted Seam — PK/1000	105.570
617-2330	MVU10-6FL	12-10	6	Locking Fork—Butted Seam — PK/500	62.430
617-2335	MVU10-8FL	12-10	8	Locking Fork—Butted Seam — PK/500	62.430
617-2340	MVU10-10FL	12-10	10	Locking Fork—Butted Seam — PK/500	62.430
617-2345	MVU10-14FL	12-10	1/4	Locking Fork—Butted Seam — PK/500	72.120
617-2350	MVU18BC	22-18	—	Butt Connector—Butted Seam — PK/1000	85.430
617-2355	MVU14BC	16-14	—	Butt Connector—Butted Seam — PK/1000	85.430
617-2360	MVU10BC	12-10	—	Butt Connector—Butted Seam — PK/500	52.750
617-2365	MNU18-187DFI	22-18	—	*Fully Insul. Female Disconn.—Butted Seam — PK/100	39.260
617-2370	MENU18-250DFI	22-18	—	*Fully Insul. Female Disconn.—Butted Seam — PK/100	19.560
617-2375	MNU14-187DFI	16-14	—	*Fully Insul. Female Disconn.—Butted Seam — PK/100	30.260
617-2380	MENU14-250DFI	16-14	—	*Fully Insul. Female Disconn.—Butted Seam — PK/100	19.560
617-2385	MENU10-250DFI	12-10	—	*Fully Insul. Female Disconn.—Butted Seam — PK/50	13.620
617-2390	MEVU18-187DM	22-18	—	Male Disconnect—Butted Seam — PK/100	11.690
617-2395	MEVU18-250DM	22-18	—	Male Disconnect—Butted Seam — PK/100	11.690
617-2400	MEVU14-187DM	16-14	—	Male Disconnect—Butted Seam — PK/100	11.690
617-2405	MEVU14-250DM	16-14	—	Male Disconnect—Butted Seam — PK/100	11.690
617-2410	MEVU10-250DM	12-10	—	Male Disconnect—Butted Seam — PK/50	8.140
617-2415	MNG18-187DMI	22-18	—	*Fully Insul. Male Disconn.—Insul. Grip — PK/100	41.250
617-2420	MNG18-250DMI	22-18	—	*Fully Insul. Male Disconn.—Insul. Grip — PK/100	41.250
617-2425	MNG14-187DMI	16-14	—	*Fully Insul. Male Disconn.—Insul. Grip — PK/100	41.250
617-2430	MNG14-250DMI	16-14	—	*Fully Insul. Male Disconn.—Insul. Grip — PK/100	41.250
617-2436	MNG10-250DMI	12-10	—	*Fully Insul. Male Disconn.—Insul. Grip — PK/50	26.680

*Nylon Insulated.

Female T-Tap Disconnect



► Nylon Insulated ► Self Stripping

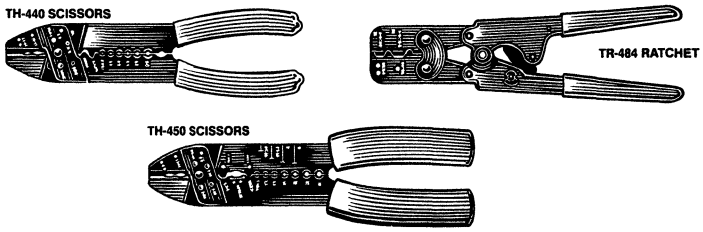
T-Tap Disconnects have a unique disconnectable T-Tap design that covers 22-12 AWG.

951, 952 and 953 T-Tap Disconnects speed installation, reduce conductor damage and make fast work of otherwise time-consuming mid-span taps. The disconnectable tap leg simplifies hookup and increases flexibility. T-Tap Disconnects assure a fully insulated connection when used with a fully insulated .250" male disconnect terminal.

Stock No.	Mfr.s Type	Wire Size	Mates with Male Tab (w/ Thickness)	Dimensions			PER PK/50	
				L	H	W	1-19	20-199
617-2437	951	22-18	.250 × .032	.73	.44	.150	7.81	7.03
617-2440	952	18-14	.250 × .032	.73	.44	.150	7.81	7.03
617-2445	953	12	.250 × .032	.73	.44	.150	9.27	8.35

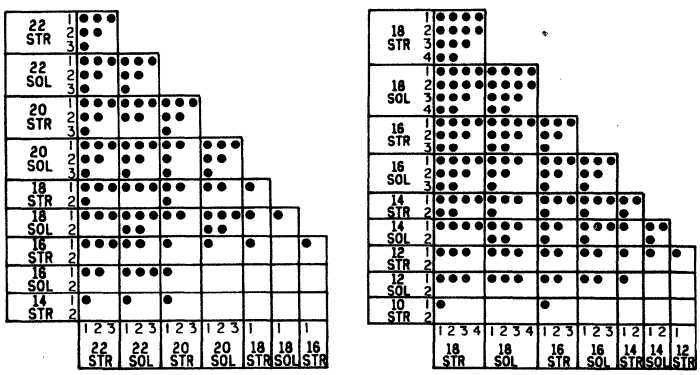
6

Crimping Tools



617-2450. TH-440 ..... EACH 16.72
617-2455. TH-450 ..... EACH 31.00
617-2460. TH-484 ..... EACH 173.91

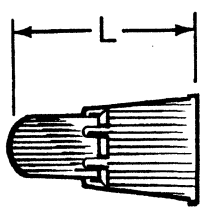
Closed End Connector Nylon Insulated/Steel Insert



How to Read Charts Above

Example 1:
1 No. 16 STR + 3 No. 22STR (= 4) may be connected using a 22-14 AWG Connector.

Example 2:
1 No. 14 Sol + No. 18 STR (= 5) may be connected using an 18-10 AWG Connector.



Stock No.	Mfr.'s Type	Wire Size	Dim. L	Barrel		PER PKG.	
				Length	I.D.	1-19	20-199
617-2465†	MEN14CEC	22-14	.76	.31	.091	13.86	12.47
617-2470*	MEN10CEC	18-10	.85	.34	.152	21.29	19.16

†PK/100. *PK/50.

IDC Electrical Connectors

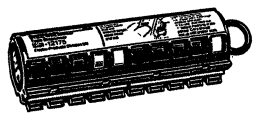
No strip, no twist—just squeeze. These IDC connectors have productivity built right in, reducing wire waste on the job. No special tools are needed. Make quick work of tap, inline and pigtail connections. Connectors are constructed of flame retardant materials. (For use on copper conductors only).

Stock No.	Mfr.'s Type	Color	Wire Ang.	Conn. Per Box	PER BOX 1-9	PER BOX 10-24
617-4500	560 (00839)	Blue	18-14	100	10.45	9.47
617-4505	905 (06128)*	Red	22-18	50	6.00	5.90
617-4510	558 (14861)	Red	22-16	100	15.20	13.77
617-4515	557 (21494)	Red	22-16	100	14.55	13.18

*Tap

Scotchcode® STD Tape Dispenser

This handy dispenser is a fast convenient system for marking wire or cable. Easy to carry in pocket or tool box; always at hand.



Type 12174 (STD-0-9). Dispenser with #0-9.
617-4545 ..... **EACH 21.59**
Type 12175 (STD-C). Dispenser with colored tape.
617-4550 ..... **EACH 21.59**

Scotchlok® IDC Communications Connectors

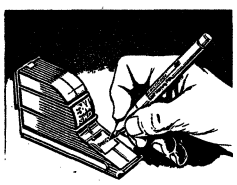
For Inline Splicing—Fig. A

Stock No.	Mfr.'s Type	Color	Description	Wire Range AWG*	PER PKG./100 1-9	PER PKG./100 10-24
617-4750	U1B	Blue	Full pair	16-19	131.83	118.65
617-4755	U1R	Red	Full pair	19-24	131.83	118.65
617-4760	U1Y	Yellow	Four-way bridging	16-19	150.78	135.70
For Pigtail Splicing—Fig. B						
617-4765	UAL	Gray	2-3 wire	17-20 Aluminum 19-24 Copper	25.96	23.36
617-4770	UR	Red	2-3 wire	19-26	19.17	17.25
617-4775	UY	Yellow	2-3 wire	22-26	14.74	13.27
For Bridging—Fig. C						
617-4780	UB	Blue	—	22-26	19.33	17.40
617-4785	UG	Green	—	19-26	20.70	18.63

*Solid

Crimping Tools—Fig. D

Stock No.	Mfr.'s Type	For Connectors	EACH
617-4790	E-9BM	Heavy duty for all types	40.59
617-4795	E-9E	For UAL, UR, UY, UB	19.51
617-4800	E-9Y	With wire cutter and insulated handle for UB, UG, UR, UY	17.64



Scotchcode® Write-On Dispensers and Marking Pens

The disposable write-on tape dispenser contains 250 die-cut markers and comes complete with marking pens. Writing area measures 3/4" × 5/16". O.D. range of each marker is 22-6 ang. (.090"-.315"). Vinyl tape is resistant to oils and solvents and has a high-tack acrylic adhesive. Additional marking pens can be ordered in red or black permanent ink.

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-24
617-4685	11954 (SWD)	Dispenser with pen	15.43	13.89
617-4690	12201 (SWD-R)	Dispenser Refill	11.93	10.74

617-4695. 11955 (SMP). Black ..... **EACH 3.42**
617-4700. 12199 (SMP-R). Red ..... **EACH 3.42**

Scotch® Super 33+ Vinyl Electrical Tape

33+ tape stretches easily and sticks aggressively to hold in all temperature conditions (0°F/–18°C to 220°F/105°C). 33+ tape provides excellent resistance against flame, abrasion, moisture, alkalies, solvents, oils, ultraviolet rays and many acids while maintaining its full electrical and mechanical properties. (7-mil thick).
617-4725. 06132. 3/4" × 66' ..... **PER ROLL 2.77**
617-4730. 06130. 3/4" × 20' ..... **PER ROLL 1.08**

Scotchkote® Electrical Coating

Provides fast-drying extra coating protection for a tough outer seal on electrical insulation subjected to abnormal weathering or moisture conditions. Non-aerosol. Resistant to oil, moisture and aliphatic hydrocarbons. 16 oz. container with brush-top applicator.

617-4740. SCOTCHKOTE (14853) ..... **EACH 11.33**

Scotchlok® Electrical Spring Connectors

The original color-coded wire connectors, featuring three-part construction with live spring action for outstanding performance. Flexible vinyl insulator won't cut or abrade wire. Steel inner shell allows for spring expansion/contraction to compensate for heat rise. Flared design aids wire insulation.

Stock No.	Mfr.'s Type	Color	Wire Ang.	Conn. Per Box	PER BOX/100 1-9	PER BOX/100 10-24
617-4525	Y (20041)	Yellow	22-10	100	7.25	6.52
617-4530	R (20058)	Red	18-10	100	9.69	8.73
617-4535	G (21346)	Gray	14-8	100	19.64	17.68

Hyflex® Electrical Spring Connector—New
Spins on quickly and tightens down easily.

Stock No.	Mfr.'s Type	Color	Wire Range AWG	PER BOX/100 1-9	PER BOX/100 10-24
617-4537	212 (11792)	Tan	18-10	6.79	6.11

Scotchcode® SER Identifying Tapes

5.5 mil reinforced flame-retardant epoxy film tape with an acrylic high tack pressure-sensitive adhesive. Tape resists abrasion, oil and water. Excellent adhesion to clean Neoprene™, Hypalon, nylon and PVC insulation materials.

Stock No.	Mfr.'s Type	Description	PER ROLL 1-49	PER ROLL 50-Up
617-4555	SER-0-9 (12179)	Numbered 0-9	13.60*	12.24*
617-4560	SER-0 (12176)	Numbered "0" only	1.36	1.23
617-4565	SER-1 (12178)	Numbered "1" only	1.36	1.23
617-4570	SER-2 (12180)	Numbered "2" only	1.36	1.23
617-4575	SER-3 (12182)	Numbered "3" only	1.36	1.23
617-4580	SER-4 (12184)	Numbered "4" only	1.36	1.23
617-4585	SER-5 (12186)	Numbered "5" only	1.36	1.23
617-4590	SER-6 (12190)	Numbered "6" only	1.36	1.23
617-4595	SER-7 (12192)	Numbered "7" only	1.36	1.23
617-4600	SER-8 (12194)	Numbered "8" only	1.36	1.23
617-4605	SER-9 (12198)	Numbered "9" only	1.36	1.23
617-4610	SER-GN (34040)	Green	1.36	1.23
617-4615	SER-GY (34041)	Gray	1.36	1.23
617-4620	SER-OR (34042)	Orange	1.36	1.23
617-4625	SER-RD (34043)	Red	1.36	1.23
617-4630	SER-BK (34044)	Black	1.36	1.23
617-4635	SER-BL (34045)	Blue	1.36	1.23
617-4640	SER-BR (34046)	Brown	1.36	1.23
617-4645	SER-VL (34047)	Violet	1.36	1.23
617-4650	SER-WH (34048)	White	1.36	1.23
617-4655	SER-YL (34049)	Yellow	1.36	1.23

*Box of 10 rolls; each roll has a different number.

EMI/RFI Foil Shielding Tapes

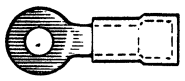
Copper foil electrical tapes provide an easy-to-apply, timesaving, cost-effective way to shield against EMI/RFI radiation. Foil tapes are conductive through the adhesive and offer mechanical, electrical and thermal values to meet your shielding effectiveness and frequency requirements.

Type 1181 (27551). Copper Foil with smooth finish 1/2" × 18 yds.
617-4705 ..... **PER ROLL 20.27**
Type 1181 (27468). Copper Foil with smooth finish 1" × 18 yds.
617-4710 ..... **PER ROLL 40.51**
Type 1245 (27552). Copper Foil with embossed finish 1/2" × 18 yds.
617-4715 ..... **PER ROLL 17.55**
Type 1245 (27531). Copper Foil with embossed finish 1" × 18 yds.
617-4720 ..... **PER ROLL 35.10**

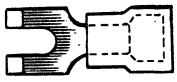
Scotch® Super 88 Vinyl Electrical Tape

Heavy-duty 8.5 mil thick tape particularly well-suited for cold weather applications. It remains flexible under cold conditions and works well even on small wires. Resists abrasions, salt, alkalies, acids and ultraviolet rays.
617-4735. 06143. 3/4" × 66' ..... **PER ROLL 3.02**

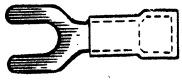
Insulated and Non-Insulated Solderless Terminals



R
Ring



BSF
Flanged Block Spade

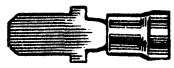


BS
Block Spade

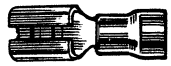
Tongue-Style Terminals Insulated and Non-Insulated

Butt

Male



Female



Choose from hook, ring, block spade and flanged block spade style insulated or non-insulated terminals. All are constructed of electrolytic copper and are tin-plated for maximum conductivity and corrosion resistance. Sturdy, fast connect, disconnect. Resist lossening effect of vibration.

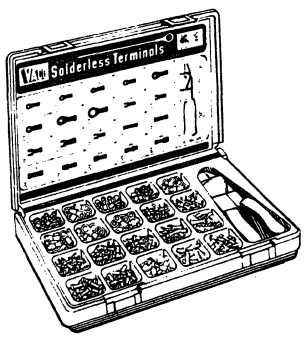
NEMA color-coded, vinl insulation. Provides excellent electrical connections with high mechanical characteristics. Male and female disconnectors, female right angle, pigtail and Butt connector also available. Meets government, military, UL, and CSA requirements.

Non-Insulated Single Grip Terminals

Stock No.	Mfr.'s Type	Wire Size	Stud Size	Description	PER PKG./100
975-5400	C11204	22-18	4	Ring	5.32
975-5405	C11205	22-18	5-6	Ring	5.32
975-5406	C11206	22-18	5-6	Ring	5.32
975-5408	C11208	22-18	8	Ring	5.32
975-5410	C11210	22-18	10	Ring	5.32
975-5411	C11214	22-18	12 1/4	Ring	6.96
975-5425	C11305	16-14	5-6	Ring	5.32
975-5426	C11306	16-14	5-6	Ring	5.32
975-5428	C11308	16-14	8	Ring	5.32
975-5430	C11310	16-14	10	Ring	5.32
975-5435	C11314	16-14	12 1/4	Ring	6.62
975-5437	C11338	16-14	3/8	Ring	6.96
975-5440	C11410	12-10	10	Ring	6.62
975-5444	C11414	12-10	12 1/4	Ring	8.82
975-5455	C13204	22-18	4	Spade	5.32
975-5606	C13206	22-18	5-6	Spade	5.32
975-5608	C13208	22-18	8	Spade	5.32
975-5610	C13210	22-18	10	Spade	5.32
975-5636	C13306	16-14	4-6	Spade	5.32
975-5638	C13308	16-14	8	Spade	5.32
975-5640	C13310	16-14	10	Spade	5.32
975-5675	C13410	12-10	10	Spade	6.62
975-5706	C14206	22-18	4-6	Spade Flanged	5.32
975-6002	C17202	22-18	—	Butt Connector	5.32
975-6032	C17302	16-14	—	Butt Connector	5.32
975-6102	C18202	22-18	—	Male Disconnect	5.58
975-6131	C18301	18-14	—	Male Disconnect	5.58
975-6110	C18203	22-18	—	Female Disconnect	5.58
975-6132	C18302	18-14	—	Female Disconnect	5.58
975-6134	C18314	18-16	—	Right Angle Female Disconnect	15.20

Insulated Bellmouth Terminals

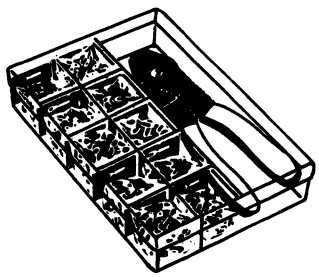
Stock No.	Mfr.'s Type	Wire Size	Stud Size	Description	PER PKG./100
975-6704	C61204	22-18	4	Ring	9.52
975-6705	C61205	22-18	5-6	Ring	9.52
976-6706	C61206	22-18	5-6	Ring	9.52
976-6708	C61208	22-18	8	Ring	9.52
976-6710	C61210	22-18	10	Ring	9.52
975-6715	C61214	22-18	12 1/4	Ring	11.74
975-6720	C61238	22-18	3/8	Ring	11.74
975-6725	C61304	16-14	4	Ring	9.52
975-6735	C61305	16-14	5-6	Ring	9.52
975-6736	C61306	16-14	5-6	Ring	9.52
975-6738	C61308	16-14	8	Ring	9.52
975-6740	C61310	16-14	10	Ring	9.52
975-6745	C51314	16-14	12 1/4	Ring	11.74
975-6750	C61338	16-14	3/8	Ring	11.74
975-7000	C61410	12-10	10	Ring	11.74
975-7005	C61414	12-10	12 1/4	Ring	13.22
975-7025	C63204	22-18	4	Spade	9.52
975-7106	C63206	22-18	5-6	Spade	9.52
975-7108	C63208	22-18	8	Spade	9.52
975-7110	C63210	22-18	10	Spade	9.52
975-7136	C63306	16-14	4-6	Spade	9.52
975-7138	C63308	16-14	8	Spade	9.52
975-7140	C63310	16-14	10	Spade	9.52
975-7175	C6410	12-10	10	Space	11.74
975-7206	C64206	22-18	4-6	Spade Flanged	9.52
975-7250	C65308	16-14	8	Hook	10.00
975-7502	C67202	22-18	—	Butt Connector	10.48
975-7532	C67302	16-14	—	Butt Connector	10.48
975-7540	C67402	12-10	—	Butt Connector	12.68
975-7543	C67203	22-14	—	Pigtail Connector	11.18
975-7545	C67405	18-10	—	Pigtail Connector	9.14
975-7550	C68202	22-16	—	Male Disconnect	9.66
975-7601	C68301	18-4	—	Male Disconnect	9.66
975-7615	C68203	22-16	—	Female Disconnect	9.66
975-7602	C68302	18-14	—	Female Disconnect	9.66
—	—	—	—	—	—



Terminal Kits with Crimper/Cutter

- Popular Assortment
- Carrying Case
- Rugged Crimper

MODEL 4900-63. Popular assortment contains 440 insulated single-grip solderless terminals, plus rugged combination cutter-crimper tool for correct installation. Package includes: 20 different types and sizes of terminals; plus Type 1963 high-grade steel service tool. Compact heavy duty plastic carrying/storage case measures 13 1/2" long, 9 1/2" wide and 2 1/4" deep. **Shipping Weight:** 7 lbs.
975-4063 .....**EACH 96.72**



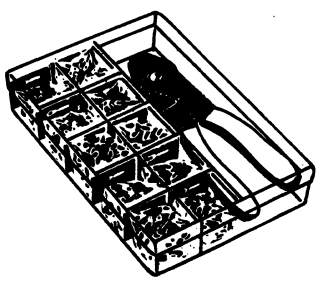
Non-Insulated Electronic Service Kit

MODEL 2195-63. 10 assorted single grip terminal styles recommended for radio, TV and other general purpose applications. Includes No. 1963 crimping tool with bolt slicer and 160 total terminals of the following: 11205, 11206, 11210, 11305, 11306, 11310 ring tongue, 14206, 13306, 13310 spade tongue, 15208 hook tongue.
975-3671.....**EACH 24.92**

Assorted Terminals Servicing Outfit

- 160 Solderless Terminals
- TDY1900 Crimper

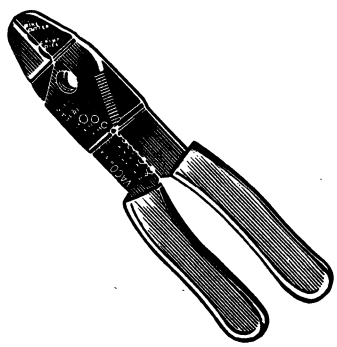
MODEL 2195. Handy kit contains approximately 160 solderless terminals in most popular sizes, in addition to a Type 1900 crimper/cutter which handles 18-22, 14-16 and 10-12 wires. Also strips insulation from No. 22 to 10 wire, cuts wire and bolts. Assortment and tool are supplied in convenient clear plastic case with slotted compartments. **Overall case size:** 8 3/4" × 5 7/8" × 1 3/4". **Shipping Weight:** 1 lb.
975-3670.....**EACH 23.02**

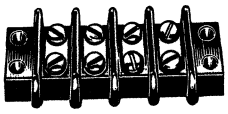


Model 1963 All-Purpose Crimping and Cutting Tool

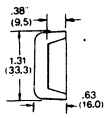
- Cuts, Strips, Crimps, Slices

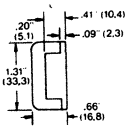
The only tool you need to make excellent electrical connections without solder. Cuts and strips wire; slices bolts; has crimping dies for insulated and non-insulated terminals. Wire cutter located at tip of tool for close work. Stripping notches for Nos. 10, 12, 14, 16, 18, 20, 22 wire. Slices bolts 10-32, 6-32, 10-24, 8-32 and 4-40. Has plastic-insulated handles. Rugged, treated-steel construction. **Weight:** 1 lb.
975-3590.....**EACH 16.42**

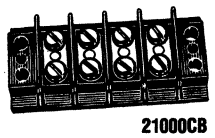




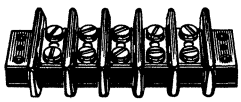
21000







21000CB



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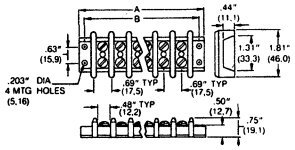
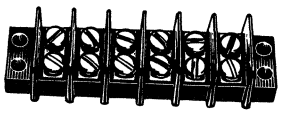
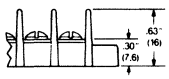
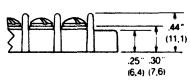


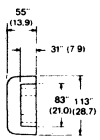


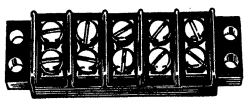
76000

77000









78000

Model	Dimensions			
	W × H	Terminal Centers	Mtg. Hole Dia.	Screw Size
Series 1000	5/8" × 5/16"	1/4"	.125"	2-56
Series 2100	15/16" × 5/8"	9/16"	.209"	8-32
Series 2200	15/16" × 21/32"	9/16"	.209"	8-32
Series 7600	1 1/8" × 35/64"	3/8"	.160"	6-32
Series 7700	7/8" × 7/16"	3/8"	.160"	6-32
Series 7800	1 1/8" × 7/8"	7/16"	.180"	6-32

Double-Row Terminal Strips

Series 21000. Open back construction. 9/16" terminal centers. 30 amp current rating (UL). **Voltage Rating, rms:** UL recognized, Class B—600; Class C—600. **CSA Certified:** 300 @ 30 amps. **Withstand Volts, rms:** 10500. **Insulator Material:** general purpose phenolic. UL temp. index 150°C. Black. **Width × Height:** 1 5/16 × 5/8". Max. AWG: 12. **Terminal Screws:** No. 8-32 × 5/16" binding head screws. Steel, cadmium plated.

Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-1116	21002	2	.85	.79	.72	.66
607-1126	21003	3	1.27	1.17	1.07	.99
607-1136	21004	4	1.52	1.40	1.29	1.18
607-1156	21006	6	2.21	2.04	1.73	1.72
607-1176	21008	8	2.63	2.42	2.23	2.05
607-1196	21010	10	3.40	3.13	2.88	2.65
607-1216	21012	12	4.11	3.79	3.48	3.20
607-1236	21014	14	4.50	4.14	3.81	3.50
607-1256	21016	16	5.35	4.92	4.53	4.16
607-1276	21018	18	6.09	5.48	4.93	4.44
607-1296	21020	20	6.74	6.07	5.42	4.92

Series 28000. Open back construction. 11/16" terminal centers. 50 amp current rating. (UL) **Voltage Rating, rms.** UL Recognized, Class B-600; Class C-600. **CSA Certified:** 600 @ 50 amps. **Withstand Volts, rms:** 10500. **Insulator Material:** general purpose phenolic. UL temp. index 150°C. Black. **Width × Height:** 1 13/16" × 3/4". **Max. AWG:** 6 lugged. **Terminal Screws:** No. 10-32 × 3/8" binding head screws. Brass, nickel plated.

607-1402	28002	2	2.10	1.89	1.70	1.53
607-1403	28003	3	2.88	2.59	2.33	2.10
607-1404	28004	4	3.76	3.39	3.05	2.74
607-1405	28005	5	4.63	4.17	3.75	3.37
607-1406	28006	6	5.76	5.19	4.67	4.20
607-1408	28008	8	7.22	6.50	5.85	5.27
607-1410	28010	10	8.90	8.10	7.21	6.49
607-1412	28012	12	10.71	9.64	8.68	7.81

Series 77000. Closed back construction. 3/8" terminal centers. 20 amp current rating (UL). **Voltage Rating, rms:** UL recognized, Class B—250; Class C—150. **CSA Certified:**—150 @ 20 amps. **Withstand oltage, rms:**7500. **Insulator Material:** thermoplastic, glass-filled. UL temp. index 95°C. UL flame retardant rating 94V-0. Black. **Width × Height:** 7/8 × 7/16". **Max. AWG:** 14. **Terminal Screws:** No. 6-32 × 1/3" binding head screws. Steel, cadmium plated.

607-1113	77002	2	.62	.56	.50	.45
607-1123	77003	3	.70	.63	.56	.51
607-1133	77004	4	.82	.74	.66	.60
607-1143	77005	5	1.06	.95	.86	.77
607-1153	77006	6	1.23	1.11	1.00	.90
607-1163	77007	7	1.30	1.17	1.05	.95
607-1173	77008	8	1.55	1.39	1.26	1.13
607-1183	77009	9	1.69	1.52	1.37	1.23
607-1193	77010	10	1.87	1.68	1.51	1.36
607-1203	77011	11	1.98	1.78	1.60	1.44
607-1213	77012	12	2.12	1.91	1.72	1.54
607-1233	77014	14	2.51	2.26	2.03	1.83
607-1243	77015	15	2.83	2.54	2.29	2.06
607-1253	77016	16	2.83	2.54	2.29	2.06
607-1273	77018	18	3.11	2.80	2.52	2.27
607-1293	77020	20	3.49	3.14	2.83	2.55
607-1313	77022	22	3.71	3.34	3.01	2.71
607-1333	77024	24	4.13	3.71	3.34	3.01
607-1353	77026	26	4.56	4.11	3.70	3.33
607-1373	77028	28	4.61	4.02	3.61	3.25
607-1393	77030	30	4.85	4.37	3.93	3.54

Series 21000CB. Closed back construction. 9/16" terminal centers, 30 amp current rating (UL). **Voltage Rating, rms:** UL recognized Class B—600; Class C—600. **CSA Certified:** 300 @ 30 amps. **Withstand Volts, rms:** 9000. **Insulator Material:** general purpose phenolic. UL temp. index 150°C. Black. **Width × Height:** 1 5/16 × 21/32". **Max. AWG:** 12. **Terminal Screws:** No. 8-32 × 5/16" binding head screws. Steel, cadmium plated.

Stock No.	Mfr.'s Type	No. of Circuits	EACH			
			1-24	25-49	50-99	100-249
607-1117	21002CB	2	1.01	.91	.82	.73
607-1137	21004CB	4	1.69	1.53	1.37	1.24
607-1157	21006CB	6	2.44	2.20	1.98	1.78
607-1177	21008CB	8	2.92	2.63	2.36	2.13
607-1197	21010CB	10	3.72	3.38	3.04	2.74
607-1217	21012CB	12	4.55	4.10	3.69	3.32
607-1237	21014CB	14	4.84	4.45	4.10	3.77
607-1257	21016CB	16	5.91	5.32	4.79	4.31
607-1277	21018CB	18	6.60	5.94	5.35	4.81
607-1297	21020CB	20	7.47	6.72	6.05	5.45
607-1317	21024CB	24	9.32	8.39	7.55	6.80

Series 76000. High barrier, closed back construction. 3/8" terminal centers. 20 amps current rating (UL). **Voltage Rating, rms:** UL recognized Class B, 250; Class C, 150. **CSA Certified:** 300 @ 20 amps. **Withstand Voltage, rms:** 10500. **Insulator Material:** thermoplastic, glass filled. UL temp. index 95°C. UL flame retardant rating 94V-0. Black. **Width × Height:** 7/8 × 5/8". **Max. AWG:** 14. **Terminal Screws:** No. 6-32 × 1/4" binding head screws. Steel, cadmium plated.

607-1112	76002	2	.62	.56	.50	.45
607-1122	76003	3	.70	.63	.56	.51
607-1132	76004	4	.82	.74	.66	.60
607-1142	76005	5	1.06	.95	.86	.77
607-1152	76006	6	1.23	1.11	1.00	.90
607-1162	76007	7	1.30	1.17	1.05	.95
607-1172	76008	8	1.55	1.39	1.26	1.13
607-1182	76009	9	1.69	1.52	1.37	1.23
607-1192	76010	10	1.87	1.68	1.51	1.36
607-1212	76012	12	2.12	1.91	1.72	1.54
607-1232	76014	14	2.51	2.26	2.03	1.83
607-1242	76015	15	2.83	2.54	2.29	2.06
607-1252	76016	16	2.83	2.54	2.29	2.06
607-1272	76018	18	3.11	2.80	2.52	2.27
607-1292	76020	20	3.49	3.14	2.83	2.55
607-1312	76022	22	3.71	3.34	3.01	2.71
607-1332	76024	24	4.13	3.71	3.34	3.01
607-1352	76026	26	4.56	4.11	3.70	3.33
607-1372	76028	28	4.61	4.02	3.61	3.25
607-1392	76030	30	4.85	4.37	3.93	3.54

Series 78000. Closed back construction. 7/16" terminal centers. 20 amp current rating. **Voltage Raging:** UL recognized, Class B—250; Class C—300. **CSA Certified:** 300 @ 20 amps. **Withstand Volts, rms:** 7500. **Insulator Material:** same as Series 77000, left. **Width × Height:** 1 1/8 × 35/64". **AWG:** 14. **Terminal Screws:** Same as Series 77000.

607-1114	78002	2	.62	.55	.50	.45
607-1124	78003	3	.78	.70	.63	.57
607-1134	78004	4	1.08	.97	.88	.79
607-1144	78005	5	1.26	1.13	1.02	.92
607-1154	78006	6	1.41	1.27	1.14	1.03
607-1164	78007	7	1.80	1.62	1.46	1.31
607-1174	78008	8	1.81	1.63	1.47	1.32
607-1184	78009	9	1.94	1.75	1.57	1.42
607-1194	78010	10	2.18	1.97	1.77	1.59
607-1204	78011	11	3.42	3.08	2.77	2.50
607-1214	78012	12	2.62	2.36	2.12	1.91
607-1234	78014	14	3.05	2.74	2.47	2.22
607-1244	78015	15	3.24	2.92	2.63	2.36
607-1254	78016	16	3.24	2.92	2.63	2.36
607-1274	78018	18	3.93	3.54	3.18	2.86
607-1294	78020	20	4.27	3.84	3.46	3.11
607-1314	78022	22	4.52	4.07	3.66	3.29
607-1334	78024	24	4.88	4.39	3.95	3.56
607-1354	78026	26	5.30	4.77	4.30	3.87
607-1374	78028	28	5.36	4.82	4.34	3.90
607-1394	78030	30	5.73	5.16	4.64	4.18

Accessories

Insulating/Marker Strips

Non-feed-thru. Vulcanized fiber. **Marker Strip Width:** 76000 and 77000, 1.13" (28.6mm); 78, 1.31" (33.3mm). **Imprinting Character Height:** 0.13" (3.2mm).

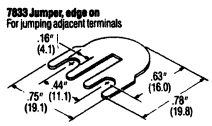
Stock No.	Mfr.'s Type	For Series	EACH			
			1-24	25-49	50-99	100-249
607-1054	VF-77004-101	76000, 77000	.27	.25	.22	.20
607-1056	VF-77006-101	76000, 77000	.28	.26	.23	.21
607-1058	VF-77008-101	76000, 77000	.28	.26	.23	.21
607-1060	VF-77010-101	76000, 77000	.35	.31	.28	.26
607-1062	VF-77012-101	76000, 77000	.35	.31	.28	.26
607-1064	VF-77014-101	76000, 77000	.37	.33	.30	.27
607-1066	VF-77016-101	76000, 77000	.38	.34	.31	.28
607-1070	VF-77020-101	76000, 77000	.43	.39	.35	.31
607-1055	VF-78004-101	78000	.39	.35	.32	.29
607-1057	VF-78006-101	78000	.47	.42	.38	.34
607-1059	VF-78008-101	78000	.47	.42	.38	.34
607-1061	VF-78010-101	78000	.49	.44	.40	.36
607-1063	VF-78012-101	78000	.51	.46	.41	.37
607-1065	VF-78014-101	78000	.52	.47	.43	.38
607-1067	VF-78016-101	78000	.54	.48	.44	.39
607-1071	VF-78020-101	78000	.80	.72	.65	.58

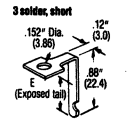
For Series 76000 and 77000

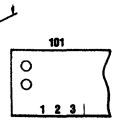
Stock No.	Mfr.'s Type	For Series	EACH	
			1-49	50-99
607-1000	141	One-sided solder terminal	.063	.057
607-1002	142	Two-sided solder terminal	.096	.086
607-1003	143	Short solder bottom terminal	.039	.035
607-1011	1431	Hole mount jumper (77000)	.047	.042
607-1012	1432	Slotted jumper (77000)	.051	.046
607-1031	7631	Hole mount jumper (76000)	.074	.067
607-1032	7632	Slotted jumper (76000)	.074	.067
607-1033	7233/2	Edge on jumper	.470	.420

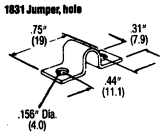
For Series 78000

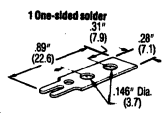
607-1043	7833	Edge on jumper	.140	.126
607-1081	1831	Hole mount jumper	.060	.052
607-1082	1832	Slotted jumper	.060	.042
607-1083	183	Short solder bottom terminal	.074	.067

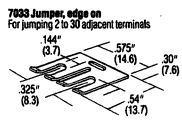


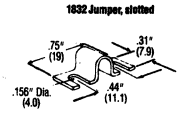




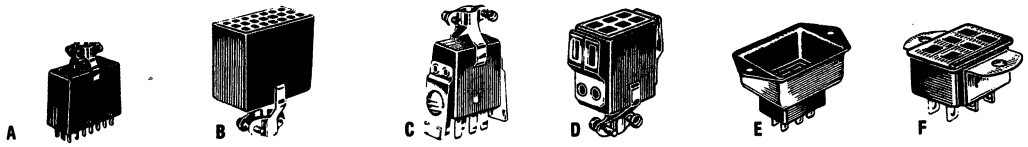








Series 3300 Connectors



Series 3300 connectors are interchangeable with Series 300 types and are designed for panel and cable mounting. **Specifications.** Current Rating (individual contacts): 10 amps. Voltage Rating, rms: 750 volts, 250 volts (UL). **Plug Contact Material:** brass, cadmium plated. **Socket Contact:** phosphor bronze, cadmium plated. **Pre-grounding Contact Material:** heavy-duty plated brass. **Base Insulating Material:** high-grade phenolic, black. **Backshell:** thermoplastic. **Finishes:** Cable clamp, screws, latch and keeper, angle bracket—steel, bright nickel electroplated. Deep Bracket—steel, baked black wrinkle enamel finish over zinc chromate plating.

Plugs (Cable Clamp Top) (Fig. A)

Stock No.	Mfr.'s Type	No. of Contacts	EACH 1-24	25-49	50-99	100-249
607-0402	P-3302-CCT	2	1.96	1.77	1.59	1.43
607-0403	P-3303-CCT	3	2.07	1.86	1.67	1.51
607-0404	P-3304-CCT	4	2.17	1.95	1.75	1.58
607-0406	P-3306-CCT	6	2.39	2.15	1.94	1.74
607-0407	P-3306-8-CCT*	6	2.50	2.25	2.03	1.83
607-0408	P-3308-CCT	8	2.64	2.37	2.14	1.92
607-0412	P-3312-CCT	12	3.11	3.08	2.77	2.49
607-0422	PG-3312-CCE	12	5.93	4.74	3.95	—
607-0432	PG-3312-DB	12	5.84	5.26	4.73	—

Sockets (Cable Clamp Top) (Fig. B)

607-0552	S-3302-CCT	2	2.05	1.85	1.66	1.50
607-0553	S-3303-CCT	3	2.10	1.89	1.70	1.53
607-0554	S-3304-CCT	4	2.21	1.99	1.79	1.61
607-0556	S-3306-CCT	6	2.53	2.27	2.05	1.84
607-0557	S-3306-8-CCT*	6	2.09	1.67	1.40	1.12
607-0558	S-3308-CCT	8	2.82	2.54	2.28	2.05
607-0562	S-3312-CCT	12	3.64	3.27	2.95	2.65

Plugs with Panel Latch (Fig. C)
For locking a cable-mounted connector with latch to a panel-mounted connector. Used with AB angle bracket. The latch will engage chassis up to 1/16" thick, max.

607-0442	P-3302-CCT-L	2	3.28	2.95	2.65	2.39
607-0443	P-3303-CCT-L	3	3.28	2.95	2.65	2.39
607-0444	P-3304-CCT-L	4	3.28	2.95	2.65	2.39
607-0446	P-3306-CCT-L	6	3.38	3.04	2.74	2.46
607-0447	P-3306-8-CCT-L*	6	3.55	3.19	2.87	2.59
607-0448	P-3308-CCT-L	8	3.55	3.19	2.87	2.59
607-0452	P-3312-CCT-L	12	4.19	3.77	3.39	3.05

*Polorized

Sockets with Keeper (Fig. D)
For connecting two cable-mounted connectors.

607-0602	S-3302-CCT-K	2	2.96	2.67	2.40	2.16
607-0604	S-3304-CCT-K	4	3.41	3.07	2.76	2.49
607-0606	S-3306-CCT-K	6	3.74	3.36	3.03	2.72
607-0607	S-3306-8-CCT-K*	6	3.93	3.53	3.18	2.86
607-0608	S-3308-CCT-K	8	3.83	3.44	3.10	2.79
607-0612	S-3312-CCT-K	12	4.98	4.48	4.04	3.63

Sockets with Deep Brackets (Fig. E)

607-0666	S-3306-DB	6	3.06	2.76	2.48	2.23
607-0667	S-3306-8-DB*	6	2.34	1.87	1.56	1.25
607-0672	S-3312-DB	12	4.34	3.91	3.52	3.17

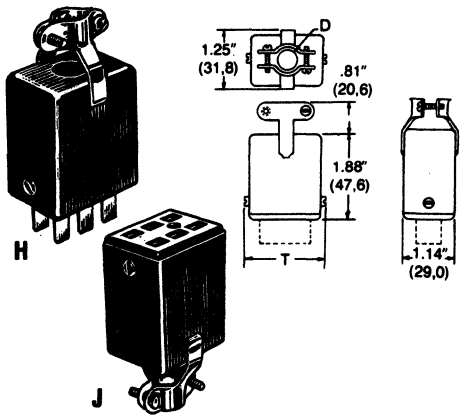
Sockets with Angle Brackets (Fig. F)

607-0632	S-3302-AB	2	1.20	1.08	.97	.87
607-0633	S-3303-AB	3	1.26	1.13	1.02	.92
607-0634	S-3304-AB	4	1.31	1.18	1.06	.96
607-0636	S-3306-AB	6	1.59	1.43	1.29	1.16
607-0637	S-3306-8-AB*	6	2.22	1.99	1.79	1.62
607-0638	S-3308-AB	8	1.91	1.72	1.54	1.39
607-0642	S-3312-AB	12	2.46	2.22	1.99	1.79

Grounded Sockets with Angle brackets

607-0236	SG-3306-AB	6	1.19	1.07	—	—
607-0482	SG-3312-CCE	12	7.17	6.45	5.81	—
607-0492	SG-3312-DB	12	5.48	4.93	4.44	—
607-0592	SG-3312-CCT	12	6.29	—	—	—

*Polarized.



Series 5400 15 AMP

Cable clamp top connectors are designed for use in panel and cable mounting applications. They are interchangeable with Series 2400 or 400 type connectors. **Current Rating (individual contacts):** 15 amps. **Voltage Rating:** 1750 volts; 250 volts (UL rated at 250 V, AC or DC max. between adjacent contacts). **Plug Contact Material:** brass, cadmium plated. **Socket Contact:** phosphor bronze, cadmium plated. **Pre-grounding Contact Rating:** up to 30 amps at rated voltages. **Pre-grounding Contact Material:** heavy-duty plated brass. **Base Insulating Material:** high-grade phenolic, black. Thermoplastic backshell. Includes steel, bright nickel eletroplated cable clamp and screws. UL recognized, File No. E34763. CSA certified, File No. 22156.

Plugs (Fig. H)

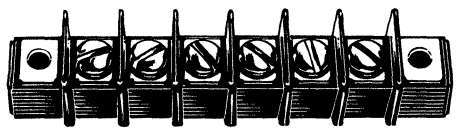
Stock No.	Mfr.'s Type	No. of Contacts	Dim. D-T	EACH 1-24	25-49	50-99	100-249
607-0754	P-5404-CCT	4	.44" 1.23"	4.34	3.91	3.52	3.17
607-0756	P-5406-CCT	6	.44" 1.67"	4.87	4.38	3.95	3.55
607-0758	P-5408-CCT	8	.56" 2.11"	5.33	4.80	4.32	3.89
607-0762	P-5412-CCT	12	.63" 2.98"	6.16	5.54	4.99	4.49

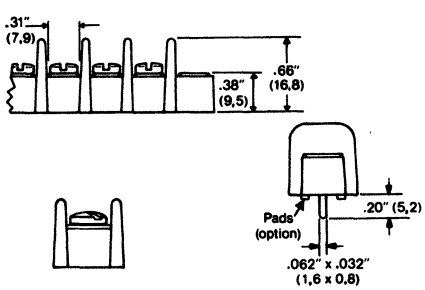
Sockets (Fig. J)

607-0854	S-5404-CCT	4	.44" 1.23"	4.61	4.15	3.74	3.36
607-0856	S-5406-CCT	6	.44" 1.67"	5.13	4.61	4.15	3.74
607-0858	S-5408-CCT	8	.56" 2.11"	5.68	5.11	4.60	4.14
607-0862	S-5412-CCT	12	.63" 2.98"	6.77	6.09	5.48	4.93

Series 72000 Single Row Terminal Strips

Single row types have the terminals imbedded into the walls of the insulator on both sides. This provides a pull-out strength over twice as great as competitive designs. High barrier construction offer lower overall height. **Specifications. Terminal Centers:** 3/8". **Current Rating (UL):** 20 amps. **Voltage Rating (rms):** UL recognized, **Class B: Class C:** 150. **CSA Certified:** 300 @ 20 amps. **Withstand Volts, rms:** 10500. **Insulator Material:** thermoplastic, glass-filled. UL temp. index, 95°C. UL flame retardant rating 94V-0. Black. **Width × Height:** 5/8 × 21/32". **Max. AWG:** 14. **Terminal Screws:** No. 6-32 × 1/4" binding head screws. Steel, cadmium plated. PC bottom terminals are brass, bright electro-tinned.





Closed Back Type

Stock No.	Mfr.'s Type	No. of Circuits	EACH 1-24	25-49	50-99	100-249
607-0902	72102	2	.72	.65	.58	.52
607-0904	72104	4	1.09	.98	.88	.79
607-0906	72106	6	1.48	1.33	1.20	1.08
607-0908	72108	8	1.87	1.69	1.52	1.37
607-0910	72110	10	2.28	2.05	1.85	1.66
607-0912	72112	12	2.63	2.36	2.13	1.91

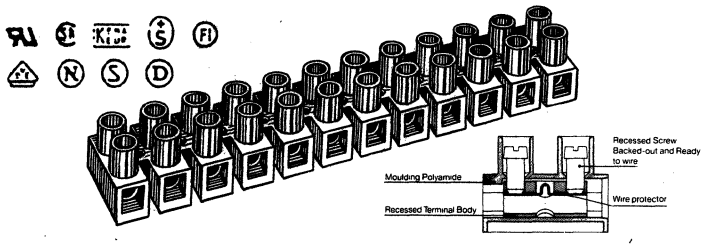
PC Bottom Terminal Type (.20" L × .062" × .032")

607-0952	72502	2	.76	.69	.62	.56
607-0954	72504	4	2.10	1.89	1.70	1.53
607-0956	72506	6	1.65	1.49	1.34	1.20
607-0958	72508	8	2.10	1.89	1.70	1.53
607-0960	72510	10	2.56	2.30	2.07	1.87
607-0962	72512	12	2.98	2.69	2.42	2.18

Socket Terminal Strips for Panel/Chassis Mounting

► **Dead front design: Screws and terminal body recessed in polyamide insulating moulding for safety and to prevent short circuiting.**
► **Voltage: up to 600 V. Amperage up to 80 A. Wire range: 22-6 AWG.**
► **Wire protector prevents damage to finely stranded wires**
► **Modular Design: Flexible and easy to cut. Polyamide moulding. Mounting hole between every circuit.**
► **Recessed screws backed-out and ready to wire**
► **Tubular wire entry for stripped, unterminated solid or stranded wire.**

International Approvals:



Terminal strips are used for connecting stripped, unterminated, stranded or solid copper wires; ranging from 22-6 AWG, depending on product type selected. Each strip has 12 circuits and can easily be field cut to required number of poles. Mounting hole provided between each circuit. Terminal screws are backed-out and ready for wiring.

Each circuit has a wire protector to prevent damage to wire from the turning screw. All metal parts of terminal are completely recessed in flexible polyamide 5 moulding. This dead-front design ensures safety and prevents short circuiting. Flexible construction allows use on uneven surfaces.

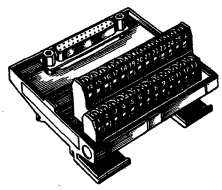
Material. Moulding: Flexible natural polamide, white color. **Upper temperature limit:** Short-time—140°C-160°C; Continuous—80°C-100°C; Cold resistant to −40°C. **Terminal Body:** Nickel-plated brass. **Wire Protector:** Stainless steel strip. **Screw:** Zinc-plated steel, yellow chromated.

Stock No.	Mfr.'s Type	No. of Circuits	Length mm	Length in.	Height mm	Height in.	Width mm	Width in.	Center—Center Spacing mm	Center—Center Spacing in.	Screw Size	Mounting Hole Diameter mm	Mounting Hole Diameter in.	Mounting Hole Diameter mm	Mounting Hole Diameter in.	Spacing mm	Spacing in.	Screw Tightening Torque (lb./in.)	Wire Stripping Length mm	Wire Stripping Length in.	Volt*	Amp*	Wire Range* (AWG)	Volt†	Amp†	Wire Range† (AWG)	EACH 1-99	EACH 100-Up
924-0100	302-NHDS	12	94	3.70	12.0	.47	16	.63	8.0	.315	M2.6×5	2.5	.11	4.3	.17	3.2	.13	3.5	5.0	.20	300	10	20-12	300/50	20	20-14	**1.55**	**1.32**
924-0110	302-HDS	12	94	3.70	15.0	.59	16	.63	8.0	.315	M2.6×5	2.5	.11	5.6	.23	3.2	.13	3.5	5.0	.20	250	20	20-12	300/50	10/20	20-14	**1.40**	**1.19**
924-0120	323-HDS	12	117	4.61	16.0	.63	21	.83	10.0	.394	M3×5.5	3.5	.14	6.1	.24	6.1	.24	4.5	6.5	.25	250	30	20-10	150/300	20	18-12	**1.51**	**1.28**
924-0130	323-FU16,5HDS‡	12	117	4.61	16.5	.65	21	.83	10.0	.394	M3×5.5	3.5	.14	7.0	.28	11.1	.44	4.5	6.5	.25	250	30	20-10	150/300	20	18-12	**1.51**	**1.28**
924-0140	323-FU18,5HDS‡	12	117	4.61	18.5	.73	21	.83	10.0	.394	M3×5.5	3.5	.14	8.3	.33	11.9	.47	4.5	6.5	.25	250	30	20-10	150/300	20	18-12	**1.58**	**1.34**
924-0150	324-HDS	12	135	5.32	18.5	.73	22	.87	11.5	.452	M3.5×7	3.5	.14	6.1	.24	6.1	.24	7.0	7.0	.27	250	35	14-8	150	40	18-10	**2.09**	**1.78**
924-0160	324-FUHDS‡	12	135	5.32	21.3	.84	22	.87	11.5	.452	M3.5×7	3.5	.14	9.2	.36	11.2	.44	7.0	7.0	.27	300	35	14-8	600	40	18-10	**2.19**	**1.86**
924-0170	326-HDS	12	171	6.73	22.5	.89	30	1.18	14.5	.571	M4×8	4.5	.17	7.9	.31	7.9	.31	10.0	9.0	.35	250	50	14-8	150	55	14-6	**5.35**	**4.55**
924-0180	327-HDS	12	171	6.73	25.0	.98	30	1.18	14.5	.571	M5×10	4.5	.17	7.6	.30	9.5	.35	16.0	9.0	.35	300	65	14-6	300	80	14-6	**6.12**	**5.20**
924-0190	327-FUHDS‡	12	171	6.73	28.5	1.12	30	1.18	14.5	.571	M5×10	4.5	.17	11.0	.42	13.1	.52	16.0	9.0	.35	600	65	14-6	600	80	-6	**6.40**	**5.44**

*UL recognized for UL File No. E89641 †CSA approved for CSA File No. LR24222 ‡FU16,5 has a 3mm (.12″) raised base. FU18,5 has a 5 mm (.197″) raised base.

D-Subminiature Interface Modules Sub-D

9-50 Poles



Technical Data
► **Rated Voltage: 125.**
► **Rated Current: 1.5A**

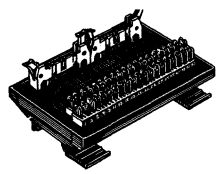
Benefits
► **Easy connections between process/field equipment and computer system.**
► **Interface D connector plug or receptacle equipped cable with up to #12 AWG discrete wires.**
► **Quick snap-on of modules to DIN mounting rails.**
► **Saves time on system design.**

Connection Data. D-Subminiature Connectors used; Siemens SBM 383. Module Height H above edge of base 25 mm/0.98 in. Modules are supplied with two locking feet each for DIN EN 50 022 mounting rails.

Stock No.*	Mfr.'s Type	Poles	EACH
924-1000*	MTD-009-1EX	9	**26.45**
924-1005*	MTD-015-1EX	15	**31.75**
924-1010*	MTD-025-1EX	25	**38.80**
924-1015*	MTD-037-1EX	37	**49.40**
924-1020*	MTD-050-1EX	50	**64.35**
924-1030†	MTD-009-2EX	9	**27.35**
924-1035†	MTD-015-2EX	15	**32.65**
924-1040†	MTD-025-2EX	25	**46.35**
924-1045†	MTD-037-2EX	37	**54.00**
924-1050†	MTD-050-2EX	50	**66.10**

*Male 97 EDS. †Female 97 EDS.

Interface Modules UGM 10, UGM 64, UGM 2×16, UGM 2×28



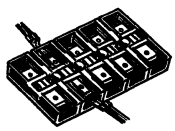
Technical Data
► **Dielectric strength: >500 VDC**
► **Rated current: 1 A**
► **Connection data: 97 EDS—up to 2.5 mm²; 14 AWG**
► **Height H above edge of base: with 97 EDS—25 mm/0.98 in.**

UGM interface modules make it easy to change from ribbon cable systems to screw or flat plug connectors. Standard models are modules having 10-64 connections with DIN 41651 plug strips and ejectors for spring strips with strain relief clamps. When plugged, the ejectors lock the plug in place. The flat cable connection is made with DIN 41651 female connector strips with strain relief. Single wire connection is made via 97 EDS terminal block.

Stock No.	Mfr.'s Type*	Poles	EACH
924-1055	MTB-010-EX	10	**22.40**
924-1060	MTB-014-EX	14	**25.30**
924-1065	MTB-016-EX	16	**28.15**
924-1070	MTB-020-EX	20	**32.50**
924-1075	MTB-026-EX	26	**40.45**
924-1080	MTB-034-EX	34	**49.10**
924-1085	MTB-040-EX	40	**54.85**
924-1090	MTB-050-EX	50	**67.15**
924-1095	MTB-060-EX	60	**82.30**
924-1097	MTB-064-EX	64	**86.65**

*97 EDS

Tab Type Connector



► **6.3 mm (.25 inch) tabs**
► **12 Circuits**
► **Spacing: quoted are the two outermost mounting holes**
► **UL recognized File No. EG9841; 250 V, 25 A, max. 10 AWG**
► **CSA certified File No. LR24322; 300 V, 25 A, max. 12 AWG**

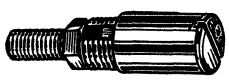
Stock No.	Mfr.'s Type	Poles	Length mm	Spacing mm	EACH 1-99
924-0550	401-12	12	147	123	**2.02**

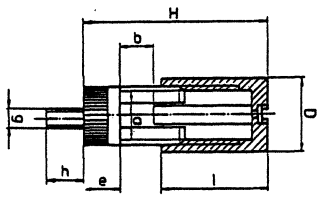
Tab Type Connector

► **6.3 mm (.25 inch) tab on one side**
► **2.8 mm (.110 inch) solder tab on the other side**
► **12 Circuits**
► **Spacing: quoted are the two outermost mounting holes**
► **UL recognized File No. EG9841; 250 V, 15 A, max. 10 AWG**
► **CSA certified File No. LR24322; 300 V, 15 A, max. 16 AWG**

Stock No.	Mfr.'s Type	Poles	Length mm	Spacing mm	EACH 1-99
924-0554	401-LF-12	12	142	120	**1.64**

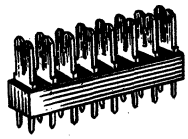
Grounding Terminals





Stock No.	Mfr.'s Type	Nominal Cross-Section AWG	Terminal Space mm a × b	Dimensions D	d	H	l	e	h	g/ Thread	EACH 1-99
924-0560	17/MUG	2 × 11	3.1 × 5.5	8.0	7	22.0	11.0	4.5	2.5/4.5/8	2.5/M4	**1.07**
924-0562	18/MUG	2 × 9	3.5 × 7.0	9.0	8	26.0	13.0	5.0	2.5/5/8	3.5/M4	**1.14**
924-0564	19/MUG	1 × 5	5.1 × 5.5	11.5	10	24.5	12.5	5.5	—/5.5/10	—/M5	**1.45**
924-0566	20/MUG	2 × 5	5.1 × 10	11.5	10	32.0	15.5	6.0	2.5/6/10	5/M5	**1.60**

Tab Type Connector for Printed Circuits



► **5 mm center to center spacing**
► **1 × 6.3 mm (.25 inch) or 2 × 2.8 mm (.110 inch) tabs**
► **UL recognized File No.: EG9841; 15 A, 125 V**
► **CSA certified File No.: LR24322; 10 A, 300 V**

Stock No.	Mfr.'s Type	Poles	Length mm	EACH
924-0580	900-S-5-02	2	8.5	**.26**
924-0582	900-S-5-03	3	13.5	**.38**
924-0584	900-S-5-04	4	18.5	**.51**
924-0586	900-S-5-05	5	23.5	**.65**
924-0588	900-S-5-06	6	28.5	**.77**
924-0590	900-S-5-07	7	33.5	**.89**

Stock No.	Mfr.'s Type	Poles	Length mm	EACH
924-0592	900-S-5-08	8	38.5	**1.03**
924-0594	900-S-5-09	9	43.5	**1.15**
924-0596	900-S-5-10	10	48.5	**1.28**
924-0597	900-S-5-11	11	53.5	**1.41**
924-0599	900-S-5-12	12	58.5	**1.53**
—	—	—	—	—

Self Adhesive Marker Strips for Above Marked 1-12.
924-0534. BST-5.00/12. 60 mm, 10 strips per card ..... **PER CARD 2.26**

Fig. 1

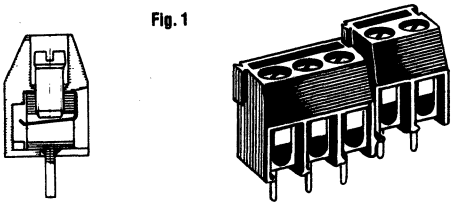


Fig. 2

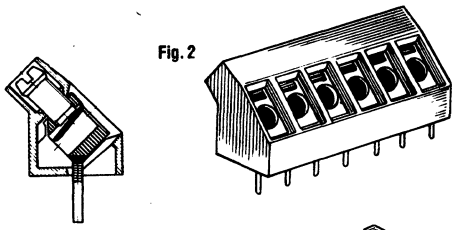
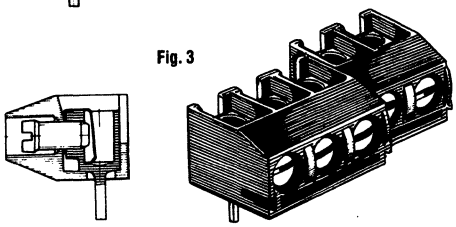


Fig. 3



Screw Terminal Blocks for Printed Circuits

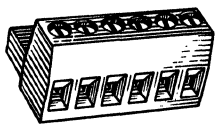
Dovetail Interlocking
These terminal blocks feature dovetail interlocking which allows for the blocks to be locked together to make blocks with the desired number of terminals.
International approvals: UL, CSA, VDE Rated 0110.

Stock No.	Mfr.'s Type	Fig. No.	No. of Poles	Ctr—Ctr Spacing		Height		Width		UL Rating			CSA Rating			EACH
				mm	in.	mm	in.	mm	in.	Volts	Amps	AWG	Volts	Amps	AWG	1-99
924-0200	938TDS	1	2	3.50	.138	8.7	.34	8.0	.31	125	7	16-26	300	7	16-26	.58
924-0205	938TDS	1	3	3.50	.138	8.7	.34	8.0	.31	125	7	16-26	300	7	16-26	.79
924-0210	940TDS	1	2	5.08	.200	11.5	.45	8.0	.31	300	15	14-22	50/300	15/10	14-22	.51
924-0215	940TDS	1	3	5.08	.200	11.5	.45	8.0	.31	300	15	14-22	50/300	15/10	14-22	.70
924-0220	950TDS	1	2	5.00	.197	10.0	.39	8.0	.31	300	15	14-22	50/300	15/10	14-22	.51
924-0225	950TDS	1	3	5.00	.197	10.0	.39	8.0	.31	300	15	14-22	50/300	15/10	14-22	.70
924-0230	960TDS	1	2	5.08	.200	13.5	.53	9.0	.35	300	15	14-22	50/300	15/10	14-22	.53
924-0235	960TDS	1	3	5.08	.200	13.5	.53	9.0	.35	300	15	14-22	50/300	15/10	14-22	.72
924-0240	968TDS	1	2	5.08	.200	13.5	.53	9.0	.35	300	20	12-20	50/300	15/10	10-22	.65
924-0245	968TDS	1	3	5.08	.200	13.5	.53	9.0	.35	300	20	12-20	50/300	15/10	10-22	.91
924-0250	970TDS	1	2	5.00	.197	13.0	.51	9.0	.35	300	15	14-22	50/300	15/10	14-22	.53
924-0255	970TDS	1	3	5.00	.197	13.0	.51	9.0	.35	300	15	14-22	50/300	15/10	14-22	.72
924-0260	978TDS	1	2	5.00	.197	13.0	.51	9.0	.35	300	15	12-20	50/300	15/10	10/22	.65
924-0265	978TDS	1	3	5.00	.197	13.0	.51	9.0	.35	300	15	12-20	50/300	15/10	10/22	.91
924-0270	964TDS	2	2	5.08	.200	12.0	.47	12.5	.49	300	15	14-22	50/300	15/10	14-22	.59
924-0275	964TDS	2	3	5.08	.200	12.0	.47	12.5	.49	300	15	14-22	50/300	15/10	14-22	.80
924-0280	974TDS	2	2	5.00	.197	12.0	.47	12.5	.49	300	15	14-22	50/300	15/10	14-22	.59
924-0285	974TDS	2	3	5.00	.197	12.0	.47	12.5	.49	300	15	14-22	50/300	15/10	14-22	.80
924-0340	976TDS	2	2	7.50	.29	12.0	.47	12.5	.49	300	15	12-26	300/150	15/10	14-26	.76
924-0345	976TDS	2	3	7.50	.29	12.0	.47	12.5	.49	300	15	12-26	300/150	15/10	14-26	1.06
924-0330	931TDS	3	2	3.50	.138	8.0	.31	8.7	.34	125	7	16-26	300	7	16-26	.57
924-0335	931TDS	3	3	3.50	.138	8.0	.31	8.7	.34	125	7	16-26	300	7	16-26	.76
924-0290	941TDS	3	2	5.08	.200	8.0	.31	11.5	.45	300	15	14-22	50/300	15/10	14-22	.54
924-0295	941TDS	3	3	5.08	.200	8.0	.31	11.5	.45	300	15	14-22	50/300	15/10	14-22	.73
924-0300	951TDS	3	2	5.00	.197	8.0	.31	10.0	.39	300	15	14-22	50/300	15/10	14-22	.54
924-0305	951TDS	3	3	5.00	.197	8.0	.31	10.0	.39	300	15	14-22	50/300	15/10	14-22	.73
924-0310	961TDS	3	2	5.08	.200	9.0	.35	13.5	.53	300	15	14-22	50/300	15/10	14-22	.59
924-0315	961TDS	3	3	5.08	.200	9.0	.35	13.5	.53	300	15	14-22	50/300	15/10	14-22	.80
924-0320	971TDS	3	2	5.00	.197	9.0	.35	13.0	.51	300	15	14-22	50/300	15/10	14-22	.59
924-0325	971TDS	3	3	5.00	.197	9.0	.35	13.0	.51	300	15	14-22	50/300	15/10	14-22	.80

Plug-In Screw Connectors for Printed Circuits

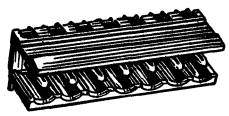
- 5mm center to center spacing
- Plug features elevator clamping mechanism and captive screws
- UL recognized File No.: EG9841; 10 A, 300V, 26-14 AWG
- CSA certified File No.: LR24322; 10A, 300V, 26-12 AWG

Plug



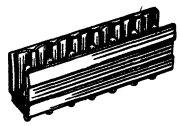
Stock No.	Mfr.'s Type	Poles	EACH 1-99
924-0400	120-A-111-02	2	.78
924-0405	120-A-111-03	3	1.17
924-0410	120-A-111-04	4	1.56
924-0415	120-A-111-05	5	1.95
924-0420	120-A-111-06	6	2.34
924-0425	120-A-111-07	7	2.73
924-0430	120-A-111-08	8	3.12
924-0435	120-A-111-09	9	3.52
924-0440	120-A-111-10	10	3.90
924-0445	120-A-111-11	11	4.30
924-0450	120-A-111-12	12	4.68

Horizontal Header Fully Shrouded



Stock No.	Mfr.'s Type	Poles	EACH 1-99
924-0452	120-M-211-02	2	.26
924-0454	120-M-211-03	3	.38
924-0456	120-M-211-04	4	.52
924-0458	120-M-211-05	5	.64
924-0460	120-M-211-06	6	.77
924-0462	120-M-211-07	7	.90
924-0464	120-M-211-08	8	1.03
924-0466	120-M-211-09	9	1.16
924-0468	120-M-211-10	10	1.29
924-0470	120-M-211-11	11	1.42
924-0472	120-M-211-12	12	1.55

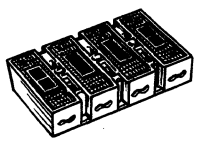
Vertical Header Fully Shrouded



Stock No.	Mfr.'s Type	Poles	EACH 1-99
924-0478	120-M-221-02	2	.26
924-0480	120-M-221-03	3	.38
924-0482	120-M-221-04	4	.52
924-0484	120-M-221-05	5	.64
924-0486	120-M-221-06	6	.77
924-0488	120-M-221-07	7	.90
924-0490	120-M-221-08	8	1.03
924-0492	120-M-221-09	9	1.16
924-0494	120-M-221-10	10	1.29
924-0496	120-M-221-11	11	1.42
924-0498	120-M-221-12	12	1.55

Quick Clamp Connector for Panel/Chassis Mounting

- 12 Circuits
- UL recognized File No.: EG9841; 10 A, 300 V, max. 10 AWG
- CSA certified File No.: LR24322; 20 A, 300V, 18-16 AWG

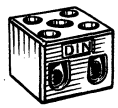


Connects up to four copper conductors per circuit. Simply insert wire, a steel clamp provides them for secure contact and retention of wire.

Stock No.	Mfr.'s Type	Poles	Length mm	EACH 1-99
924-0505	810-12	12	117.5	1.89

Ceramic Terminal Block

- CSA certified File No.: LR24322; 300 V, 20 A, 18-12 AWG



Stock No.	Mfr.'s Type	Poles	L × W × H mm	Mount. Holes No./Spacing/ϕ	EACH 1-99
924-0540	2-DIN464-84ST	2	20 × 21 × 18	1/—/3.3	1.08
924-0542	3-DIN464-84ST	3	34 × 21 × 18	2/12.5/3.6	1.58

- UL recognized File No.: EG9841; 300 V, 20 A, 20-12 AWG
- CSA certified File No.: LR24322; 600/300 V, 5/25 A, 20-12 AWG
- All metal parts are of stainless steel.
- Temperature resistance up to 940°F.

Stock No.	Mfr.'s Type	Poles	L × W × H mm	Mount. Holes No./Spacing/ϕ	EACH 1-99
924-0546	560/K4DF/V2A	2	40 × 32 × 20	—	6.95

Quick Clamp Connector for Printed Circuits

- Pushbutton operated
- Center-to-center spacing: 5 mm between neighboring circuits; 10 mm from front pin to back pin
- CSA certified File No.: LR24322; 10/15 A, 300/50 V, 22-16 AWG

Stock No.	Mfr.'s Type	Poles	EACH 1-99
924-0510	874DR-01	1	.59
924-0512	874DR-02	2	1.16
924-0514	874DR-03	3	1.73
924-0516	874DR-04	4	2.28
924-0518	874DR-05	5	2.86
924-0520	874DR-06	6	3.42
924-0522	874DR-07	7	3.99
924-0524	874DR-08	8	4.56
924-0526	874DR-09	9	5.12
924-0528	874DR-10	10	5.68
924-0530	874DR-11	11	6.25
924-0532	874DR-12	12	6.80

Self Adhesive Marker Strip Marked 1-12. 60 mm, 10 strips per card.
924-0534. BST-5-00/12 .....PER CARD 2.26

Plug and Pinstrip Connector for Printed Circuits

- UL recognized File No.: EG9841; 300 V, 10 A, 26-14 AWG
- CSA certified File No.: LR24322; 300 V, 10 A, 26-14 AWG

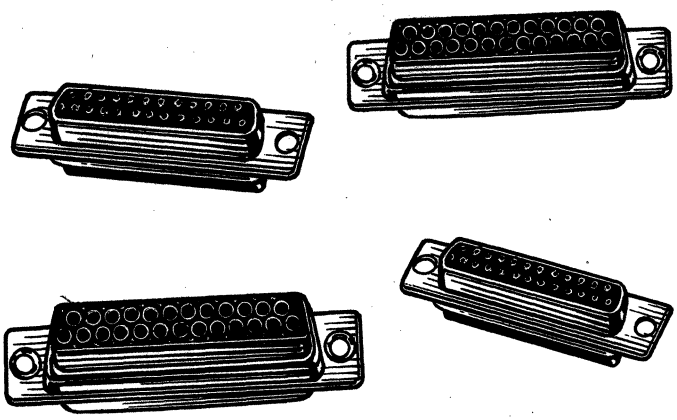
This depluggable terminal block features dovetail interlocking which allows for the blocks to be locked together to make strips with the desired number of terminals. Pin strips can be made to length by snapping off the required number of pins. **Center-to-center spacing:** 5.0 mm.

Stock No.	Mfr.'s Type	Poles	EACH 1-99
924-0540	950FLDS-02	2	.70
924-0542	950FLDS-03	3	1.06
924-0544	950FLDS-08	8	2.84
924-0548	971SLW-64	64	5.83

Self Adhesive Marker Strip Marked 1-12. 60 mm, 10 strips per card.
924-0534. BST-5-00/12 .....PER CARD 2.26

Rear Release D-Subs

These connectors feature economical stamped and formed contacts with insulation support for improved strain relief and protection against shorting and arching. Black thermoplastic polyester insert UL94VO rated. Rated for 5 Amps, 500 VAC at sea level.



Zinc Plated Housings with Gold Iridite Finish

Receptacles for Socket Contacts

Stock No.	Mfr.'s Type*	No. of Contacts	EACH 1-99	EACH 100-499	EACH 500-1000
719-0300	117-PRE-9S	9	.54	.43	.40
719-0302	117-PRE-9S-CTF	9	1.41	1.24	1.16
719-0304	117-RRA-15S	15	.59	.48	.44
719-0306	117-RRA-15S-CTF	15	1.94	1.74	1.62
719-0308	117-RRB-25S	25	.61	.49	.46
719-0310	117-RRB-25S-CTF	25	2.74	2.49	2.32
719-0312	117-RRC-37S	37	.92	.79	.74
719-0314	117-RRC-37S-CTF	37	4.00	3.68	3.43
719-0316	117-RRD-50S	50	1.10	.91	.85
719-0318	117-RRD-50S-CTF	50	5.20	4.76	4.44

Plugs for Pin Contacts

719-0320	117-RRE-9P	9	.56	.45	.42
719-0322	117-RRE-9P-CTF	9	1.30	1.14	1.06
719-0324	117-RRA-15P	15	.61	.50	.46
719-0326	117-RRA-15P-CTF	15	1.73	1.54	1.44
719-0328	117-RRB-25P	25	.63	.51	.48
719-0330	117-RRB-25P-CTF	25	2.37	2.14	2.00
719-0332	117-RRC-37P	37	.94	.81	.76
719-0334	117-RRC-37P-CTF	37	3.44	3.15	2.94
719-0336	117-RRD-50P	50	1.12	.93	.87
719-0338	117-RRD-50P-CTF	50	4.43	4.04	3.77

Tin-Plated housings

Receptacles for Socket Contacts

719-0340	177-RRE-9S	9	.56	.45	.42
719-0342	177-RRE-9S-CTF	9	1.44	1.28	1.19
719-0344	177-RRA-15S	15	.61	.50	.46
719-0346	177-RRA-15S-CTF	15	1.97	1.77	1.65
719-0348	177-RRB-25S	25	.63	.51	.48
719-0350	177-RRB-25S-CTF	25	2.78	2.54	2.37
719-0352	177-RRC-37S	37	.94	.81	.76
719-0354	177-RRC-37S-CTF	37	4.06	3.74	3.49
719-0356	177-RRD-50S	50	1.12	.93	.87
719-0358	177-RRD-50S-CTF	50	5.28	4.83	4.51

*CTF = Contacts packaged with connector housing for 20-24 AWG wires.

Plug with Grounding Indents for Pin Contacts

Stock No.	Mfr.'s Type*	EACH 1-99	EACH 100-499	EACH 500-1000
719-0360	777-RRE-9P	.58	.47	.44
719-0362	777-RRE-9P-CTF	1.33	1.17	1.09
719-0364	777-RRA-15P	.63	.52	.48
719-0366	777-RRA-15P-CTF	1.76	1.58	1.47
719-0368	777-RRB-25P	.65	.53	.50
719-0370	777-RRB-25P-CTF	2.42	2.19	2.04
719-0372	777-RRC-37P	.96	.83	.78
719-0374	777-RRC-37P-CTF	3.50	3.21	3.00
719-0376	777-RRD-50P	1.14	.95	.89
719-0378	777-RRD-50P-CTF	4.51	4.11	3.84

*CTF = Contacts packaged with connector housing for 20-24 AWG wires.

Contacts
Copper alloy with gold plate over nickel crimp type with insulation support.

Stock No.	Mfr.'s Type	Wire Size	Type	PER PKG./100 1-24	PER PKG./100 25-49	PER PKG./100 50-Up
719-0400	17-RRD1-F02-100	20-24	female socket	13.20	11.20	9.20
719-0402	17-RRD1-M02-100	20-24	male pin	9.40	8.00	6.50
719-0404	17-RRD2-F02-100	24-30	female socket	13.20	11.20	9.20
719-0406	17-RRD2-M02-100	24-30	male pin	9.40	8.00	6.50

Termination Equipment
719-0410. 356-271. Removal tool ..... **EACH 3.25**
719-0415. 357-2500. Econo crimp tool ..... **EACH 24.90**

RS-232 Field Service Kit

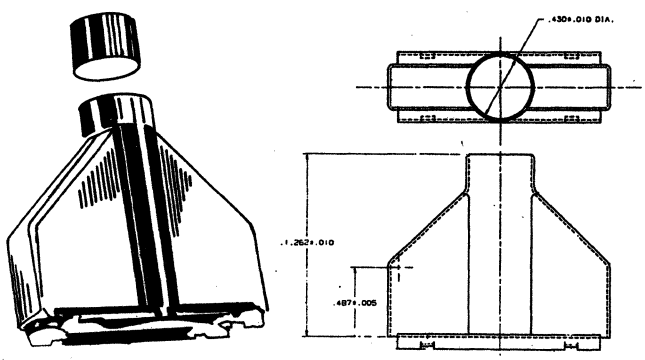
Plastic carrying case contains:

- **1 bag of 100 pin contacts - #17-RRD1-M02-100**
- **1 bag of 100 socket contacts - #17-RRD1-F02-100**
- **6 ea. 177-RRB-25S**
- **18 ea. 777-RRB-25P**
- **14 ea. metalized backshells - #17-1726-2**
- **1 extraction tool #356-271**
- **1 crimp tool #356-2500**
- **25 ea. 4-1/8" cable ties**

719-0420. 17RR-232K..... **EACH 160.00**

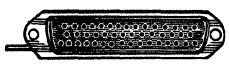
EMI/RFI Overmold Can

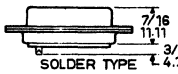
A removable back shell around the can provides faster, less expensive assembly, with the opportunity to disassemble and repair the cable in the field, rather than repalce the entire cable assembly.

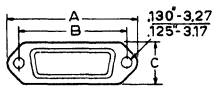


Stock No.	Mfr.'s Type	Size	Cable Dia. Min. - Max.	EACH 1-99
719-0095	17-943-025	23	.250 - .444	1.16

Original Poke-Home® D-Sub 17 Series







Poke-home blocks accept a wide variety of contact types. **Temperature Range:** – 67°F to + 257°F (– 55°C to + 125°C). **Current Rating:** 7.5 A. **Voltage Rating:** 500 VAC (RMS) at sea level; 150 VAC (RMS) at 90,000 feet. **Dielectric:** Ztyel 101 nylon per MIL M-20693. **Shells:** Steel clear chromated over zinc. **Contacts:** Gold over nickel plated copper alloy. **Wire Size:** Solder Contacts — up to No. 20 AWG; Crimp Contacts — No. 20, No. 22, and No. 24 AWG. The package for each connector includes the specified number of standard crimp type or solder-type contacts.

Solder Type Contacts (Included)

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-49	EACH 50-99‡
719-0214	17-10090*	9	3.17	2.65	2.24
719-0218	17-10150*	15	4.63	3.85	3.27
719-0221	17-10250*	25	6.83	5.68	4.81
719-0224	17-10370*	37	9.81	8.15	6.90
719-0227	17-10500*	50	12.11	10.05	8.51
719-0230	17-20090†	9	2.45	2.04	1.73
719-0232	17-20150†	15	3.32	2.76	2.35
719-0234	17-20250†	25	4.84	4.03	3.42
719-0236	17-20370†	37	6.85	5.70	4.83
719-0238	17-20500†	50	8.46	7.03	5.96

‡Contact the closest sales office for quantity pricing. *Socket Contacts. †Pin Contacts.

Crimp Type Contacts (Included)

Stock No.	Mfr.'s Type	Number of Contacts	EACH 1-24	EACH 25-49	EACH 50-99‡
719-0250	17-10090-1*	9	3.39	2.83	2.40
719-0252	17-10150-1*	15	4.63	3.85	3.27
719-0254	17-10250-1*	25	6.83	5.68	4.81
719-0256	17-10370-1*	37	9.81	8.15	6.90
719-0258	17-10500-1*	50	12.11	10.05	8.51
719-0260	17-20090-1†	9	2.45	2.04	1.73
719-0262	17-20150-1†	15	3.32	2.76	2.35
719-0264	17-20250-1†	25	4.84	4.03	3.42
719-0266	17-20370-1†	37	6.85	5.70	4.83
719-0268	17-20500-1†	50	8.71	7.24	6.14

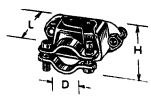
Contact the closest sales office for quantity pricing.

17 Series Tools (Not Shown)

Stock No.	Mfr.'s Type	Description	EACH
719-8005	356-200	Handle for insertion/removal bits	19.95
719-8021	357-100	Hand crimp tool (Socket contacts)	195.18
719-8024	357-300-02	Location bushing for 357-100	40.22
719-8022	357-101	Hand crimp tool (Pin contacts)	224.80
719-8025	357-301-3	Location bushing for 357-101	50.21
719-8010	356-400-1	Insertion tool bit*	27.81
719-8015	356-400-5	Removal tool bit* (Socket contacts)	16.63
719-8016	356-400-6	Removal tool bit* (Pin contacts)	16.63

‡Use with 356-200.

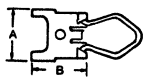
Cable Clamp Assemblies



Metallic straight cable housing, clear chromate finish. with cable clamp.

Stock No.	Mfr.'s Type	For Sizes (Contacts)	EACH 1-24	EACH 25-49	EACH 50-99*
719-0202	17-310-1	9	2.72	2.26	1.85
719-0204	17-311-1	15	1.96	1.62	1.34
719-0206	17-312-1	25	2.29	1.91	1.57
719-0208	17-313-1	37	2.64	2.19	1.80
719-0210	17-314-1	50	2.86	2.38	1.96

D-Sub Hardware



Spring Latches

Made of steel with clear chromate finish.

Stock No.	Mfr.'s Type	For Sizes (Contacts)	Dimensions A	Dimensions B	EACH 1-24	EACH 25-49	EACH 50-99
719-8070	17-529	9-37	.567"	.614"	1.11	0.92	0.78
719-8071	17-770	50	.681"	.614"	1.13	0.95	0.80

Screw Lock Assembly

Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-49	EACH 50-99
719-8073	17-768	Screw lock assembly for Sizes 9-37	1.41	1.17	0.99
719-8074	17-893	Jack Socket (2 sockets, lock washers and parts)	1.77	1.46	1.23
719-8075	17-894	Jack Screw (2 screws, washers and retaining rings)	2.98	2.48	2.09
791-8076	17-895	Complete assembly (both of the above)	4.13	3.45	2.91

D-Sub Hoods (Backshells)

Plastic 2-Piece Backshell

Top entry, internal cable clamp, screw lock.

Stock No.	Mfr.'s Type	For Sizes (Contacts)	Cable dia. (Min./Max.)	EACH 1-24	EACH 25-49	EACH 50-99
719-0085	17-1724-1	9	.190/.350"	1.00	0.94	0.81
719-0086	17-1725-1	15	.190/.350"	1.13	1.06	0.91
719-0087	17-1726-1	25	.190/.460"	1.25	1.15	0.99
719-0088	17-1727-1	37	.300/.680"	1.49	1.39	1.20
719-0089	17-1728-1	50	.300/.680"	1.93	1.81	1.57

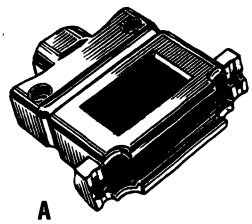
Metalized Plastic 2-Piece Backshell

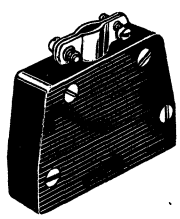
Top entry, internal cable clamp, screw lock.

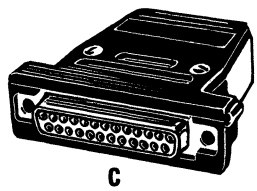
Stock No.	Mfr.'s Type	For Sizes (Contacts)	Cable dia. (Min./Max.)	EACH 1-24	EACH 25-49	EACH 50-99
719-0080	17-1724-2	9	.190/.350"	1.65	1.52	1.28
719-0081	17-1725-2	15	.190/.350"	1.74	1.63	1.38
719-0082	17-1726-2	25	.190/.460"	1.99	1.86	1.59
719-0083	17-1727-2	37	.300/.680"	2.82	2.63	2.23
719-0084	17-1728-2	50	.300/.680"	3.05	2.83	2.40

Die Cast D-Subminiature Backshell for Round Cable

Rugged new backshell for round cable D-Subminiature applications. Meets FCC docket 20780. Shields out EMI/ESD. Available in sizes to fit 9, 15, 25, 37, and 50 contact configurations. Includes compression inserts to accommodate a wide range of braided or foil shielded cables. Easy to assemble. **Materials:** Cover — Die-cast zinc with clear zinc plate finish; Hardware — Steel with clear zinc finish; Inserts — PVC. **Fig. A**







Stock No.	Mfr.'s Type	For Sizes (Contacts)	Cable dia. (Min./Max.)	EACH 1-24	EACH 25-49	EACH 50-99‡
719-8080	17-1657-09	9	.190/.350"	2.15	2.02	1.92
719-8081	17-1657-15	15	.190/.350"	2.30	2.17	2.05
719-8082	17-1657-25	25	.190/.460"	2.69	2.51	2.36
719-8083	17-1657-37	37	.300/.680"	3.93	3.75	3.53
719-8084	17-1657-50	50	.300/.680"	5.17	4.33	3.70

Thermoplastic Hoods With External Clamps

For top or side entry. **Fig. B**

Stock No.	Mfr.'s Type	(For Sizes) Contacts	EACH 1-24	EACH 25-49	EACH 50-99
719-0070	17-1370	9	2.39	2.04	1.75
719-0071	17-1371	15	2.80	2.47	2.22
719-0072	17-1372	25	2.82	2.49	2.23
719-0073	17-1373	37	2.89	2.60	2.30
719-0074	17-1374	50	2.97	2.66	2.37

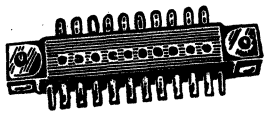
Thermoplastic Hoods With Internal Clamps and Jack Screws

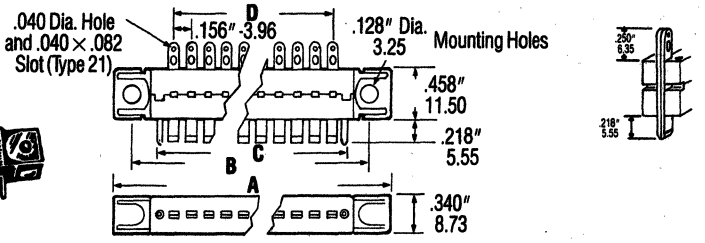
Fig. C

Stock No.	Mfr.'s Type	(For Sizes) Contacts	EACH 1-24	EACH 25-49	EACH 50-99
719-0075	17-1587-6	9	2.15	1.80	1.53
719-0076	17-1588-6	15	2.23	1.86	1.59
719-0077	17-1589-6	25	2.15	1.80	1.53
719-0078	17-1590-6	37	2.33	1.95	1.67
719-0079	17-1591-6	50	2.38	1.99	1.70

Series 133 .156" Center PC Plugs

Mate with 143 Series. Brass, cadmium plated guide pins; cadmium plated end caps; gold over albaloy plated brass contacts. Two .128" holes for bolting to wiring board. Last two digits in type number indicate tail style. **Type 21:** eyelet tail, 600 V rms. 5 amps. 3250 VDC breakdown. **Shipping Weight:** 2 oz.

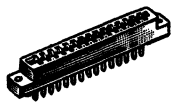


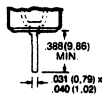


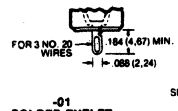
Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-4712	133-010-21	10	7.39	6.24	5.24
719-4729	133-015-21	15	9.23	7.78	6.80
719-4743	133-022-21	22	11.48	9.70	8.15

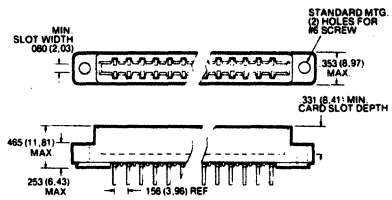
Series 143 .156" Contact Center PC Connectors

Mate with .054" to .070" PC boards or 133 Series plugs. Last two digits indicate tail type. **Type 01:** solder eyelet. **Type 03:** dip solder. Mineral-filled diallyl phthalate dielectric per MIL-M-14 type MDG, blue. 5,000 megohms minimum resistance. **Contacts:** phophor bronze and copper alloy. .000020" gold over nickel plating. Rated 5 amps, 600 VAC (RMS) at sea level. **Temperature Range:** – 65°C to 125°C.





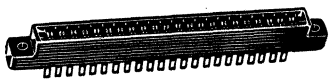


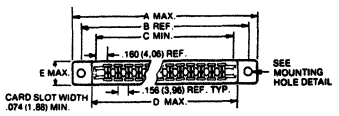


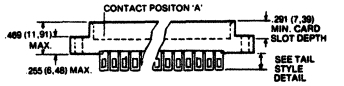
Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-4800	143-006-01	6	2.93	2.48	2.09
719-4809	143-010-01	10	2.85	2.43	2.14
719-4816	143-012-01	12	3.09	2.62	2.21
719-4825	143-015-01	15	3.58	3.04	2.55
719-4833	143-018-01	18	4.29	3.65	3.06

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-4841	143-022-01	22	5.14	4.36	3.67
719-4811	143-010-03	10	3.20	2.71	2.28
719-4827	143-015-03	15	3.63	3.08	2.59
719-4843	143-022-03	22	5.28	4.49	3.77
—	—	—	—	—	—

Series 225 PC Connectors





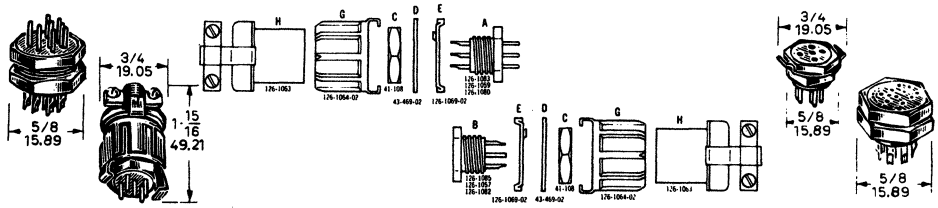


.156" Contact Center
Mate with .054" to .071" PC boards. Last two digits indicate tail type. **Type 01:** solder eyelet. **Type 04:** dip solder. **Dielectric:** black glass-filled phenolic. 5,000 megohms minimum resistance. **Contacts:** copper alloy, .000020" minimum gold over copper plating. Rated 5 amps, 600 VAC (RMS) at sea level. 150 VAC at 70,000 feet. **Temperature Range:** – 65°C to + 125°C. Solder eyelets accept up to three #20 AWG wires. Dip solder terminals are designed for .043" diameter holes. .140" row-to-row spacing.
Type 225-594. Polarization Key.
719-6101. 1-499.....EACH .05
500-999.....EACH .044

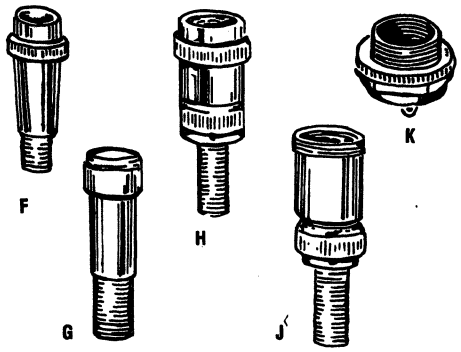
Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-6132	225-20621-401(117)	6 × 2	3.98	3.21	2.54
719-6134	225-21021-401(117)	10 × 2	4.51	3.56	2.81
719-6136	225-21521-401(117)	15 × 2	6.09	4.91	3.89
719-6138	225-21821-401(117)	18 × 2	7.10	5.73	4.53
719-6140	225-22221-401(117)	22 × 2	5.66	4.56	3.61
719-6142	225-22821-401(117)	28 × 2	11.50	9.28	7.33
719-6144	225-23621-401(117)	36 × 2	13.33	10.75	8.50

Stock No.	Mfr.'s Type	Contacts	EACH		
			1-49	50-99	100-249
719-6146	225-24321-401(117)	43 × 2	11.20	9.04	7.14
719-6170	225-21021-404(117)	10 × 2	5.11	4.13	3.26
719-6174	225-21521-404(117)	15 × 2	6.66	5.38	4.25
719-6178	225-22221-404(117)	22 × 2	8.66	6.98	5.51
719-6184	225-23621-404(117)	36 × 2	14.18	11.43	9.03
719-6186	225-24321-404(117)	43 × 2	12.15	9.80	7.75
—	—	—	—	—	—

Miniature Hexagonal Connectors



Microphone Connectors



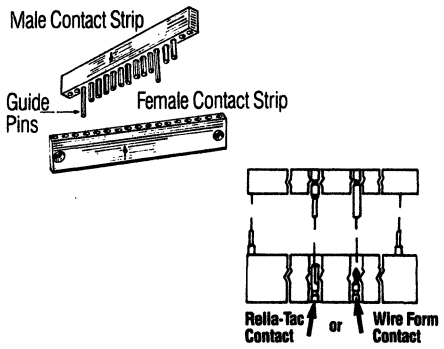
Series 80 Double-Pin Contact Types

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-24	EACH 25-49
719-3106	80-MC2F	G	Fem. cable jack	5.30	4.21
719-3107	80-MC2F1	F	Fem. cable plug	5.82	4.63
719-3105	80-MC2M	F	Male cable plug	5.07	4.04
719-3109	80-MC2M1	G	Male cable jack	4.97	3.96
719-3110	80-PC2F	K	Female recept.	3.78	3.00
719-3111	80-PC2M	K	Male receptacle	3.59	2.85

Series 91—3, 4 and 6-Contact Types

719-4011	91-MC3F	J	Fem. cable jack	7.40	5.88
719-4012	91-MC3F1	H	Fem. cable plug	7.74	5.69
719-4013	91-MC3M	H	Male cable plug	6.69	5.32
719-4033	91-PC3F	K	Female recept.	5.43	4.32
719-4035	91-PC3M	K	Male receptacle	4.46	3.55
719-4017	91-MC4F	J	Fem. cable jack	7.72	6.15
719-4018	91-MC4F1	H	Fem. cable plug	7.14	5.69
719-4019	91-MC4M	H	Male cable plug	5.98	4.75
719-4034	91-PC4F	K	Female recept.	5.13	4.09
719-4037	91-PC4M	K	Male receptacle	4.52	3.60
719-4025	91-MC6F	J	Fem. cable jack	8.31	6.61
719-4026	91-MC6F1	H	Fem. cable plug	8.14	6.48
719-4027	91-MC6M	H	Male cable plug	6.56	5.23
719-4043	91-PC6F	K	Female recept.	5.95	4.73
719-4045	91-PC6M	K	Male panel recept.	4.70	3.74

221-Series Strip Connectors



Use full length as is, or cut to specific length. Two or more strips can be stacked or epoxied together for multirow connector. When stacked, contact centers are .100" for both connectors. Use guide pins at least every 3" for mating alignment and keying. Guide pins replace both pin and socket contact. Supplied less contacts and guide pins; listed below. Spacing .100" except *.075". Av. wt. 1 oz. Use "Relia-Tac" contacts.

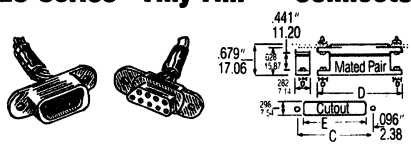
Stock No.	Mfr.'s Type	Contacts	Description	EACH 1-49	EACH 50-99	EACH 100-249
719-5860	221-1560	60	6" Plug	1.78	1.48	1.25
719-5861	221-1660	60	6" Recept.	1.78	1.48	1.25
719-5862	221-2553	53*	4" Plug	1.46	1.21	1.03
719-5864	221-2653	53*	4" Recept.	1.46	1.21	1.03

"Relia-Tac" Contact Tools

Hand crimping tool, adjustable 4-indent miniature to MIL-T-22520. Requires contact locator busing for specific contact used. Tool handle requires insertion bit or correct removal bit to accommodate desired contact. See Table below. Av. shpg. wt. 12 oz.

Stock No.	Mfr.'s Type	Description	For Contact	EACH 1-4	EACH 5-Up
719-8021	357-100	Hand Crimp Tool	—	195.18	185.40
719-8013	357-300-1	Contact Locator	220-S01/S02/P01	40.62	38.59
719-8005	356-200	Tool Hdle. Only	—	19.95	18.95
719-8017	356-400-11	Insertion Bit	ALL	50.39	47.87
719-8020	356-400-14	Removal Bil	220-S02	20.45	19.42

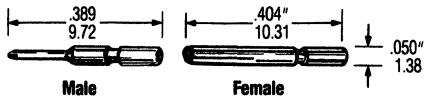
223-Series "Tiny Tim"® Connectors



For circuit modules, potted-in or surface mtg.; micro-miniature cable-to-cable use. Contact spacing, .100" ctrs. Screwmtg. **Less contacts:** Use "Relia-Tac" contacts.

Stock No.	Mfr.'s Type	Contacts	Desc.	Mtg. Ctrs. In.	EACH 1-49	EACH 50-99	EACH 100-249
719-5950	223-1505	5	Plug	.593	1.38	1.14	.97
719-5955	223-1605	5	Recept.	.593	1.38	1.14	.97
719-5951	223-1509	9	Plug	.793	1.46	1.21	1.03
719-5956	223-1609	9	Recept.	.793	1.46	1.21	1.03
719-5952	223-1517	17	Plug	1.193	1.47	1.22	1.03
719-5957	223-1617	17	Recept.	1.193	1.47	1.22	1.03

"Relia-Tac" Contacts

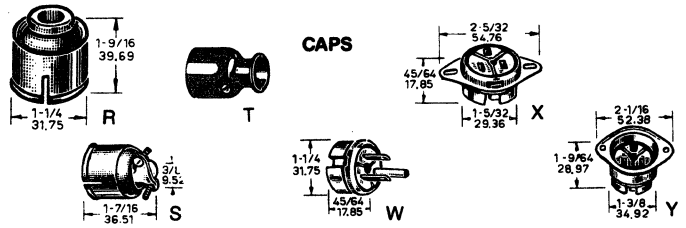


Rated 3 amps and types take 22, 24, 26 solid wire; 24, 26 stranded wire. Relia-Tac also takes 28 solid wire. Relia-Tac gold-over-nickel on copper alloy body; male .389 × .050"; female, .404 × .050". Guide pins will fit either type. Av. shpg. wt. per pkg. 1 oz.

Stock No.	Mfr.'s Type	Description	PER PKG./100 1-9	10-49	50-99
719-5802	220-P02	Relia-Tac Male	15.88	13.59	11.41
719-5805	220-S02	Relia-Tac Fem.	28.43	23.34	20.43
719-5806	220-834-01	Male pin tail for PC mount	17.72	15.18	12.74
719-5807	220-883-202	Fem. pin tail for PC mount.	47.50	40.47	33.97
719-5808	220-830-02	Male solder cup	21.89	18.74	15.74
719-5809	220-831-02	Fem. solder cup	49.46	42.34	35.54

Type 221-535 Universal Guide Pins
719-5853. 1-49 .....EACH 1.07 50-Up .....EACH .89

Plug and Socket Connectors



Make inexpensive cable connectors of standard sockets, plugs, and receptacles. Type 86-3-13 is steel end outlet 7/16" I.D., has a wire insulator and a black epoxy finish. 86-3-24 is steel, has a cable clamp, 3/8", wire insulator and a black epoxy finish. Type 86-3-858 is black thermoplastic and has a 5/16" end outlet with strain relief. Use with the connectors in this section that don't have mounting plates.

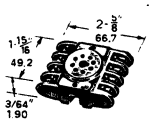
Stock No.	Mfr.'s Type	Fig.	EACH 1-49	EACH 50-99	EACH 100-249
719-0018	86-3-13	R	1.34	1.16	.95
719-0019	86-3-24	S	2.67	2.30	1.86
719-0020	86-3-858	T	2.62	2.24	1.81

Plugs and Receptacles

Two Pole with Ground

Molded thermoplastic bodies. Rated 125V at 15 A. UL approved. 160-2N and 3N have steel mounting plates. 160-4N and 5N consist of inserts 160-10N and 11N in a cadmium steel shell for below surface mounting.

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-49	EACH 50-99	EACH 100-249
719-0055	160-10N	—	Receptacle insert	8.00	6.84	5.51
719-0056	160-11N	W	Plug insert	8.69	7.43	5.99
719-0051	160-2N	X	Receptacle w/plate	9.00	7.70	6.20
719-0052	160-3N	—	Plug with plate	9.83	8.41	6.77
719-0053	160-4N	Y	Receptacle w/shell	13.11	11.21	9.03
719-0054	160-5N	—	Plug with shell	13.80	11.80	9.50



Barrier-Type Octal Relay Socket

Phenolic body withstands 300°F continuous. Longer termination screws with captivated pressure plates. Rated 5 amps at 1250 V rms. UL File No. E56473.
719-0050. Model 146-103. **1-49** .....**EACH 8.11**
50-99.....**EACH 6.94 100-249***.....**EACH 5.59**

***Contact the closest sales office for quantity pricing.**

Miniature Plugs and Sockets

Black phenolic body. Rated 3A for sockets, 5A for plugs, at 500 V rms. Sockets have retainer ring mounting in a 5/8" diameter hole. Plugs have nickel plated brass contacts.

Stock No.	Mfr.'s Type	Contacts	Type	EACH 1-49	EACH 50-99	EACH 100-249
719-0009	78-S3S	3	Plug	1.38	1.18	.95
719-0012	78-S-6S	6	Plug	2.03	1.74	1.40
719-0021	86-71-3S	3	Socket	.90	.77	.62
719-0022	86-71-6S	6	Socket	1.17	1.00	.81

MIP Sockets

Black phenolic with a sturdy nickel plated steel mounting plate and retainer ring. Dimensions are the same as the "S" type.

Stock No.	Mfr.'s Type	Contacts	EACH 1-49	EACH 50-99	EACH 100-249
719-0002	77MIP-8	8-octal	2.84	2.43	1.96
719-0005	78-88-8	8-octal	2.38	2.04	1.65
719-0003	77MIP11	11	2.99	2.57	2.07

CP Plugs

For use as chassis connectors with plug-in units. 4 contact without a center post, but has two larger diameter pins for polarization.

719-0023	86-CP-4	4	1.52	1.30	1.05
719-0024	86-CP-8	8-octal	1.73	1.48	1.19
719-0025	86-CP-11	11	1.73	1.48	1.19

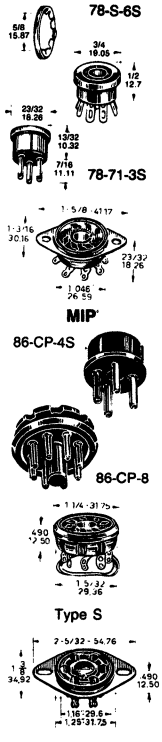
Standard Sockets

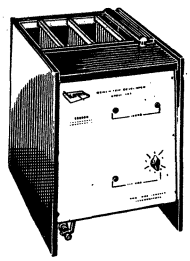
Type S. Black phenolic body, brass contacts on 4 contact, luballoy on 8 and 11 contact. Retainer ring mounted, 1.172" mounting hole. Sockets notched around circumference for rotation to convenient wiring position.

719-0010	78S4	4	2.15	1.84	1.48
719-0014	78S8	8-octal	2.42	2.08	1.67
719-0016	78S11	11-octal	2.44	2.10	1.69

Replacement Type with Mounting Plate

719-0006	78RS4	4	3.17	2.72	2.19
719-0007	78RS8	8-octal	3.23	2.77	2.23





Controlled Time Spray Developer

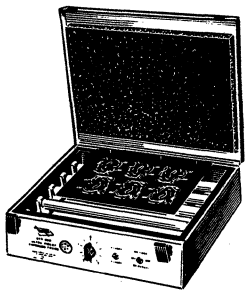
Model BTD-201. Designed to spray develop exposed photosensitive coatings requiring solvent based chemistry. 1 to 1½ minutes developing cycles are controlled with a 10 minute electrical timer activating the spray pumps. If the cover is opened when the chemical sprays are operating a lid safety switch disconnects electrical power to the pumps. Panels are supported in a vertical fashion inside the developing chamber and sprayed from both sides. The drain tube allows for the 4 gal. (15.14 l) chemical sump to be easily changed. Full PVC plastic construction except for metal tank. **Electrical requirements:** 115 VAC, 4 amps, 60 Hz. **Size:** 22 × 15 × 20″ (55.8 × 381 × 508mm). **Wt.:** 60 lbs. (27.21 kg).
835Q1025 ..... **EACH 950.00**

Controlled Time Spray Developer For Alkaline Chemistry

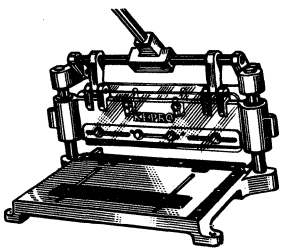
Model BTD-201B. Full plastic construction, without metal tank, designed for ALKALINE CHEMISTRY. This unit has the same operating features as above, but utilizes brass pumps, a 1000 watt grounded titanium heater thermostatically controlled to 105°F (±5°) with heater on/off switch. **Electrical requirements:** 115 VAC, 15 amp, 60 Hz. **Shipping weight:** 60 lbs.
835Q1030 ..... **EACH 1088.00**

6

Ultra-Violet Exposure Frame



Model BTX-200A. Allows exposure of photosensitive coatings in less than 2 min. An adjustable 10 minute timer extinguishes high output UV lamps at the end of the exposure cycle. Heavy foam padding provides excellent contact pressure between the negative and the light sensitive surface to be exposed. A pin registry rail is provided for easy 2 side pattern registration. Four .125″ (3.17 mm) dia. pins are positioned on 0″, 4″ (101.6 mm), 6″ (152.4 mm) and 10″ (254 mm) centers. Hole patterns punched with the PH-6 shear attachment by Kepro, match this pin rail. Constructed of 16 gauge painted steel. 115 VAC, 3 amp, 60 Hz. 19½ × 16½ × 6″ (495.3 × 419 × 152.4 mm). **Wt.:** 30 lbs. (13.62 kg).
835Q1040 ..... **EACH 563.00**



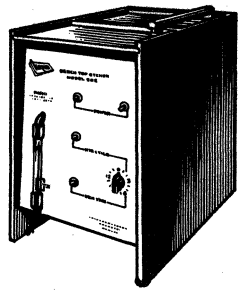
Printed Circuit Board/Sheet Metal Shear

Multi-6 MS-6. A bench-top hand tool that will perform a variety of circuit board and sheet metal fabricating functions. Basically for cutting clad or unclad plastic materials such as FR-4 glass epoxy, FR—2 phenolic, FR—3 paper-base epoxy and mat polyesters up to 3/32″ (2.38 mm) thick or sheet metals up to .040″ (1.01 mm) thick. Only 15″ (381 mm) wide and 13″ (330.2 mm) deep, but will shear panels up to 12″ (304.8 mm) wide. With squaring gauge and adjustable back length gauge. **Wt.:** 24 lbs. (10.89 kg)
835-0218 ..... **EACH 445.00**

A Model NA-1. Notching Attachment. Mounts on pressure rail of shear for use in cutting corner notches of up to 1 × 1″ (25.4 × 25.4 mm) in laminate materials up to 1/16″ (1.58 mm) thick. **Wt.:** 3 lbs. (1.36 kg).
835-0239 ..... **EACH 101.75**

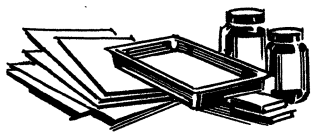
B Model PB-1. Press Brake Attachment. Forms 90° bends in soft aluminum up to 18 gauge or sheet metal up to 22 gauge. Set includes one 12″ (304.8 mm) brake die section, three brake rails for sections up to 6″ (152.4 mm) long. **Wt.:** 3 lbs. (1.36 kg).
835-0280 ..... **EACH 80.35**

Multi-Use Bench-Top Spray Etcher



Model BTE-202. Construction material compatible with most commonly used chemistry. Do not use chromic etchants or additives. Etch single or double-clad copper PC boards in less than 3 min. Etch nameplates or chem-milled parts. Adaptable lift-out racks take rigid panels up to 12 × 12″ (304.8 × 304.8 mm) or thin flexible materials. Non-warping transparent lift-up cover permits constant observation, power is cut when cover is lifted. 4 gal. (15.14 l) capacity chamber empties and loads easily. **Front-panel controls:** Function switches with pilots, heater cycling pilot light timer controls pumps, liquid level sight gauge. 115/120 VAC, 15 amp. 60 cycles. Complete with 1000 W Titanium heater, two pumps. **Wt.:** 60 lbs. (27.21 kg).
835Q1032 ..... **EACH 945.00**

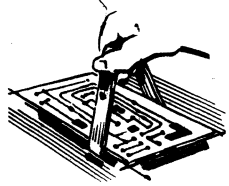
Photo Reversing Kit



FK-701. Two easy steps prepare line negatives and positives from taped or ink artwork; or to reverse existing negatives and positives. Needs no darkroom, tanks or trays. Includes two pieces or reversing film 10 × 24″, plus all processing chemicals necessary. **Shipping Wt.:** 1½ lbs.
835-0154 ..... **EACH 19.95**

RF-1024. 2 mil. Green Reversing Film. For use with above. **Size:** 10 × 24.″ **Shipping Wt.:** 8 oz.
835-0488 ..... **EACH 10.65**

Immersion Tin Plating Kit



ITP-801A. Immerse etched PC boards in electroless tin solution for 5 minutes. Oxide-free copper surface of boards obtain a tin plating approx. .00002″ thick. Plastic tong handles panels to 7″ wide. complete with thermometer, heat resistant tray for heating solution to 150°F, suffiaient solution to tin plate approx. 25 sq. ft. of etched circuit boards. Heat with burner or electric plate, not supplied. **Wt.:** 10 lbs.
835-0161 ..... **EACH 27.65**

Professional Photoresist Etched Circuit Board Kit

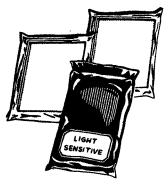
P-101A. Etched circuit kit utilizes photo engraving process to produce professional-quality etched circuits. Negative of layout can be produced photographically or mechanically with materials supplied. A sensitized sheet of FR-2 phenolic copper-clad is exposed through your prepared negative, then developed and etched. Includes materials for completely processing three single-clad panels, 3 × 6″ copper-clad.
835-0475 ..... **EACH 12.85**

P-101AG Professional Etched Circuit Kit. As above, but FR-4 glass epoxy boards instead of FR-2 paper-base phenolic boards. **Wt.:** 3 lbs.
835-0480 ..... **EACH 13.60**

Kepro Chemicals

Stock No.	Mfr.'s Type	Description	Size	EACH
835-0067	KD-1QT	Developing Solution	1 qt.	8.80
835-0060	KD-1G	Developing Solution	1 gal.	18.85
835-0105	E-1G	Etching Solution — Ferric chloride	1 gal.	13.35
835-0128	SP-1G	Etching Powder — sodium persulfate	1 gal.	12.75
835-0139	SP-4G	Etching Powder — sodium persulfate	4 gal.	33.90
835-0140	CU3-1QT	Copper Clad Chem. Cleaner	1 qt.	14.95
835-0145	ITP-1QT	Immersion Tin Plating Solution	1 qt.	17.95

Etched Circuit Copper-Foil Clad Materials



Laminated 1-oz. (.00135) and 2-oz. (.0127) copper-clad materials. Available in 1/16″ FR-2 paper base phenolic and FR-4 glass epoxy with foil on two sides, except types marked with *, clad one side only. Meet NEMA grade tolerances. Supplied unsensitized for screen processes parts and photosensitized for photo processed boards. Photosensitized materials are ready for exposure with no further sensitizing required.

1/16″ FR-4 Glass Expoxy 1 oz. (.00135) Copper Weight

Stock No.	Mfr.'s Type	Wt. Per Package	Size	PER PKG./5
835-0315	P1-465G*	1 lb. 2 oz.	4 × 6″	11.45
835-0321	P1-12125G*	3 lbs. 6 oz.	12 × 12″	60.90
835-0361	P2-12125G	3 lbs. 10 oz.	12 × 12″	67.40

Photosensitized

Stock No.	Mfr.'s Type	Wt. Per Package	Size	PER PKG./5
835-0513	S1-365G*	1 lb.	3 × 6″	11.90
835-0520	S1-465G*	1 lb. 2 oz.	4 × 6″	15.90
835-0528	S1-665G*	1 lb. 6 oz.	6 × 6″	23.80
835-0569	S2-465G	1 lb. 3 oz.	4 × 6″	20.00
835-0590	S2-7105G	2 lbs. 2 oz.	7 × 10″	54.80

1/16″ FR-4 Glass Expoxy 2 oz. (.0127) Copper Weight

Stock No.	Mfr.'s Type	Wt. Per Package	Size	PER PKG./5
835-0388	P12-465G*	1 lb. 6 oz.	4 × 6″	12.65
835-0391	P12-12125G*	3 lbs. 11 oz.	12 × 12″	67.40

Photosensitized

Stock No.	Mfr.'s Type	Wt. Per Package	Size	PER PKG./5
835-0617	S12-465G*	1 lb. 8 oz.	4 × 6″	17.15
835-0620	S12-7105G*	1 lb. 9 oz.	7 × 10″	53.99
835-0625	S22-365G*	1 lb. 10 oz.	3 × 6″	19.95
835-0628	S22-465G	1 lb. 8 oz.	4 × 6″	24.30
835-1018	S22-7105G	2 lbs. 14 oz.	7 × 10″	66.45

1/16″ FR-2 Paper Base Phenolic 1 oz. (.00135) Copper Weight (Photosensitized)

Stock No.	Mfr.'s Type	Wt. Per Package	Size	PER PKG./5
835-0533	S1-7105G*	1 lb. 14 oz.	7 × 10″	43.45

Predrilled PC Boards

A. Grid Boards...100 × .100″ centers for DIP ICs, sockets and headers. Solder-ringed holes. Indexed columns and rows to help you identify component pin outs.

Stock No.	Mfr.'s Type	Size	Holes	EACH
910-2203	276-147	4 1/2 × 6 5/8″	2200	3.79
910-2204	276-158	2 3/4 × 3 3/4″	750	2.29
910-2205	276-149	1 27/32 × 2 27/32″	356	.99

B. Universal PC Board. Type 276-168. Accepts ICs up to 40 pins. Total of 750 indexed, solder-ringed holes. Two busses, one grounding strip. Mounting holes at corners. 3 3/8 × 2 7/8″.
910-2194 .....EACH 2.29

C. IC/LSI Board. Type 276-162. For LSI ICs up to 40 pins. 750 holes with solder ring, indexed on both sides. DIP centers. 2 13/16 × 3 3/4″.
910-2193 .....EACH 2.29

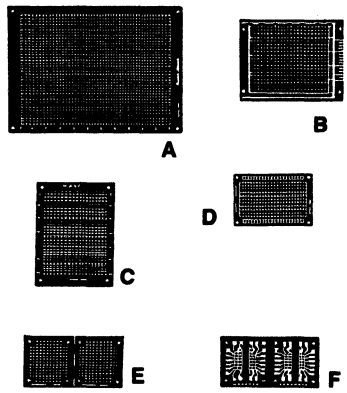
D. Multi-Purpose Bus Board. Type 276-150. Two bus strips at the center. PC pattern traced on component side speeds building. 417 solder points. 1 27/32 × 2 27/32″.
910-2188 .....EACH .99

E. Dual Mini General-Purpose Board. Type 276-148. 213 holes. 1 3/4 × 3 5/8″. Can be snapped in half.
910-2187 .....EACH 1.39

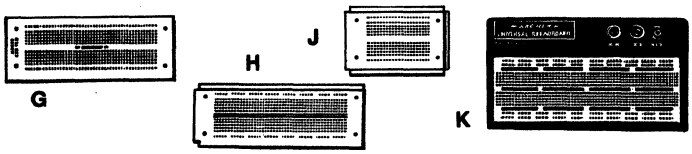
F. Dual IC Board. Type 276-159. Accepts two 6 to 20-pin DIPs. Four connecting points for each IC pin. 1 3/4 × 3 3/8″.
910-2191 .....EACH 1.49

Three-Voltage Source Plug-In Board. Type 276-154. LOW PRICE! Like Fig. M, but has three busses. Ideal for op-amp circuits.
910-2190 .....EACH 3.49

44-Position Card Edge Socket. Type 276-1551. For Fig. M above.
910-2200 .....EACH 2.99



Experimenter's Solderless Breadboards



The fast efficient way to design your own solid-state circuits. The modular breadboards are reusable and accept a wide variety of components. When you have your circuit working properly, it's easy to transfer it to the matching PC board for a soldered, permanent version.

G. Experimenter's PC Board. Type 276-170. Layout matches modular breadboard. 550 pre-drilled connection points. 2 1/16 × 5-7/16 × 1/16″.
910-2197 .....EACH 2.79

H. Modular IC Breadboard Socket. Type 276-174. Snap together horizontally or vertically for more complex designs. Silver-nickel contacts accepts 30 to 22 gauge solid wire. Feature two bus strips and 550 indexed connection points. 2 1/8 × 6″.
910-6707 .....EACH 11.95

J. Modular IC Breadboard Socket. Type 276-175. Smaller version of 276-174 with 270 indexed connection points. 2 1/8 × 3 5/8″.
910-6708 .....EACH 7.49

K. Universal Breadboard. Type 276-169. Our Finest! The 2 1/4 × 6 1/2″ breadboard is mounted on a 7 × 4″ 'stay put' steel base with rubber feet. Accepts DIPs, discrete components and up to 22 gauge wire. Total of 640 plug-in tie points. 3 binding posts for power hookup, etc.
910-2196 .....EACH 19.95

Power Transformers

Seven popular values for new equipment or replacement use. The miniature types may be PC board mounted. The standard and heavy-duty types have steel frames with lugs for chassis mounting. All primaries are for 120 VAC, 60 Hz.

Stock No.	Mfr.'s Type	Type	Volts	Current	Size Inches	EACH
910-1120	273-1385	Miniature	12.6	300 mA	2 1/16 × 1 × 1 3/16	3.49
910-2213	273-1365	Miniature	12.6 CT	450 mA	1 7/16 × 2 3/8 × 1 1/2	4.29
910-2214	273-1366	Miniature	25.2 CT	450 mA	1 11/16 × 2 15/16 × 1 1/16	4.79
910-1180	273-1511	Heavy-duty	12.6 CT	3.0 mA	2 3/4 × 2 1/4 × 2	7.99
910-1190	273-1512	Heavy-duty	25.2 CT	3.0 mA	2 3/4 × 2 1/4 × 2	9.49
910-1210	273-1515	Heavy-duty	18.0 CT	2.0 mA	2 3/4 × 2 1/4 × 2	8.99

Resist Marking Pen

► **Fast Drying Black Ink**
► **Fine Point Marks Easily**

Type 276-1530. The fine point of this pen allows you to do delicate drawings and design your own printed circuit patterns directly on copper-clad boards. The fast drying black ink of this pen will not smear, leaving your work neat and readable. Marks easily, gives an even flow of ink which means no need to trace over drawings or designs to make them clear. Has handy pocket clip. **Shpg. wt.:** 2 oz.
910-6717 .....EACH 1.79

Archer® Printed Circuit Kit has Everything You Need

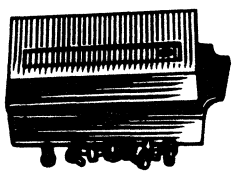
This kit contains everything you need to design and make printed circuit boards. Two printed circuit boards, resist ink pen, 6-oz. bottle of etchant, 2-oz. bottle of resist ink solvent, 1/16″ drill bit. 7 1/8 × 5 1/8 × 2″ plastic box. **Shpg. wt.:** 2 lbs.
910-6726. Type 276-1576 .....EACH 9.95

Printed Circuit Etchant Solution

► **Takes Copper Off Perfboard...**
► **Safe, Easy and Fast to Use**
► **16 fl. oz.**

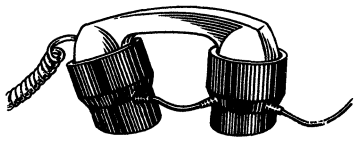
A PC 'must' for hobbyists, builders, experimenters! A special ferric chloride solution removes copper completely without damage to board material. **Shpg. wt.:** 1 1/2 lbs.
910-6715. Type 276-1535 .....EACH 2.69

Box With PC Board



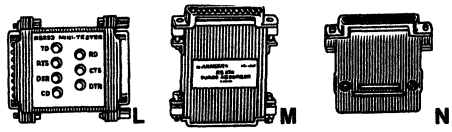
2 × 3 1/8″ board accepts DIP ICs. With labels, feet and hardware. 3 7/16 × 2 5/16 × 1 3/16″.
910-9033. Type 270-291 .....EACH 4.99

Acoustic Coupler for Portable Computers



Acoustic Coupler 2. Ideal for use when direct connection isn't possible. Accommodates round or square handsets. 8-pin plug for portable computers or the DCM-6 Modem (above). Full or half-duplex.
910-9986. Type 26-3818 .....EACH 59.95

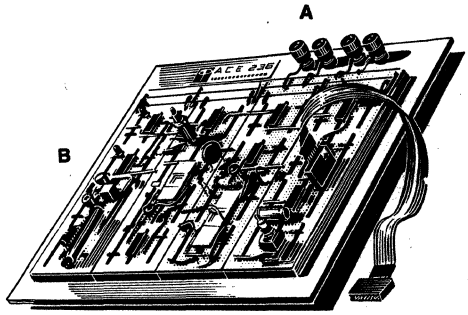
RS232 Testing and Connections



L. RS232 Mini Tester. Diagnose interface problems yourself, without costly repair calls. Dual-color LEDs indicate status of TD, RTS, DSR, CD, RD, CTS, and DTR lines. Connects inline.
910-9034. Type 276-1401 .....EACH 14.95
M. RS232 Surge Absorber. AC line protection is not enough! Use RS232 surge absorber at each EIA port to stop spikes cold. Shielded.
910-9035. Type 276-1402 .....EACH 11.88
N. RS232 Modular Jack Adapter Kit. End cable confusion! Relocate computer equipment as easily as plugging in a telephone. Six user-programmable data lines.
910-9036. Type 276-1405 .....EACH 2.99

ACE All-Circuit Evaluators

Twelve assembled breadboards for quick build-up and check-out of experimental circuits. All models have integral voltage distribution system with solderless, plug-in tie-points on universal .100 × .100″ matrix for excellent circuit design flexibility. These ACEs accept all DIPs, TO-5s, discrete components and solid wire patch cords to .032″. Use buses for voltage, ground, reset and clock lines, shift command, etc. Five-way binding posts. Aluminum base serves as ground and has gold-anodized protective surface. Multi-tie-point terminals are non-corrosive nickel silver. Four rubber feet included.



Stock No.	Mfr.'s Type	ACEs	Tie-Pts.	DIP Cap.	No. Buses	No. Posts	Size (In.) A	Size (In.) B	EACH 1-24	EACH 25-49	EACH 50-99
617-3322	923322	ACE 254 (assem.)	5424	54 (14s)	56	4	14 11/16	9 3/4	112.95	103.91	96.01
617-3323	923323	ACE 245 (assem.)	4520	45 (14s)	44	4	12 7/16	9 3/4	93.95	86.43	79.86
617-3324	923324	ACE 236 (assem.)	3648	36 (14s)	36	4	10 1/4	9 1/4	74.95	68.95	63.71
617-3325	923325	ACE 227 (assem.)	2712	27 (14s)	28	4	8	9 1/4	62.95	57.91	53.51
617-3326	923326	ACE 218 (assem.)	1760	18 (14s)	10	2	6 1/2	7 1/8	44.95	41.35	38.21
617-3331	923331	ACE 212 (assem.)	1224	12 (14s)	8	2	4 9/16	7	32.95	30.31	28.01
617-3332	923332	ACE 208 (assem.)	872	8 (16s)	8	2	4 9/16	5 9/16	24.95	22.95	21.21
617-3336	923336	ACE 109 (assem.)	840	9 (14s)	8	3	7	4	19.95	18.35	16.96
617-3337	923337	ACE 118 (assem.)	1824	20 (14s)	4	4	7 3/4	6 1/4	39.95	36.75	33.96
617-3335	923335	ACE 106	610	6 (14s)	4	2	5.4	4.0	12.15	11.55	10.97
617-3338	923338	ACE 127	2712	27 (14s)	28	3	8.0	9.25	49.95	47.45	45.00
617-3339	923339	ACE 136	3648	36 (14s)	36	3	10.25	9.25	59.95	56.95	54.10

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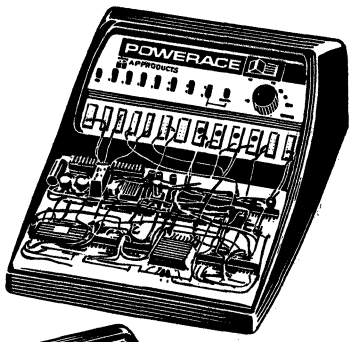
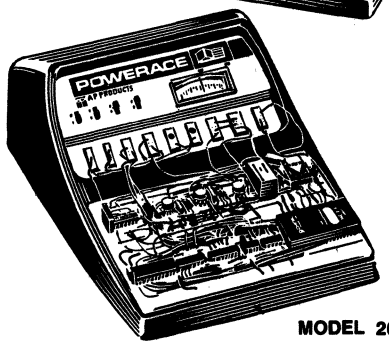


MODEL 202



MODEL 203

PowerACE Self-Contained Breadboarding Labs

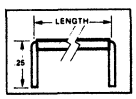
Power Supplies with Breadboards
Models below feature: 1680 solderless, plug-in tie-points...will hold up to 18 14-DIPs. Breadboard elements accepts all DIP sizes including RTL, DTL, TTL and CMOS devices, TO-5s and discretes with leads up to .032″ dia. All connections to/from switches, indicators, power supplies and meters are made via solderless, plug-in, tie-point blocks on control panels. Interconnect with any solid 20 to 30 AWG wire. Breadboard elements are mounted on ground planes...ideal for high-frequency and high-speed/low-noise circuits. Short-circuit-proof fused power supplies. Operate on 110 to 130 VAC at 60 Hz. Space-age compact styling and high-grade components permit convenient, organized and quick prototyping. Both models are 7 1/2″ (19.05 cm) wide, 11 1/2″ (29.21 cm) deep and 4.0″, (10.16 cm) high at rear but only 3/4″ (1.9 cm) high at the front for working-level convenience. **Weight:** 2 1/2 lbs. (1.13 kg). The 200-Series models are grey and feature removable breadboards.

Model 202 Complete Digital Prototyping Labs with a Built-In Pulse Detector
Power supply is regulated + 5 VDC at 1 amp. Ripple/noise is ≤ 1% at full load. Line and load regulation is ≤ 1%. Pulse Detection with memory is built in. Will detect positive or negative going pulses as short as 10 nanoseconds. Memory is reset by momentary switch on control panel. Three logic indicators (LEDs) have buffered inputs that require 1 microamp max. Two logic switches, momentary, with debounce circuitry. Both Q and Q outputs can sink 15 mA and source 5 mA. Four data switches with logic 1 or logic 0 outputs have unlimited sinking capabilities and can source 10 mA. Clock generator has the following frequencies available: 1 Hz, 10 Hz, 100 Hz, 1 kHz and 100 kHz with a 50% duty cycle. C output will sink 15 mA and source 5 mA. C output will sink or source 50 mA. One-shot pulse generator has output of 7 mS pulse, positive or negative going. Both Q and Q outputs can sink 15 mA and source 400 microamps.
617-0202. Type 923202. **1-24** ..... **EACH 175.05**
25-49 ..... **EACH 161.05** **50-99** ..... **EACH 148.79**

Model 203 Triple-Output Power Supplies for Prototyping Both Linear and Digital Circuits
Triple-output power supply has outputs of: + 5 VDC at 750 mA, + 15 VDC at 250 mA, and − 15 VDC at 250 mA. Ripple/noise is ≤ 10 mV at full load for all outputs. Line and load regulation is ≤ 1% for all outputs. ± 15-volt outputs track. Meter is built in 15-0-15 VDC. Input is accessible at tie-point block on control panel which allows monitoring power supplies or circuits. Meter accuracy is 5% of full scale. Two logic indicators (LEDs) have buffered inputs that require 1 microamp max. Two logic switches, momentary, with debounce circuitry. Both Q and Q outputs can sink 15 mA, and source 5 mA. Two data switches with logic 1 and logic 0 outputs have unlimited sinking capabilities and can source 10 mA.
617-0203. Type 923203. **1-24** ..... **EACH 175.05**
25-49 ..... **EACH 161.05** **50-99** ..... **EACH 148.79**

Replacement Removable Breadboard with Pull Tab
617-0100. Type 923100. **1-24** ..... **EACH 36.67**
25-49 ..... **EACH 33.00** **50-99** ..... **EACH 29.33**

Jumper Wires



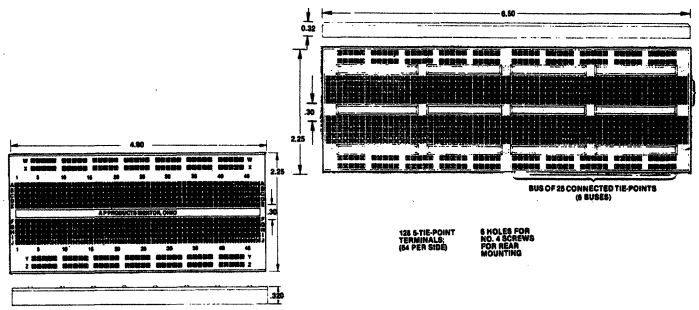
► **For Quick, Neat Circuit Connections**

Speed your circuit building even more. Each wire is stripped 1/4″ and bent 90° on both ends for easy insertion. All Jumper Wires are PVC insulated #22 AWG solid, tinned copper and are recommended for use with all solderless breadboarding units from ESP.

Stock No.	Mfr.'s Type	Length Inches	Color	Pkg. Qty.	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
617-3451	923345-01	0.1	(No Insulation)	200	3.90	3.63	3.36	3.08
617-3452	923345-02	0.2	Red	200	3.90	3.63	3.36	3.08
617-3453	923345-03	0.3	Orange	200	3.90	3.63	3.36	3.08
617-3454	923345-04	0.4	Yellow	200	3.90	3.63	3.36	3.08
617-3455	923345-05	0.5	Green	200	3.90	3.63	3.36	3.08
617-3456	923345-06	0.6	Blue	150	3.90	3.63	3.36	3.08
617-3457	923345-07	0.7	Violet	150	3.90	3.63	3.36	3.08
617-3458	923345-08	0.8	Gray	150	3.90	3.63	3.36	3.08
617-3459	923345-09	0.9	White	150	3.90	3.63	3.36	3.08
617-3460	923345-10	1.0	Brown	150	3.90	3.63	3.36	3.08
617-3461	923345-20	2.0	Red	100	3.90	3.63	3.36	3.08
617-3462	923345-30	3.0	Orange	75	3.90	3.63	3.36	3.08
617-3463	923345-40	4.0	Yellow	75	3.90	3.63	3.36	3.08
617-3464	923345-50	5.0	Green	75	3.90	3.63	3.36	3.08

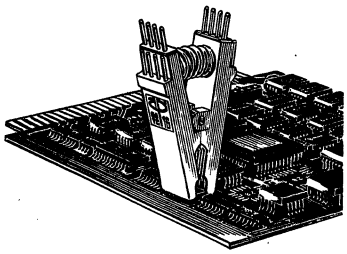
Jumper Wire Kit. 923351. 14 different lengths, 25 pieces of each. Compartmented box.
25-49 ..... **EACH 14.12** **617-3501. 1-24** ..... **EACH 15.35**
100-249 ..... **EACH 11.97** **50-99** ..... **EACH 13.05**

Super-Strips and Circuit Strips



Super-Strips and Circuit Strips give all the advantages of terminal and distribution strips in a single unit. They can be used alone or grouped with any other of ESP's solderless breadboarding strips. Circuit Strip has about three-fourths the capacity of Super-Strip. Super-Strip has a molded-in alpha-numeric grid for faster and easier identification of tie-points. All sizes of DIPs and discrete components with lead diameters up to .032″ can be accommodated. Use solid hookup wire for interconnections; #22 AWG is recommended. They can be permanently mounted with the integral non-shorting instant-mounting backing or mounted with screws on panels up to 1/8″ thick. Hardware and mounting templates are provided with every strip.

Stock No.	Mfr.'s Type	Tie-Pts.	DIP Cap.	Size (In.) A × B	No. Buses	Terminals	EACH 1-24	EACH 25-49	EACH 50-99
617-3748	923748	840	9 (14s)	2.25 × 6.50	8	Gold-plated	34.95	32.15	29.71
617-3252	923252	840	9 (14s)	2.25 × 6.50	8	Alloy 770	16.95	15.59	14.41
617-3253	923253	610	6 (14s)	2.25 × 4.90	8	Alloy 770	10.95	10.07	9.31
617-3749	923749	610	6 (14s)	2.25 × 4.90	8	Gold-plated	21.95	20.19	18.66



SOIC* Test Clips

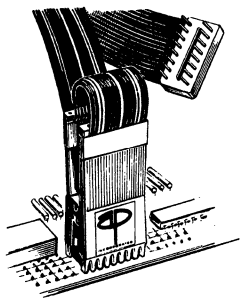
Now normally hard-to-access SOICs can be connected to test probes quickly and easily without the risk of shorting out chips or damaging other board components. SOIC test clips are available in different pin sizes to accommodate a wide range of requirements. Industry standard .025″ square contact pins on .050″ centers are staggered to permit easy attachment of IDC socket connectors or wire wrapping and help prevent shorting of adjacent probes. With these smaller test clips, you can stack SOICs as close as .050″ end-to-end. Like our other test clips, the SOIC series features heavy duty helical compression springs that provide firm, positive contact pressure, an insulating contact comb to prevent accidental shorts and a patented wiping action to ensure integrity in testing. The steel hinge pin and tough glass-filled polyester body, UL rated 94V-0, provide long service life. Available in gold or alloy 764, SOIC test clips from 3M offer solutions for all your test and prototype needs.

*SOIC (Small Outline Integral Circuits)

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
617-4300	923660-16	SOIC Test Clip, 16 Pin, Wide, Alloy	**7.25**	**6.88**	**6.54**	**6.21**
617-4301	923660-18	SOIC Test Clip, 18 Pin, Wide, Alloy	**8.95**	**8.50**	**8.07**	**7.67**
617-4302	923660-20	SOIC Test Clip, 20 Pin, Wide, Alloy	**9.45**	**8.97**	**8.52**	**8.10**
617-4303	923660-24	SOIC Test Clip, 24 Pin, Wide, Alloy	**12.95**	**12.30**	**11.68**	**11.10**
617-4304	923660-28	SOIC Test Clip, 28 Pin, Wide, Alloy	**15.95**	**15.15**	**14.39**	**13.67**
617-4305	923665-16	SOIC Test Clip, 16 Pin, Wide, Gold	**8.95**	**8.50**	**8.07**	**7.67**
617-4306	923665-18	SOIC Test Clip, 18 Pin, Wide, Gold	**11.25**	**10.68**	**10.15**	**9.64**
617-4307	923665-20	SOIC Test Clip, 20 Pin, Wide, Gold	**11.85**	**11.25**	**10.69**	**10.15**
617-4308	923665-24	SOIC Test Clip, 24 Pin, Wide, Gold	**16.25**	**15.43**	**14.66**	**13.93**
617-4309	923665-28	SOIC Test Clip, 28 Pin, Wide, Gold	**19.95**	**18.95**	**18.00**	**17.10**
617-4310	923650-08	SOIC Test Clip, 8 Pin, Narrow, Alloy	**7.95**	**7.55**	**7.17**	**6.81**
617-4311	923650-14	SOIC Test Clip, 14 Pin, Narrow, Alloy	**6.75**	**6.41**	**6.09**	**5.78**
617-4312	923650-16	SOIC Test Clip, 16 Pin, Narrow, Alloy	**7.25**	**6.88**	**6.54**	**6.21**
617-4313	923655-08	SOIC Test Clip, 8 Pin, Narrow, Gold	**9.95**	**9.45**	**8.97**	**8.53**
617-4314	923655-14	SOIC Test Clip, 14 Pin, Narrow, Gold	**8.45**	**8.02**	**7.62**	**7.24**
617-4315	923655-16	SOIC Test Clip, 16 Pin, Narrow, Gold	**8.95**	**8.50**	**8.07**	**7.67**

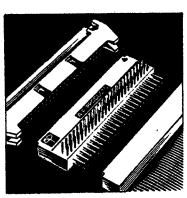
Logical Connections

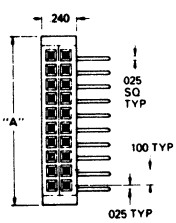
Logical connections are ideal for connection of remote testing equipment to DIP circuitry. On one end a connector-compatible test clip is mated with a pair of single row socket connectors. 1½″ cable loop between connections "A" and "B" allows for free actuation of the test clip. Probe holes in the backs of all connectors provide access to individual lines. Connectors are molded onto cable ends for optimum electrical integrity and rugged strain relief. Available unterminated or with DIP connector on remote end of the 18″ flat ribbon cable. Each unit is a complete, tested and ready-to-use assembly.



DIP Termination. Logical Connections (Test Clip and Jumper)

Stock No.	Mfr.'s Type	No. of Contacts	EACH		
			1-24	25-49	50-99
617-8416	923884-16	16	**16.80**	**15.46**	**14.28**
617-8420	923884-20	20	**23.35**	**21.39**	**19.76**
617-8424	923884-24	24	**29.60**	**27.33**	**25.16**
617-8440	923884-40	40	**38.85**	**25.74**	**33.02**

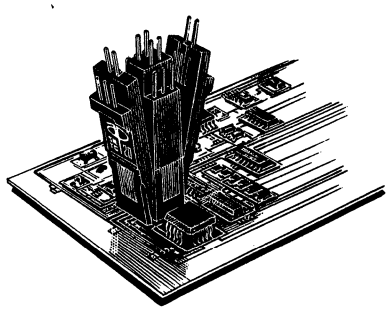




Intra Connectors

The Intra-Connector allows access to previously inaccessible lines. In use, the connector is interjected between mating system connectors to provide external pin contacts that can be probed individually or connected to another cable assembly; pins also can be used to facilitate daisy chaining from a single connector end.

Stock No.	Mfr.'s Type	No. of Contacts	Dim. "A"	EACH		
				1-24	25-49	50-99
617-7920	922576-20	20	1.160	**8.45**	**7.77**	**7.18**
617-7926	922576-26	26	1.460	**9.75**	**8.97**	**8.29**
617-7934	922576-34	34	1.860	**11.35**	**10.44**	**9.65**
617-7940	922576-40	40	2.160	**12.65**	**11.64**	**10.75**
617-7950	922576-50	50	2.660	**14.75**	**13.57**	**12.54**
617-7960	922576-60	60	3.160	**16.45**	**15.13**	**13.98**



PLCC* Test Clips

Our new Surface Mount Test Clip is truly the state-of-the-art for testing Plastic Leaded Chip Carrier (PLCC) style integrated circuits. The unique action wedge design—with all four sides opening simultaneously—provides a faster and easier attachment to the PLCC. The helical compression spring and insulating contact combs ensure integrity in contact when testing. Our narrow body design allows components to be tested with as little as .100″ lead-to-lead spacing, side stackable at .200″ lead-to-lead spacing. Probe access points are immediately visible for fast and safe individual lead testing, while staggered contact rows on .100″ centers allow for easy probe attachment and help prevent accidental shorting of adjacent probes. Industry standard .025″ square contact pins permit easy attachment of female socket connectors or wire wrapping.

*PLCC (Plastic Leaded Chip Carrier)

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100
617-4316	923670-20	20 Pin, Alloy, Surface Mount Test Clip (PLCC)	**15.95**	**15.15**	**14.39**	**13.67**
617-4317	923670-28	28 Pin, Alloy, Surface Mount Test Clip (PLCC)	**23.95**	**22.75**	**21.61**	**20.53**
617-4318	923670-44	44 Pin, Alloy, Surface Mount Test Clip (PLCC)	**30.95**	**29.40**	**27.93**	**26.53**
617-4319	923670-68	68 Pin, Alloy, Surface Mount Test Clip (PLCC)	**39.95**	**37.95**	**36.05**	**34.25**
617-4320	923675-20	20 Pin, Gold, Surface Mount Test Clip (PLCC)	**19.95**	**18.95**	**18.00**	**17.10**
617-4321	923675-28	28 Pin, Gold, Surface Mount Test Clip (PLCC)	**29.95**	**28.45**	**27.02**	**25.67**
617-4322	923675-44	44 Pin, Gold, Surface Mount Test Clip (PLCC)	**37.95**	**36.05**	**34.24**	**32.53**
617-4323	923675-68	68 Pin, Gold, Surface Mount Test Clip (PLCC)	**49.95**	**47.45**	**45.07**	**42.82**

Test Clips

The narrow-nose design makes it easy to attach on high-density boards, fits onto ICs with only 0.1″ between leads and adjacent components. "Duck bill" contacts are flat, won't roll off IC leads. Open-nose construction enables probe at IC leg. Pin rows are offset for easy attachment of probes. "Contact comb" construction separates contacts with precision. No shorts. Heavy duty, industrial-grade springs for firm contact pressure. Steel pivot pin. The standard models have "nail-head" leads which keep probes and test leads from sliding off. The connector-compatible models have headless leads .025″ long to allow attachment of cable assemblies (see Logical Connections below, this page). Leads are .031″ in diameter on .100″ centers on both models.

Gold-Plated Contacts

Stock No.	Standard Model No.	Stock No.	Connector-Compatible Model	DIP Compatibility	EACH		
					1-24	25-49	50-99
617-0058	923743-08	**617-1058**	923739-08	8-pin	**7.85**	**7.22**	**6.67**
617-0060	923743-14	**617-1060**	923739-14	14-pin	**6.95**	**6.39**	**5.91**
617-0066	923743-16	**617-1066**	923739-16	16-pin	**7.35**	**6.76**	**6.25**
617-0068	923743-18	**617-1068**	923739-18	18-pin	**11.25**	**10.35**	**9.56**
617-0070	923743-20	**617-1070**	923739-20	20-pin	**11.85**	**10.90**	**10.07**
617-0074	923743-24	**617-1074**	923739-24	24-pin	**16.25**	**14.95**	**13.81**
617-0078	923743-28	**617-1078**	923739-28	28-pin	**19.95**	**18.35**	**16.96**
617-0090	923743-40	**617-1090**	923739-40	40-pin	**23.75**	**21.85**	**20.19**

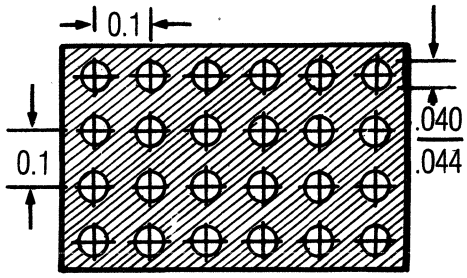
Alloy 770 Contacts

Stock No.	Standard Model No.	Stock No.	Connector-Compatible Model	DIP Compatibility	EACH		
					1-24	25-49	50-99
617-0008	923695	**617-1008**	923690-08	8-pin	**6.25**	**5.75**	**5.31**
617-0014	923698	**617-1014**	923690-14	14-pin	**5.65**	**5.20**	**4.80**
617-0016	923700	**617-1016**	923690-16	16-pin	**5.90**	**5.43**	**5.02**
617-0017	923702	**617-1017**	923690-LSI	16-LSI	**10.95**	**10.07**	**9.31**
617-0018	923703	**617-1018**	923690-18	18-pin	**8.95**	**8.23**	**7.61**
617-0020	923704	**617-1020**	923690-20	20-pin	**9.45**	**8.69**	**8.03**
617-0022	923705	**617-1022**	923690-22	22-pin	**12.25**	**11.27**	**10.41**
617-0024	923714	**617-1024**	923690-24	24-pin	**12.95**	**11.91**	**11.01**
617-0028	923718	**617-1028**	923690-28	28-pin	**15.95**	**14.67**	**12.56**
617-0036	923720	**617-1036**	923690-36	36-pin	**17.95**	**16.51**	**15.26**
617-0040	923722	**617-1040**	923690-40	40-pin	**18.95**	**17.43**	**16.11**
617-0048	923724	**617-1048**	923690-48	48-pin	**25.95**	**23.87**	**22.06**
617-0065	923726	**617-1064**	923690-64	64-pin	**29.95**	**27.55**	**25.46**

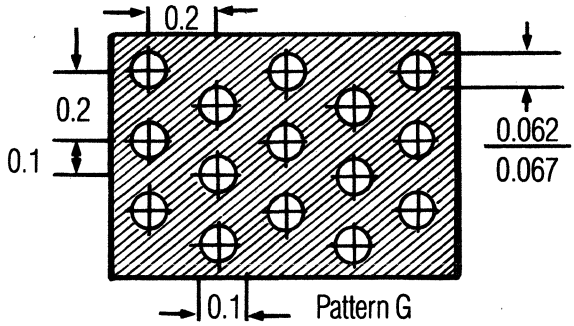
Vectorbord—Prototyping Boards

Vectorbord—Punchboards

Precision drilled or prepunched, Vectorbord® Prototyping Boards are convenient economical design tools and cost efficient alternatives to custom designs. Available in several hole patterns, many are copper clad. Sockets and pins, terminals, tools, and accessories are available separately.



Pattern P



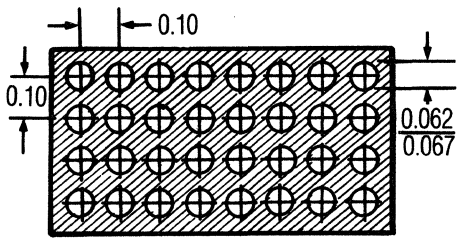
Pattern G

6

Vectorbord® Punchboards

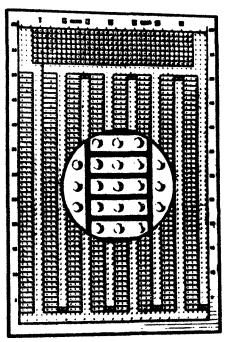
Stock No.	Mfr.'s Type	Pattern	Width	Length	Thick	Hole	Material	EACH
977-8300	64P44XXXP	P	4.50	6.50	0.062	0.042	FR2 Phenolic	2.49
977-1212	64P44	P	4.50	6.50	0.062	0.042	CEM-1 Epoxy Glass Composite	2.59
977-8302	84P44	P	4.50	8.50	0.062	0.042	CEM-1 Epoxy Glass Composite	3.19
977-8304	169P44C1	P	4.50	17.00	0.062	0.042	CEM-1 Epoxy Glass Composite	8.49
977-1255	169P44	P	4.50	17.00	0.062	0.042	CEM-1 Epoxy Glass Composite	6.99
977-1261	169P44XXXP	P	4.50	17.00	0.062	0.042	FR2 Phenolic	5.49
977-8132	169P44WEC1*	P	4.50	17.00	0.062	0.042	FR4 Epoxy Glass	9.99
977-1265	169P59-047	P	6.00	17.00	0.047	0.042	FR4 Epoxy Glass	9.99
977-1263	169P59-032	P	6.00	17.00	0.031	0.042	FR4 Epoxy Glass	9.99
977-[illegible]	169P59XXXP	P	6.00	17.00	0.062	0.042	FR2 Phenolic	8.29
977-12[illegible]	169P79	P	8.00	17.00	0.062	0.042	CEM-1 Epoxy Glass Composite	10.95
977-1267	[illegible]9P84	P	8.50	17.00	0.062	0.042	CEM-1 Epoxy Glass Composite	12.29
977-1268	16[illegible]84C1*	P	8.50	17.00	0.062	0.042	CEM-1 Epoxy Glass Composite	16.95
977-1270	169P84WE	P	8.50	17.00	0.062	0.042	FR4- Epoxy Glass	13.95
977-8134	169P84WEC1*	P	8.50	17.00	0.062	0.042	FR4 Epoxy Glass	17.95
977-1280	349P84	P	8.50	35.00	0.062	0.042	CEM-1 Epoxy Glass Composite	27.95
977-8306	85G24WE	G	4.80	17.00	0.062	0.062	CEM-1 Epoxy Glass Composite	7.99
977-9000	85G42EP	G	8.50	17.00	0.062	0.062	FR3 Epoxy Paper	12.95
977-8164	85G42WE	G	8.50	17.00	0.062	0.062	FR4 Epoxy Glass	11.49
977-8160	85H48WE	H	4.80	8.50	0.062	0.062	FR4 Epoxy Glass	3.99
977-1271	170H48WE	H	4.80	17.00	0.062	0.062	FR4 Epoxy Glass	7.99
977-8162	170H85WE	H	8.50	17.00	0.062	0.062	FR4 Epoxy Glass	14.79

*Copper clad, one side

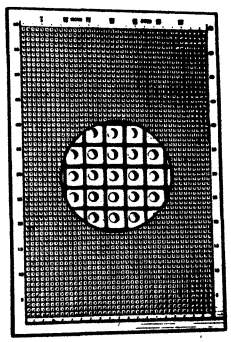


Pattern H

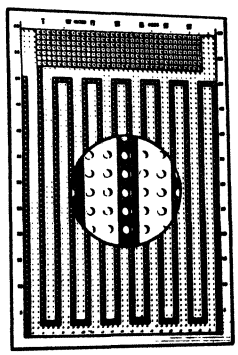
Vectorbord® Circbords®



3 Hole Solder Pad



Pad Per Hole



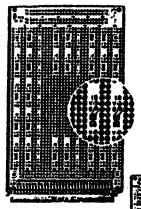
Bus Patterns (Interleaved Bus)

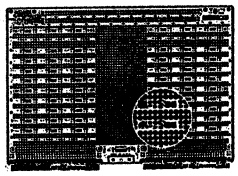
Printed Circuit Prototyping Boards

Vectorbord® Circbords® with printed circuitry cover a wide range of design requirements—without the expense of edge connectors. All boards have provisions for I/O connectors. Several circuit patterns are available. All bus and pad surfaces are solder coated for user convenience. Holes are 0.042" diameter, hole patterns based on 0.1" grids. Sockets and pins, terminals, tools, and accessories available separately.

Stock No.	Mfr.'s Type	Width	Length	Thick	Hole Diameter	16 Pin DIP Capacity	Material	Circuit Pattern	EACH
977-1951	8001	4.500	6.500	0.062	0.042	20	CEM-1 Epoxy Glass Composite	3-Hole Solder Pad	13.49
977-3090	8007	4.500	6.500	0.062	0.042	60	CEM-1 Epoxy Glass Composite	Pad-Per-Hole/Ground Plane	14.95
977-5099	8004	4.500	6.500	0.062	0.042	50	CEM-1 Epoxy Glass Composite	Ground Plane	13.49
977-5098	8003	4.500	6.500	0.062	0.042	60	CEM-1 Epoxy Glass Composite	Pad-Per-Hole	13.29
977-1952	8002	4.500	6.500	0.062	0.042	36	CEM-1 Epoxy Glass Composite	Interleaved Buses	13.29
977-8308	3677-6	4.500	8.080	0.062	0.042	21	CEM-1 Epoxy Glass Composite	3-Hole Solder Pad	11.49
977-8310	45P80-1	4.500	8.080	0.062	0.042	103	CEM-1 Epoxy Glass Composite	Pad-Per-Hole	18.95
977-3085	8006	5.000	13.250	0.062	0.042	154	CEM-1 Epoxy Glass Composite	Pad-Per-Hole	29.95
977-8312	8012	9.200	11.000	0.062	0.042	283	FR4 Epoxy Glass, Copper Clad	Pad-Per-Hole	44.95
977-1245	106P106-1	10.600	10.600	0.062	0.042	275	CEM-1 Epoxy Glass Composite	Pad-Per-Hole	49.95

Eurocard Metric Prototyping Boards


LF316UC3T1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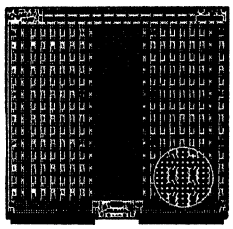
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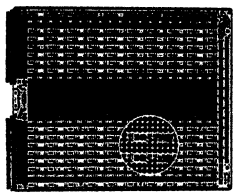
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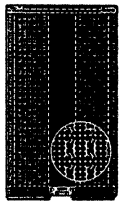
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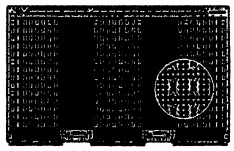
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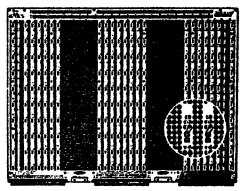
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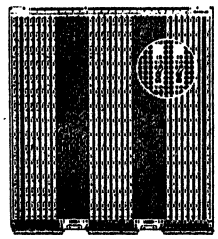

LF940SC3T1
LF940UC3T1

Multilayer, High Speed Circuit Packaging System

The Easiest Route from Drawing Board (or CRT) to Finished Circuit

0.055″ diameter holes on 0.1″ grids. High speed, high density multilayer boards—available in standard DIN sizes with a wide range of options to meet your needs:

- **Two circuit patterns: Schottky (SCH) and High Speed Universal (HSU)**
- **The Schottky (SCH) family, with redundant power and ground layers, is ideal for various integrated circuits, such as Schottky and CMOS, operating at or above 20 MHZ**
- **High Speed Universal (HSU) boards feature four independent layers—for greater speeds, HSU versions meet specifications for ECL (Emitter Coupled Logic), and can be used to mix different types of integrated circuits (such as ECL, TTL and analog) within the same package**
- **High density socket pin configurations with large grid array mounting area**
- **High density grid allows minimum wire lengths for maximum performance**
- **Massive copper planes on multiple layers provide minimum current return paths and reduce ringing and crosstalk**
- **Surface Mounted Decoupling Capacitors (installed as an option)**
- **Accepts DIP devices with 0.300″, 0.400″, 0.500″, 0.600″, 0.900″ and 1.200″ lead spacings without adapters.**
- **Four finger pins (standard) in DIP IC mounting areas; six finger pins (low insertion force) in PGA mounting area**
- **For Wire Wrap or Stitch Wire applications**
- **Available uncommitted or with connector committments for VMEbus, Multibus -II, Futurebus and Nubus**
- **Compatible with DIN and IEC international standards**
- **0.125″ epoxy glass, flame-retardant construction (edges milled to 0.062″)**
- **Supported by a complete line of Europackaging Products: including backplanes, subracks, extender cards and accessories.**

Ordering Information

L	F	6	22	S	-	3	T	1
A	B	C	D	E	F	G	H	J

A—VECTORBORD plus™
logic panel standard

B—Socket Pins
P = socket pins loaded for I.C.s only
F = socket pins loaded for I.C.s and PGAs

C—Board Height Code
3 = 3U (3.94″ 100 mm)
6 = 6U (9.19″ 233.4 mm)
9 = 9U (14.44″ 366.7 mm)

D—Board Depth Code
16 = 160 mm (6.30″)
22 = 220 mm (8.66″)
28 = 280 mm (11.02″)
40 = 400 mm (15.75″)

E—Construction
S = SCH (4 layer)
U = HSU (4 layer)

F
- = no capacitors
C = with capacitors

G—Pin Type
2 = Wire Wrap Socket 2 level
3 = Wire Wrap Socket 3 level
4 = Wire Wrap Socket 4 low profile

H—Plating
T = Tin, Gold
G = Gold, Gold

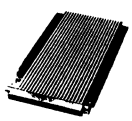
J—Connector V/G Commitment
1 = STD DIN, no commitment
2 = STD DIN, VME
3 = STD DIN, IEEE 896
4 = STD DIN, Multibus II
5 = NUBUS

VectorBord Plus™ Prototyping Boards

Stock No.	Mfr.'s Type	DIN/ IEC	Dim. (mm)	16-Pin DIP Capacity	Pin Grid Array Area(s)	SMD Capac. Installed	EACH
977-8000	LF316SC3T1	3UX160	100.0 × 160	48	1-20 × 20	27	**229.95**
977-8015	LF616SC3T1	6UX160	233.4 × 160	120	1-21 × 48	60	**429.95**
977-8020	LF616UC3T1	6UX160	233.4 × 160	120	1-21 × 48	116	**459.95**
977Q8025	LF622UC3T1	6UX220	233.4 × 220	198	1-21 × 78	184	**629.95**
977-8030	LF628SC3T1	6UX280	233.4 × 280	242	1-21 × 95	126	**849.95**
977Q8035	LF628UC3T1	6UX280	233.4 × 280	242	1-21 × 95	240	**879.95**
977Q8040	LF640SC3T1	6UX400	233.4 × 400	374	1-21 × 143	184	**949.95**

Stock No.	Mfr.'s Type	DIN/ IEC	Dim. (mm)	16-Pin DIP Capacity	Pin Grid Array Area(s)	SMD Capac. Installed	EACH
977Q8045	LF640UC3T1	6UX400	233.4 × 400	374	1-21 × 143	368	**999.95**
977Q8050	LF922SC3T1	9UX220	366.9 × 220	306	2-24 × 72	148	**899.95**
977Q8055	LF922UC3T1	9UX220	366.9 × 220	306	2-24 × 72	280	**949.95**
977Q8060	LF928SC3T1	9UX280	366.8 × 280	374	2-24 × 95	198	**1199.95**
977Q8065	LF928UC3T1	9UX280	366.8 × 280	374	2-24 × 95	400	**1249.95**
977Q8070	LF940SC3T1	9UX400	366.8 × 400	578	2-24 × 143	296	**1499.95**
977Q8075	LF940UC3T1	9UX400	366.8 × 400	578	2-24 × 143	580	**1574.95**

General Purpose and Bus Specific Extenders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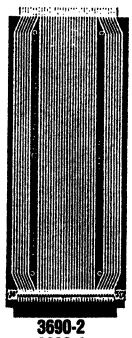
3690-6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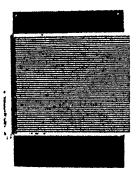
3690-4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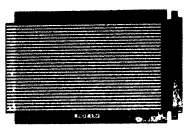
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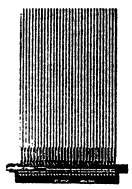
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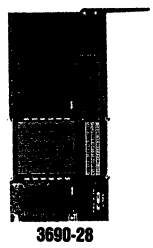
3690-27


3690-28

3690-30

3690-31

Extenders

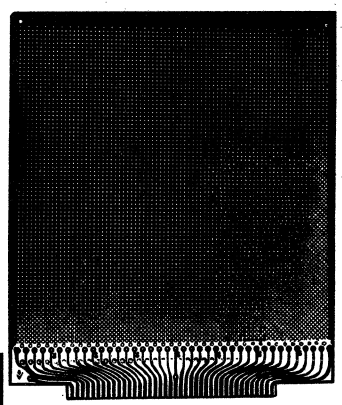
(For In-System Testing of Functioning Circuits)
Construction is either FR4 epoxy glass or epoxy glass composite with nickel/gold plated edge contacts, and gold plated socket contacts. Receptacles are installed and connected to 2 ounce etched circuit line on the board. Receptacle tabs in most models are designed to accept test clips or probes.

Stock No.	Mfr.'s Type	Size		No. of Contacts	Spacing	EACH
		Width	Length			
977-1411	3690	4.50″	6.50″	22/44	.156″	**23.95**
977-1412	3690-2	4.50″	11.00″	36/72	.100″	**34.95**
977-1413	3690-4	4.50″	7.50″	36/72	.100″	**33.95**
977-8174	3690-6	4.50″	6.50″	22/44	.156″	**27.95**
977-1410	3690-12	10.00″	7.50″	50/100	.125″	**44.95**
977-8124	3690-16	4.50″	6.50″	28/156	.125″	**31.95**
977-8168	3690-18	12.00″	7.65″	30/60	.100″	**64.95**
				43/86	.156″	
977-8170	3690-20	9.75″	9.00″	43/86	.156″	**84.95**

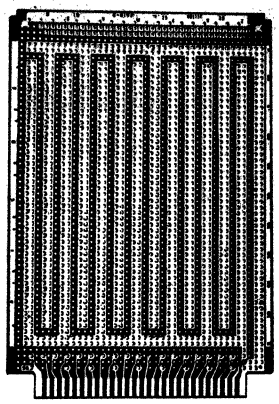
Stock No.	Mfr.'s Type	Size		No. of Contacts	Spacing	EACH
		Width	Length			
977-6018	3690-22	3.18″	5.70″	31/62	.100″	**31.95**
977-8082	3690-24	3.50″	4.87″	36/72	.100″	**44.95**
977-3080	3690-26	6.70″	5.60″	18/36	.100″	**49.95**
				31/62	.100″	
977-4025	3690-27	4.50″	4.56″	96 Pin	Din	**74.95**
977-4030	3690-28	12.85″	6.30″	96 Pin	Din	**199.95**
977-4070	3690-30	7.47″	6.10″	96 Pin	Din	**149.95**
977-4075	3690-31	7.47″	7.65″	96 Pin	Din	**179.95**
—	—	—	—	—	—	—

Vectorbord® Plugbords™

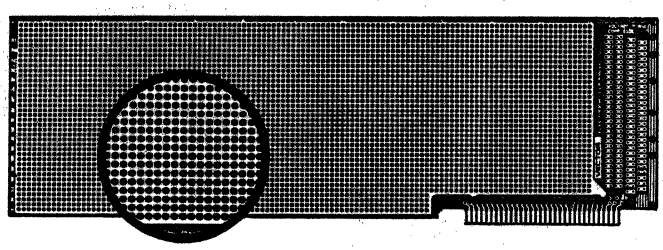
► General Purpose Applications ► Eurocard Metric Prototyping Boards ► Bus Specific Architectures.



Contacts Only Pattern: Boards are bare except for edge connector contacts.

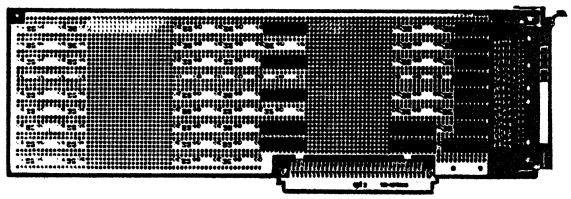


Pads & Planes™ Pattern: Full voltage and ground planes, holes are 0.042″ diameter, plated-thru on 0.1″ grid with 0.080″ diameter, isolated solder pads both sides. Positions for SMD decoupling capacitors.



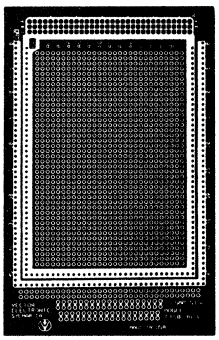
Bus Patterns: Bus patterns may be incorporated into an overall pattern, combined with another pattern, or may stand alone. Three patterns:

Interleaved Bus: Voltage and ground travel in opposite directions along the board perimeter, the across board surface in alternating rows.

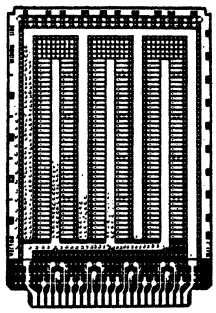


Voltage/Ground Plane Pattern: Overall power and ground planes on opposite board sides, with 0.085″ diameter clearance pads around holes, both sides.

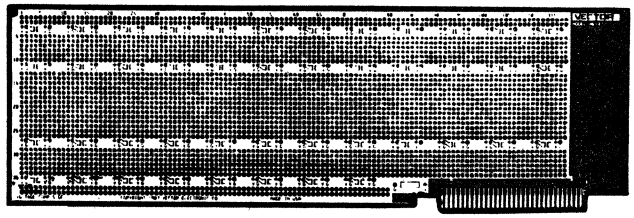
Peripheral Bus: Voltage and ground bus lines trace a path around board perimeter.



Pad-Per-Hole Pattern: 0.042″ diameter holes with 0.80″ diameter, isolated solder pads. PTH holes except for 8801-6, 8007, 8003, 45P80-1.



3-Hole Solder Pad Pattern: 3-hole, solder coated pads provide convenient connectors; interleaved buses are accessible over entire board.



Vectorbord plus™ Pattern: Full voltage and ground planes, holes are 0.055″ diameter on 0.1″ grid, with 0.085″ diameter clearance pad on both sides. SMD decoupling capacitors installed for reduced crosstalk, increased signal performance.

Vectorbord® Plugbords™ General Purpose

Stock No.	Mfr.'s Type	Length	Width	Spacing	Contacts	Thick	Hole Diameter	16 Pin DIP Capacity	Material	Solder Connector	Wire Wrap Connector	Extender	Patterns	EACH
977-8138	3797-2	2.730	4.500	.156	30	0.062	.042	4	CEM-1 Epoxy Glass Composite	R630		3690-10	3-Hole Solder Pad	12.95
977-1421	3662-5	4.500	4.500	.156	44	0.062	.042	40	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	Contacts Only	10.95
977-1455	4112-5	4.500	4.500	.156	44	0.062	.042	8	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	3-Hole Solder Pad	19.95
977-8142	3682-4	4.500	6.500	.156	44	0.062	.042	24	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	Interleaved Bus/Ground Plane	24.95
977-1399	3662	4.500	6.500	.156	44	0.062	.042	50	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	Contacts Only	13.95
977-5100	3662-9	4.500	6.500	.156	44	0.062	.043	45	FR4 Epoxy Glass	R644	R644-3	3690	Pad-Per-Hole	29.95
977-1403	3677-2	4.500	6.500	.156	44	0.062	.042	12	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	3-Hole Solder Pad	15.95
977-8314	4112-4	4.500	6.500	.156	44	0.062	.042	25	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	3-Hole Solder Pad	20.95
977-1407	3682-2	4.500	6.500	.156	44	0.062	.042	24	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	Interleaved Buses	17.95
977-8140	3662A6	4.500	6.500	.156	44	0.062	.042	50	CEM-1 Epoxy Glass Composite	R644	R644-3	3690	Ground Plane	24.95
977-8316	4112	4.500	9.600	.156	44	0.062	.042	40	CEM-1 Epoxy Glass Composite	R644	R644-3	3690-6	3-Hole Solder Pad	26.95
977-1397	3662-2	4.500	9.600	.156	44	0.062	.042	90	CEM-1 Epoxy Glass Composite	R644	R644-3	3690-6	Contacts Only	14.95
977-1402	3677	4.500	9.600	.156	44	0.062	.042	21	CEM-1 Epoxy Glass Composite	R644	R644-3	3690-6	3-Hole Solder Pad	17.95
977-1405	3682	4.500	9.600	.156	44	0.062	.042	48	CEM-1 Epoxy Glass Composite	R644	R644-3	3690-6	Interleaved Buses	22.95
977-8122	4610-3	4.500	6.500	.125	56	0.062	.043	52	FR4 Epoxy Glass	R656-1	R656	3690-16	Pad-Per-Hole	36.95
977-1440	4066-4	4.500	6.500	.100	72	0.060	.042	34	CEM-1 Epoxy Glass Composite	R636-2	R636-1	3690-4	Ground Plane/Interleaved Buses	18.95
977-5101	3719-6	4.500	6.500	.100	72	0.062	.043	40	FR4 Epoxy Glass	R636-2	R636-1	3690-4	Pad-Per-Hole	32.69
977-1415	3719-1	4.500	6.500	.100	72	0.062	.042	50	CEM-1 Epoxy Glass Composite	R636-2	R636-1	3690-4	Contacts Only	13.49
977-8158	3719-4	4.500	9.600	.100	72	0.062	.042	90	CEM-1 Epoxy Glass Composite	R636-2	R636-1	3690-2	Contacts Only	17.95
977-1700	4350	7.000	9.600	.125	80	0.062	.042	62	CEM-1 Epoxy Glass Composite	R680-2	R680-1	3690-14	Voltage/Ground Planes	36.95
977-1401	3673	7.980	9.600	.125	80	0.062	.042	152	FR4 Epoxy Glass	R680-2	R680	3690-14	Contacts Only	26.95
977-8318	8801-6	5.300	10.000	.125	100	0.062	.043	80	FR4 Epoxy Glass	R681-3	R681-1, –2	3690-12	Pad-Per-Hole	39.95
977-2025	8801-1	5.300	10.000	.125	100	0.062	.042	110	CEM-1 Epoxy Glass Composite	R681-3	R681-1, –2	3690-12	Contacts Only	19.95
977-2040	8804	5.300	10.000	.125	100	0.062	.042	70	CEM-1 Epoxy Glass Composite	R681-3	R681-1, –2	3690-12	Voltage/Ground Planes	29.95
977-2000	8800V	5.300	10.000	.125	100	0.062	.042	52	FR4 Epoxy Glass	R681-3	R681-1, –2	3690-12	Voltage/Ground Planes	29.95
977-8156	4493	4.500	9.600	.100	72	0.062	.042	42	CEM-1 Epoxy Glass Composite	R636-2	R636-1	3690-4	Voltage Plane	25.95

Eurocard Metric Prototyping Boards

Stock No.	Mfr.'s Type	Width	Height	Hole Diameter	16 Pin DIP Capacity	Material	96-Pin DIN Connector	Card Cage	Terminals	Socket Pins	Patterns	EACH
977-3000	E160-3U-1	6.3	3.94	0.042	35	FR4 Epoxy Glass	RE96MWR	CCK160-3U	T125, T126	R32	Pad-Per-Hole	24.95
977-3005	E160-3U-2	6.3	3.94	0.042	35	FR4 Epoxy Glass	RE96MWR	CCK160-3U	T125, T126	R32	Buses Only	19.95
977-3010	E160-3U-3	6.3	3.94	0.055	45	FR4 Epoxy Glass	RE96MWR	CCK160-3U		R52	Voltage/Ground Plane	24.95
977-3015	E160-6U-1	6.3	9.19	0.042	100	FR4 Epoxy Glass	RE96MWR	CCK160-6U	T125, T126	R32	Pad-Per-Hole	44.95
977-3021	E160-6U-2	6.3	9.19	0.042	100	FR4 Epoxy Glass	RE96MWR	CCK160-6U	T125, T126	R32	Buses Only	34.95
977-3025	E160-6U-3	6.3	9.19	0.055	105	FR4 Epoxy Glass	RE96MWR	CCK160-6U		R52	Voltage/Ground Plane	39.95
977-3030	E220-6U-1	8.66	9.19	0.042	140	FR4 Epoxy Glass	RE96MWR	CCK220-6U	T125, T126	R32	Pad-Per-Hole	47.95
977-3035	E220-6U-2	8.66	9.19	0.042	140	FR4 Epoxy Glass	RE96MWR	CCK220-6U	T125, T126	R32	Buses Only	37.95
977-3040	E220-6U-3	8.66	9.19	0.055	168	FR4 Epoxy Glass	RE96MWR	CCK220-6U		R52	Voltage/Ground Plane	42.95
977-3045	E280-9U-1	11.02	14.44	0.042	270	FR4 Epoxy Glass	RE96MWR	CCK280-9U	T125, T126	R32	Pad-Per-Hole	79.95
977-3050	E280-9U-2	11.02	14.44	0.042	270	FR4 Epoxy Glass	RE96MWR	CCK280-9U	T125, T126	R32	Buses Only	64.95
977-3055	E280-9U-3	11.02	14.44	0.055	348	FR4 Epoxy Glass	RE96MWR	CCK280-9U	T125, T126	R52	Voltage/Ground Plane	69.96

*Note: T123 Eyelets are available for connecting socket pins and/or connectors to voltage/ground planes

Vectorboard® Bus Specific Prototyping Boards

Stock No.	Mfr.'s Type	Width	Length	Hole Diameter	DIP Capacity	Material	Bus	Circuit Pattern	Solder Connector	Wire Wrap Connector	Extender	Card Cage	EACH
977-1911	4610-1	4.500	6.500	0.042	59	CEM-1 Epoxy Glass Composite	STD	Contacts Only	R656-1	R656	3690-16	Series 13	19.49
977-1910	4610	4.500	6.500	0.042	20	CEM-1 Epoxy Glass Composite	STD	3 Hole Solder Pad	R656-1	R656	3690-16	Series 13	24.95
977-1912	4610-2	4.500	6.500	0.042	35	CEM-1 Epoxy Glass Composite	STD	Interleaved Bus	R656-1	R656	3690-16	Series 13	24.95
977-8122	4610-3	4.500	6.500	0.042	52	Epoxy Glass	STD	Pad-Per-Hole	R656-1	R656	3690-16	Series 13	36.95
977-8318	8801-6	5.300	10.000	0.042	110	Epoxy Glass	S100	Pad-Per-Hole	R681-3	R681-2	3690-12	CCK100S	39.95
977-2025	8801-1	5.300	10.000	0.042	110	CEM-1 Epoxy Glass Composite	S100	Contacts Only	R681-3	R681-2	3690-12	CCK100S	19.95
977-2040	8804	5.300	10.000	0.042	52	CEM-1 Epoxy Glass Composite	S100	Voltage Plane	R681-3	R681-2	3690-12	CCK100S	29.95
977-2000	8800V	5.300	10.000	0.042	52	CEM-1 Epoxy Glass Composite	S100	Voltage Plane	R681-3	R681-2	3690-12	CCK100S	29.95
977-1900	4609	3.060	7.700	0.042	22	CEM-1 Epoxy Glass Composite	Apple, II, IIe	2 Hole Solder Pad	—	—	—	—	28.95
977-8080	4609-1	3.060	7.700	0.042	46	CEM-1 Epoxy Glass Composite	Apple II, IIe	Voltage/Ground	—	—	—	—	24.95
977-4065	4618-7	3.475	11.500	0.042	79	FR4 Epoxy Glass	PS/2 50, 60, 80	Pads & Planes	—	—	3690-30, 31	—	69.75
977-4050	4618-5	3.475	11.500	0.055	79	FR4 Epoxy Glass	PS/2 50, 60, 80	Vectorbord plus	—	—	3690-30, 31	—	69.95
977-4060	4618C5LF	3.475	11.500	0.055	79	FR4 Epoxy Glass	PS/2 50, 60, 80	Vectorbord plus	—	—	3690-30, 31	—	389.95
977-4015	5085-5	4.000	12.850	0.055	115	Epoxy Glass, 2 oz. Copper	Macintosh II	Vectorbord plus	—	—	3690-27, 28	—	89.95
977-4000	5085C5LF	4.000	12.850	0.055	115	Epoxy Glass, 2 oz. Copper	Macintosh II	Vectorbord plus	—	—	3690-27, 28	—	399.95
977-4045	5086-7	8.396	4.738	0.042	72	Glass Epoxy, Copper LAM	Macintosh SE	Pads & Planes	—	—	—	—	74.95
977-4020	5085-7	12.861	4.000	0.042	86	Epoxy Glass, Copper LAM	Macintosh II	Pads & Planes	—	—	3690-27,28	—	89.95
977-4010	5085-4	12.861	4.000	0.055	115	Glass Epoxy	Macintosh II	Voltage/Ground	—	—	3690-27, 28	—	74.49
977-8320	4613-2	4.210	13.235	0.042	55	Epoxy GLass	IBM PC, XT	Voltage Plane	—	—	3690-22	—	49.95
977-6016	4613-1	4.210	13.235	0.042	84	Epoxy Glass	IBM PC, XT	Peripheral Bus	—	—	3690-22	—	36.95
977-6015	4613	4.210	13.235	0.042	44	Epoxy Glass	IBM PC, XT	3 Hole Solder Pad	—	—	3690-22	—	49.95
977-3070	4613-3	4.210	13.235	0.042	91	Epoxy Glass, 2 oz. Copper	IBM PC, XT	Pad-Per-Hole	—	—	3690-22	—	49.95
977-8322	4613-5	4.210	13.235	0.055	120	FR4 G10 Epoxy	IBM PC, XT	Vectorbordplus	—	—	3690-22	—	59.95
977-8324	4613C5LF	4.210	13.235	0.055	79	FR4 G10 Epoxy	IBM PC, XT	Vectorbord plus	—	—	3690-22	—	349.95
977-8326	4613-7	4.210	13.235	0.042	120	Epoxy Glass, 2 oz. Copper	IBM PC, XT	Pads & Planes	—	—	3690-22	—	54.95
977-3075	4617-3	4.800	13.250	0.042	96	Epoxy Glass, 2 oz. Copper	IBM AT	Pad-Per-Hole	—	—	3690-26	—	49.95
977-3060	4617	4.800	13.250	0.042	39	Epoxy Glass	IBM AT	3 Hole Solder Pad	—	—	3690-26	—	49.95
977-3065	4617-1	4.800	13.250	0.042	108	Epoxy Glass, 2 oz. Copper	IBM AT	Peripheral Bus	—	—	3690-26	—	36.95
977-3077	4617-4	4.800	13.250	0.055	130	Epoxy Glass, 2 oz. Copper	IBM AT	Voltage/Ground	—	—	3690-26	—	49.95
977-4077	4617-5	4.800	13.250	0.055	140	Epoxy Glass, 2 oz. Copper	IBM AT	Vectorbord plus	—	—	3690-26	—	59.95
977-8328	4617C5LF	4.800	13.250	0.055	140	Epoxy Glass, 2 oz. Copper	IBM AT	Vectorbord plus	—	—	3690-26	—	379.95
977-8330	4607	5.190	8.430	0.042	85	CEM-1 Epoxy Glass Composite	DEC	Contacts Only	—	—	—	—	24.95
977-8332	4611-2	6.000	9.750	0.042	80	CEM-1 Epoxy Glass Composite	Motorola	Interleave Bus	R685-2	—	3690-20	CCK100S	41.95
977-8334	4611-1	6.000	9.750	0.042	119	CEM-1 Epoxy Glass Composite	Motorola	Contacts Only	R685-2	—	3690-20	CCK100S	29.95
977-8336	4611	6.000	9.750	0.042	45	CEM-1 Epoxy Glass Composite	Motorola	3 Hole Solder Pad	R685-2	—	3690-20	CCK100S	39.95
977-1800	4608	6.750	12.000	0.042	54	CEM-1 Epoxy Glass Composite	Multibus	3 Hole Solder Pad	R683-1, 5-1	—	3690-18	Series 18	78.95
977-1801	4608	6.750	12.000	0.042	144	CEM-1 Epoxy Glass Composite	Multibus	Contacts Only	R683-1, 5-1	—	3690-18	Series 18	49.95
977-4045	5086-7	8.396	4.738	0.042	72	Glass Epoxy, Copper LAM	Macintosh SE	Pads & Planes	—	—	—	—	74.95
977-4020	5085-7	12.861	4.000	0.042	86	Epoxy Glass, Copper LAM	Macintosh II	Pads & Planes	—	—	3690-27, 28	—	89.95
977-4010	5085-4	12.861	4.000	0.055	115	Glass Epoxy	Macintosh II	Voltage/Ground	—	—	3690-27,28	—	74.49

Vectorboard Printed Circuit Board Connectors

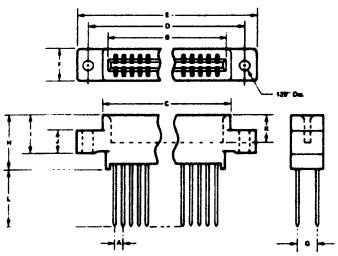


Fig. 1 Wire Wrap .025" Sq.

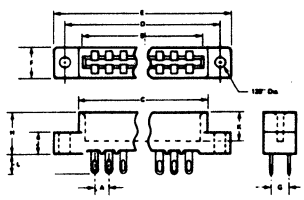


Fig. 2 Solder Tail (With Eyelet)

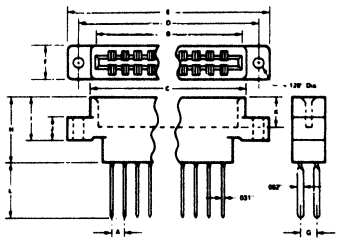


Fig. 3 Wire Wrap .032" × .062"

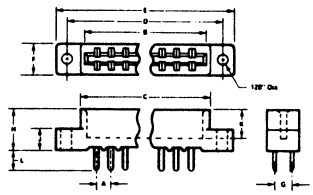
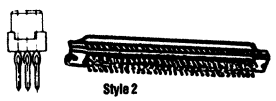


Fig. 4 Solder Tail Leads For Motherboards With Special 140" Row Spacing

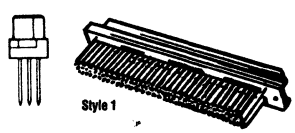
R600 Series Wire Wrap and Solder Tail Edge Card Connectors For 0.062" Thick Printed Circuit Boards

Designed for low insertion force, minimum wear on circuit board edge contacts. Mating contacts are gold/nickel plated for reliability. Highly efficient, 30Mv maximum contact resistance drop at 3 amps rated current. Insulation resistance is 5000 Megohms at 500V DC. Vectorbord Edge Card Connectors are supplied with between-contact polarizing keys. R630 and R644 connectors supplied with in-contact polarizing keys.

Stock No.	Mfr.'s Type	A Centers	Number of Contacts	Termination Type	B Card Slot	C	D Mounting Hole Centers	E	F	G Row Spacing	H	I	J	K	L	Mounting Ears	Fig.	EACH
977-8338	R683-1	.100	60	Solder Tail	3.100	3.28	3.575	3.950	.41	.200	.47	n/a	.25	.34	.25	Flush	2	9.29
977-0782	R636-1	.100	72	Wire Wrap	3.707	3.88	4.175	4.475	.41	.200	.62	.55	.25	.34	.65	Center	1	9.49
977-8340	R636-2	.100	72	Solder Tail	3.707	3.88	4.175	4.475	.41	.200	.47	n/a	.25	.34	.25	Flush	2	9.49
977-0790	R656	.125	56	Wire Wrap	3.625	3.79	4.045	4.325	.41	.250	.62	.55	.25	.34	.65	Center	1	9.99
977-8342	R656-1	.125	56	Solder Tail	3.625	3.79	4.045	4.336	.41	.200	.47	n/a	.25	.34	.25	Flush	2	8.99
977-0800	R680	.125	80	Wire Wrap	5.125	5.29	5.545	5.805	.41	.250	.62	.55	.25	.34	.65	Center	1	15.19
977-0805	R680-1	.125	80	Wire Wrap	5.125	5.29	5.545	5.805	.41	.250	.62	.55	.25	.34	.65	Center	1	10.59
977-8344	R680-2	.125	80	Solder Tail	5.125	5.29	5.545	5.805	.41	.200	.62	.55	.25	.34	.65	Center	2	14.39
977-0850	R681-1	.125	100	Wire Wrap	6.375	6.54	6.795	7.065	.41	.250	.62	.55	.25	.34	.65	Center	1	9.99
977-0855	R681-2	.125	100	Wire Wrap	6.375	6.54	6.795	7.065	.41	.250	.62	.55	.25	.34	.22	Center	4	9.99
977-0860	R681-3	.125	100	Solder Tail	6.375	6.54	6.795	7.065	.41	.200	.47	n/a	.25	.34	.25	Center	2	9.99
977-8346	R630	.156	30	Solder Tail	2.504	2.65	2.938	3.270	.41	.200	.47	n/a	.25	.34	.25	Center	2	5.99
977-0783	R644	.156	44	Solder Tail	3.596	3.75	4.032	4.360	.41	.200	.47	n/a	.25	.34	.25	Flush	2	5.59
977-0787	R644-3	.156	44	Wire Wrap	3.596	3.75	4.032	4.360	.41	.200	.62	.55	.25	.34	.65	Center	1	5.99
977-8348	R685-1	.156	86	Solder Tail	6.872	7.00	7.302	7.550	.41	.200	.47	n/a	.25	.34	.25	Flush	2	13.29
977-8350	R685-2	.156	86	Solder Tail	6.802	7.00	7.302	7.550	.41	.200	.47	n/a	.25	.34	.25	Flush	2	12.29



Style 2



Style 1

Style 3

96-Pin DIN Connectors

For solder or Wire Wrap applications with DIN specification 41612. DIN Connectors, essential components of the DIN/Eurocard Standard, are also used with many bus specific and uncommitted architectures, including VMEbus and Multibus. Superior, two-piece design features gold/nickel plated copper alloy contacts and glass-filled polycarbonate or polyether sulphone insulating material. Excellent electrical properties.

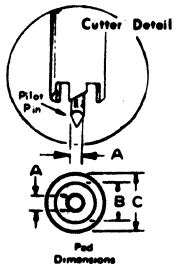
Stock No.	Mfr.'s Type	Style	M/F	Contact Length	Description	EACH
977-8184	RE96FW	1	F	0.540	Wire Wrap	8.99
977-8182	RE96FSD	2	F	0.208	Solder Tail	8.99
977-8178	RE96MWR	3	M	0.445	Wire Wrap, Right Angle	8.99

Insertion and Wire Wrap Tools

P138 Pad Cutting Tool

Stock No.	Mfr.'s* Type	Shank Handle	A	B	C	Shank	EACH
977-3095	P138A	Yes	.040	.086	.125	.125	12.95
977-3101	P138C	No	.040	.086	.125	.125	10.95

*Pattern P .042" holes



Stock No.	Mfr.'s Type	Used For	EACH
977-0013	A13	T44	8.99
977-0689	P149	T42-1	6.49
977-5045	P149A	T42-1	7.49
977-5046	P156	T49	9.99
977-0670	P133B	T46	6.83
977-0650	P91	T28	6.49
977-8352	P160-1B	W28	26.49
977-8354	P160-2B	W30	18.95

Tefzel Insulated Silver Plated Wire

Stock No.	Mfr.'s Type	AWG	Color	Spool Dia.	Feet per Spool	Spools Per Pkg.	EACH
977-8356	W28-6AU	28	Green	1½"	150	1	10.49
977-7031	W28-6BU	28	Red	1½"	150	1	10.49
977-7032	W28-6DU	28	Blue	1½"	150	1	10.49
977-7034	W28-6FU	28	Yellow	1½"	150	1	10.49
977-8358	W30-6D	30	Blue	1½"	200	1	11.49
977-8360	W30-6E	30	White	1½"	200	1	11.49

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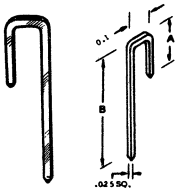


K32 J Pin Terminals

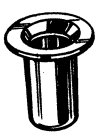
- Wire Wrap terminal installs in two 0.042" diameter holes on 0.1" centers
- Short leg can be bent to secure pin
- Long post can share hole with T42-1 Micro-Klip

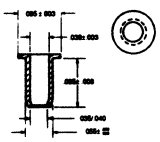
Stock No.	Mfr.'s Type	Dimensions—In. A	Dimensions—In. B	EACH
977-0595	K32/C	.250	.650	4.49

T123 Solder Eyelets

- Used to commit holes to power and ground planes, for printed circuit boards with clearance areas isolating holes from planes
- Simulates plated-thru hole
- Reduces diameter of 0.055" holes to 0.042"
- Also can be used in I/O connector area on many Vectorbord prototyping boards

977-8106. T123/500.....EACH 19.95





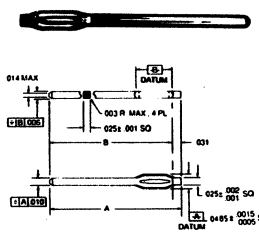
T124 Solder Washers

Multi-functional washer kits, Vector Part No. T124, with three sizes of washers. Different sizes provided to fit over sockets and tails of most Vector socket pins and wiring terminals. Ideal tools for committing pins to voltage and ground planes in Vectorbord patterns, such as Voltage/Ground Plane and Vectorboard plus, that have clearance area isolating holes from planes.

977-8110. T124/M.....EACH 84.49

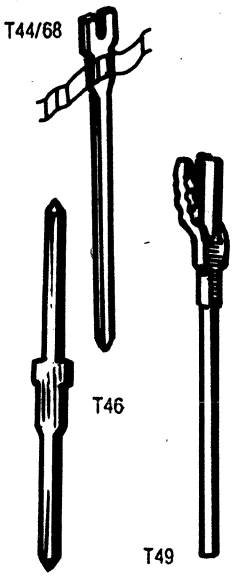
T125, T126 Wire Wrap Terminals

- Pressfit Wire Wrap terminals, ideal for voltage and ground holes in Vectorbord plus and Pads & Planes patterns
- Two-level terminals: Part No. T125
- Three-level terminals: Part No. T126
- 0.025" square posts
- Secure contact in plated-thru holes for soldering



Stock No.	Mfr.'s Type	EACH
977-8112	T125/C	9.29
977-8114	T125/500	34.95
977-8116	T126/C	9.49
977-8118	T126/500	34.95

Terminals

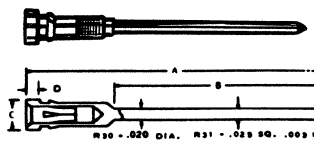


T44, T68 Bifurcated Miniwrap Terminals
- Wire Wrap Tail with two-pronged receptacle for wires or leads
- 0.025" square posts
- Rectangular terminal with stepped shank presses securely into plated or unplated holes, requires no staking or soldering
- Bifurcated end holds soldered leads securely
- T44: maximum 0.021" diameter leads or 24 gage wires
- T68: maximum 0.032" diameter leads or 20 gage wires

T46 Press-In Terminals
- Single- and double-tailed (accessible from both sides) Wire Wrap terminals ► 0.025" square posts
- Provides secure contact without soldering or staking
- Rectangular base with stepped shank presses into plain or plated-thru holes and is retained without etching or soldering
- Pointed ends slide neatly into all wrapping bits

T49 Trifurcated Klipwrap Terminals
- Wire Wrap tail with three-pronged receptacle for wires or leads
- 0.025" square posts
- Wires or leads are crimped into receptacle on component side, secured for soldering
- Holds 0.018"-0.025" diameter leads or 22 gauge wires in lower slot.
- Terminal: Tin Plate Part No. 0.032"-0.040" diameter leads or 17 gage wires in upper slot

Stock No.	Mfr.'s Type	Package Quantity	Hand Insertion Tool	EACH
977-0972	T44/C	100	A13	3.29
977-0973	T44/M	1000	A13	19.08
977-0984	T68/C	100	A13-1	3.99
977-8364	T46-4-9/C	100	P133B	3.99
977-0980	T46-5-9/C	100	P133B	4.19
977-5060	T49/C	100	P156	4.99
977-5036	T49/M	1000	P156	35.95



Socket Pins 0.042"

R32 Socket Pin
- Low profile Wire Wrap socket pins
- Pressfit mounting
- Four-finger contacts, tapered sockets for easy insertion

Stock No.	Mfr.'s Type	Pkg. Qty.	Dimensions—In. A	B	C	D	Male Pin Depth	EACH
977-5064	R32/C	100	.745	.500	.072	.155	.13	15.79
977-5040	R32/M	1000	.745	.500	.072	.155	.13	129.95

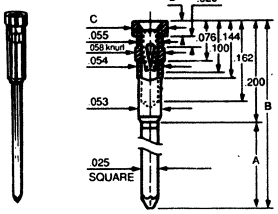
Socket Pins 0.055"

R50
- Two-level Wire Wrap pins, 0.025" square posts
- Four-finger contacts, tapered sockets for easy insertion
- Gold-plated contact surfaces

R51
- Two-level Wire Wrap pins, 0.025" square posts
- Six-finger contacts, low insertion force sockets
- Gold-plated contact surfaces

R52
- Three-level Wire Wrap pins, 0.025" square posts
- Four-finger contacts, tapered sockets for easy insertion

R53
- Three-level Wire Wrap pins, 0.025" square posts
- Six-finger contacts, low insertion force sockets
- Gold-plated contact surfaces



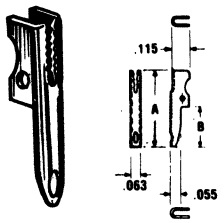
Stock No.	Mfr.'s Type	Pkg. Qty.	Dimensions—In. A	B	C	D	EACH
977-8090	R50/C	100	.560	.360	.062	—	12.95
977.8092	R50/M	1000	.560	.360	.062	—	79.95
977-8094	R51/C	100	.560	.360	.062	—	12.95
977-8096	R51/M	1000	.560	.360	.062	—	79.95
977-8098	R52/C	100	.700	.500	.062	—	13.95
977-8100	R52/M	1000	.700	.500	.062	—	89.95
977-8102	R53/C	100	.700	.500	.062	—	12.95
977-8104	R53/M	1000	.700	.500	.062	—	79.95

Push In Terminals

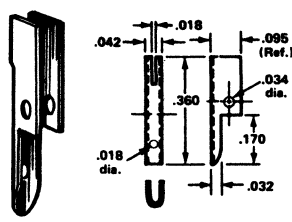
T28 Push-In Terminals
- Wiring terminals for mounting leads or wires horizontally or vertically (though board holes)
- Connections require no staking for most applications
- Vertical (longitudinal) slot holes 0.025" diameter leads or .22 gage wires
- Includes 0.018" diameter tab hole which accepts transistor wires, can be used to hold an anchoring wire

T42 Push-In Terminals
- Wiring terminals for mounting leads or wires horizontally or vertically (through board hole)
- Connections require no staking for most applications
- Horizontal slot holds up to seven wires, depending upon thickness of wire

Stock No.	Mfr.'s Type	Type	For Hole Dia.	Package Quantity	Material	Plating	Hand Insertion Tool	EACH
977-8362	T28/C	Mini-Klip	.062	100	Phosphor Bronze	Tin	P91	2.59
977-0951	T28/M	Mini-Klip	.062	1000	Phosphor Bronze	Tin	P91	16.49
977-0970	T42-1/C	Micro Klip	.042	100	Copper Alloy	Tin	P149	2.49
977-0971	T42-1/M	Micro Klip	.042	1000	Copper Alloy	Tin	P149	14.95

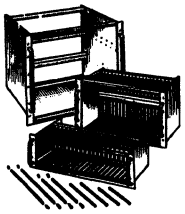


T28



T42

Subracks for Prototyping Cards



Complete selection of 19″ subracks, will accept all listed cards and Vector high performance backplanes. Discrete connectors may be used with adapter strips (see table). Card guides, backplanes, and connectors must be ordered separately. Aluminum side panels and cross pieces are brushed anodized aluminum with a clear conductive finish. Cards may be mounted on any increment of 0.4″ centers using snap-in card guides.

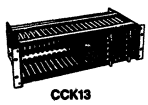
Card Guides
977-8206. CG1-160. 160 mm.....EACH .59
977-8208. CG1-220. 220 mm.....EACH .69
977-8210. CG1-280U. 280 mm.....PK/4 .99
977-8212. CG1-400U. 400 mm.....PK/4 .99

Adapter Strips
Adapter strips with threaded holes on 0.4″ centers for mounting RE96MWR connectors.
977-8214. AS1/2.....EACH 12.95

Stock No.	Mfr.'s Type	Description	Height	Depth	EACH 1-9
977-8216	CCK160-3U	3U x 160 mm Subrack	5.21″	9.44″	59.99
977-8218	CCK220-3U	3U x 220 mm Subrack	5.21″	11.80″	89.95
977-8220	CCK280-3U	3U x 280 mm Subrack	5.21″	13.93″	90.15
977-8222	CCK160-6U	6U x 160 mm Subrack	10.46″	9.44″	74.95
977-8224	CCK220-6U	6U x 220 mm Subrack	10.46″	11.80″	99.95
977-8226	CCK280-6U	6U x 280 mm Subrack	10.46″	13.93″	119.95
977-8228	CCK340-6U	6U x 340 mm Subrack	10.46″	16.35″	149.95
977-8230	CCK400-6U	6U x 400 mm Subrack	10.46″	18.65″	159.95
977-8232	CCK160-9U	9U x 160 mm Subrack	15.71″	9.44″	118.57
977-8234	CCK220-9U	9U x 220 mm Subrack	15.71″	11.80″	124.95
977-8236	CCK280-9U	9U x 280 mm Subrack	15.71″	13.93″	139.95
977-8238	CCK340-9U	9U x 340 mm Subrack	15.71″	16.35″	164.95
977-8240	CCK400-9U	9U x 400 mm Subrack	15.71″	18.65″	199.95

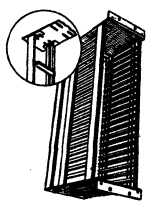
19″ Rack Mounting Card Cages, Assembled

CCK13P


CCK13

Fully assembled racks feature anodized aluminum sides and cross members (T struts). 21 pairs of riveted metal or plastic guides on 0.75″ centers. Slotted end pieces permit adjustment to accept cards from 3.0″ to 4.5″ wide and up to 6.5″ long. Connectors mount easily on 4-way adjustable rear struts without drilling. CCA13M and CCA13S dimensions are 5.25″H x 8.9″D x 19″W. CCA14S is 12.0″ deep.

Stock No.	Mfr.'s Type	Description	EACH
977-0130	CCA13M	With metal guides	99.95
977-0131	CCA13S	With plastic guides	89.95
977-8242	CCA14S	With plastic guides	89.95

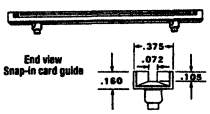


19″ Rack Mounting Card Cages, Unassembled

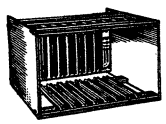
Featuring anodized aluminum sides and cross members (T struts). 21 pairs of riveted metal or plastic guides on 0.75″ centers. Slotted end pieces permit adjustment to accept cards from 3.0″ to 4.5″ wide and up to 6.5″ long. Connectors mount easily on 4-way adjustable rear struts without drilling. Dimensions are 5.25″H x 8.9″ x 19″W.
977-8246. CCK13S.....EACH 69.95

Snap-In Plastic Card Guides

Nylon snap-in guides hold 0.062″ cards. Mount in 0.156″ holes in Vector T-struts furnished in CCK13 Series cages, or punched by user. O/A length is 5.42″ with two snap-in tabs on 4.5″ centers.

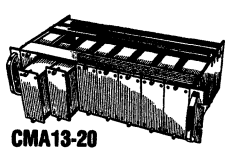


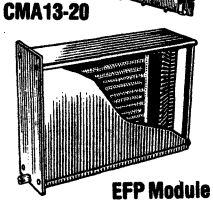
977-8248. BR20-6S.....EACH .49



STD Bus Racks
Free-standing card rack has all aluminum frame. For 4.5″ x 6.5″ x 0.062″ cards, on any multiple of 0.125″ centers. Includes 10 pairs of snap-in plastic card guides and two rear cross members (T-struts) for connector or STD Bus backplane mounting. Also includes front struts and sidewalls. **Dimensions:** 5.25″H x 8.25″ x 8.125″D.
977-6003. CCK13S-HT.....EACH 52.95

19″ Rack Mounting Card Cages with 2″ Spacing Between Card Guides


CMA13-20


EFP Module

Ideal for High Profile Applications and for Mounting EFP Modules
Card guides spaced at 2.0″ intervals, accepts maximum 8 EFP modules, 2.0″ wide by 6.6″ long. Modules, purchased separately, hold 4.5″ x 6.4″ circuit cards and slide into rack. Module front panels are 5.25″ high and have captive 10-32 thumb screw fastener. Mating connectors for modules mount easily onto 4-way adjustable rear struts without drilling. **Module cage dimensions:** 5.25″H x 9.6″D x 19″W.
977-0320. CMA13-20.....EACH 99.95

EFP Modules
Modules for the above cages are anodized aluminum. Supplied unassembled, including slide off side covers.
977-0340. EFP204A66.....EACH 18.95
977-8244. EFP204A66F. Full cut out.....EACH 19.95

Extender Cards for VME/DIN Standard Prototyping Boards

Low noise and minimum crosstalk is achieved with patented signal trace shielding and 3-layer construction. Jumpers are provided for interrupting all signal lines. J1 and J2 extenders may be joined with an optional bracket. Available from 160 mm and 220 mm depth subracks.

Stock No.	Mfr.'s Type	Description	Height In. (mm)	Width In. (mm)	EACH
977-4080	VMEEJ1	Extender	3.94 (100)	12.8 (325)	189.95
977-4085	VMEEJ2	Extender	3.94 (100)	12.8 (325)	189.95
977-4090	EB220-3U	Blank Extender	3.94 (100)	11.4 (290)	14.20
977-4095	BR6U	Extender Bracket for connecting J1 and J2	—	—	8.49

DIN Standard Connectors

High quality, Class II type DIN connectors, feature gold-plate male and female contacts and tinned tails (0.025″ square), unless otherwire noted. Contacts are in three rows (32 per row) on 0.1″ centers.

Stock No.	Mfr.'s Type	Description	EACH
977-8178	RE96MWR	Male, right-angle WW	8.99
977-8180	RE96MSD	Male, solder tail	6.89
977-8182	RE96FSD	Female, solder tail	8.99
977-8184	RE96FW	Female WW	8.99

DIN-Based Prototyping Boards

Designed for efficient prototyping and construction of cards to plug into VME, Multibus II, and other DIN backplanes—or into individually mounted 96 pin DIN connectors. All boards are 0.062″ thick FR4 epoxy glass per MIL-P-13949, with solder plating, and have drilled holes on 0.1″ grids for mounting DIP components. Right-angle 96 pin DIN connectors mount in etched pads on bottom edge; D-Sub or 0.2″ x 0.1″ headers mount in I/O areas on top.

Board signal areas in three patterns:

Buses Only: 0.042″ diameter holes on 0.1″ grid with solderplated, peripheral buses. **Pad-Per-Hole:** With plated-thru 0.042″ diameter holes on 0.1″ grid and 0.080″ diameter isolated solder pads around each hole (both sides). **Voltage/Ground Plane:** 0.055″ diameter holes surrounded by clearance area of 0.085″ diameter, with overall voltage/ground planes.

160 mm x 6U Eurocard [(160 mm (6.30″) x 100 mm (3.94″)]

Stock No.	Mfr.'s Type	Description	EACH
977-3000	E160-3U-1	Pad/hold, 35 16 pin DIP device capacity	24.95
977-3005	E160-3U-2	Buses only, 35 16 pin DIP device capacity	19.95
977-3010	E160-3U-3	Power/Ground, 45 16 pin DIP device capacity	24.95
160 mm x 6U Eurocard [160 mm (6.30″) x 233.4 mm (9.19″)]			
977-3015	E160-6U-1	Pad/hold, 100 16 pin DIP device capacity	44.95
977-3021	E160-6U-2	Buses only, 100 16 pin DIP device capacity	34.95
977-3025	E160-6U-3	Power/Ground, 105 16 pin DIP device capacity	39.95
220 mm x 6U Eurocard [220 mm (8.66″) x 233.4 mm (9.19″)]			
977-3030	E220-6U-1	Pad/hold, 140 16 pin DIP device capacity	47.95
977-3035	E220-6U-2	Buses only, 140 16 pin DIP device capacity	37.95
977-3040	E220-6U-3	Power/Ground, 168 16 pin DIP device capacity	42.95
280 mm x 9U Eurocard [280 mm (11.02″) x 366.7 mm (14.44″)]			
977-3045	E280-9U-1	Pad/hold, 270 16 pin DIP device capacity	79.95
977-3050	E280-9U-2	Buses only, 270 16 pin DIP device capacity	64.95
977-3055	E280-9U-3	Power/Ground, 340 16 pin DIP device capacity	69.96

VME Backplanes

Featuring high speed, low noise, six layer construction; controlled impedance design; and "off board termination." Off board termination allows:

- 21 slot backplanes
- Termination on extender board
- Special termination

Ten different sizes of VME J1 and J2 backplanes are available. All J1 backplanes use a patented shielding technique that prevents crosstalk. High quality, 96 pin press-fit connectors with 3-level wire wrap tails are installed on 0.8″ centers. Multiple Mate 'N Lock power connectors are installed.

Stock No.	Mfr.'s Type	Description	Height	Depth	EACH
977-8186	VMEBP21J1	21 slot J1	5.12″	16.75″	639.95
977-8188	VMEBP20J1	20 slot J1	5.12″	15.94″	629.95
977-8190	VMEBP12J1	12 slot J1	5.12″	9.54″	449.95
977-8192	VMEBP10J1	10 slot J1	5.12″	7.94″	395.95
977-8194	VMEBP9J1	9 slot J1	5.12″	7.14″	289.95
977-8196	VMEBP21J2	21 slot J2	5.12″	16.74″	419.95
977-8198	VMEBP20J2	20 slot J2	5.12″	15.94″	399.95
977-8200	VMEBP12J2	12 slot J2	5.12″	9.54″	249.95
977-8202	VMEBP10J2	10 slot J2	5.12″	7.94″	229.95
977-8204	VMEBP9J2	9 slot J2	5.12″	7.14″	209.95

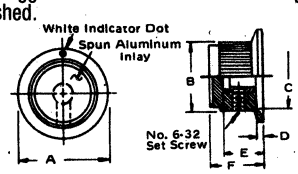
Free Standing Card Guides (Connector Mounted)

Stock No.	Mfr.'s Type	Use With Connector	For Use With	EACH
977-5102	BR27D	R644	4.5″ wide Plugbords with centered contacts, such as Vector 3677, 3682 and 3662 series	2.49

Phenolic Knobs

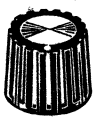
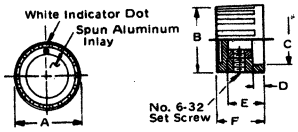
High-grade thermoplastic resin, resulting in an attractive scratch and heat resistant finish. MIL-style brass bushing provides a functionally rugged knob which can withstand high torque. Hex head stainless steel set screws furnished.

PK Series—Knurled with Dot on Skirt



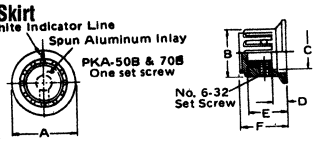
Stock No.	Mfr.'s Type	Dimensions (Inches)						EACH			
		A	B	C	D	E	F	1-99	100-249	250-499	500-Up
759-1065	PK-50B-1/8	.75	.58	.49	.05	.47	.55	.60	.55	.54	.51
759-1070	PK-50B-1/4	.75	.58	.49	.05	.47	.55	.60	.55	.54	.51
759-1075	PK-70B-1/4	1.00	.74	.72	.08	.50	.59	.66	.61	.59	.56
759-1080	PK-90B-1/4	1.25	1.00	.87	.12	.50	.59	.71	.65	.64	.60

PK Series—Serrated with Dot on Top

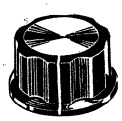
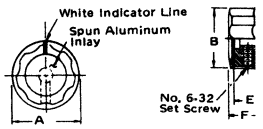
759-1085	PK-1100B-1/8	.70	.64	.57	.14	.46	.53	.78	.72	.70	.66
759-1090	PK-1100B-1/4	.70	.64	.57	.14	.46	.53	.78	.72	.70	.66

PKA Series—Ribbed with Indicator on Skirt



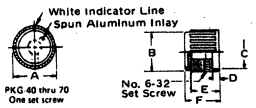
759-1095	PKA-50B-1/8	.79	.58	.52	.08	.47	.59	.71	.65	.64	.60
759-1100	PKA-50B-1/4	.79	.58	.52	.08	.47	.59	.71	.65	.64	.60
759-1105	PKA-70B-1/4	.98	.74	.68	.12	.65	.75	.93	.86	.84	.79

PKES Series—Fluted with Skirt and Indicator Line

759-1110	PKES-60B-1/8	.75	.62	.46	.10	.38	.47	.71	.65	.64	.60
759-1115	PKES-60B-1/4	.75	.62	.46	.10	.38	.47	.71	.65	.64	.60
759-1120	PKES-70B-1/4	.85	.75	.71	.08	.42	.54	.77	.71	.69	.65
759-1125	PKES-90B-1/4	1.00	.89	.87	.08	.42	.57	.82	.75	.74	.70
759-1130	PKES-120B-1/4	1.30	1.16	1.00	.12	.50	.63	.99	.91	.89	.84
759-1135	PKES-140B-1/4	1.50	1.37	1.20	.12	.55	.69	1.48	1.36	1.33	1.26

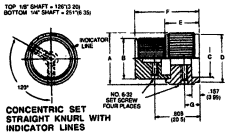
PKG Series—Ribbed with Indicator Line



759-1140	PKG-40B-1/8	.44	.40	.32	.08	.38	.47	.71	.65	.64	.60
759-1145	PKG-50B-1/8	.55	.50	.44	.06	.41	.52	.77	.71	.69	.65
759-1150	PKG-50B-1/4	.55	.50	.44	.06	.41	.52	.77	.71	.69	.65

Aluminum Knobs

KN Series—Straight Knurl with "Crank" Spinner

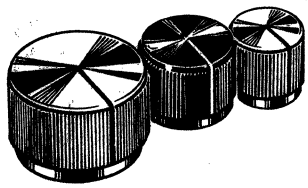
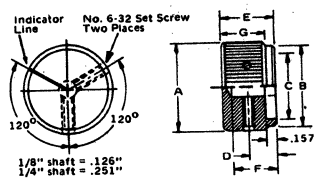


Stock No.	Mfr.'s Type	Color	Dimensions (Inches)							EACH			
			A	B	C	D	E	F	G	1-99	100-249	250-499	500-Up
759-1250	KN-5700A(PR.)	Natural	.75	.50	.57	.70	.63	1.15	.28	3.40	3.13	3.06	2.89
759-1255	KN-5700B(PR.)	Black	.75	.50	.57	.70	.63	1.15	.28	3.24	2.98	2.92	2.75
759-1260	KN-7900A(PR.)	Natural	.94	.75	.71	.88	.63	1.15	.28	3.95	3.63	3.56	3.36
759-1265	KN-7900B(PR.)	Black	.94	.75	.71	.88	.63	1.15	.28	3.77	3.47	3.39	3.20

Aluminum Knobs

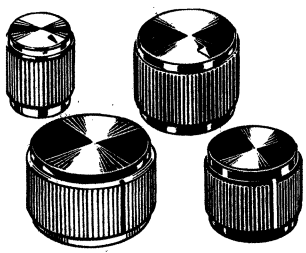
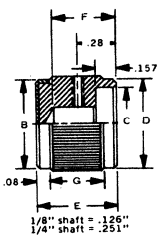
Aluminum knobs are unique in their ability to convey a feeling of superb quality. The detail and quality of these knobs truly is superior. Stainless steel set screws are provided for firm attachment.

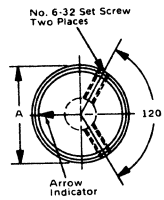
KLN Series

Stock No.	Mfr.'s Type	Color	Dimensions (Inches)							EACH			
			A	B	C	D	E	F	G	1-99	100-249	250-499	500-Up
759-1155	KLN-500A-1/8	Natural	.50	.45	.38	.28	.63	.51	.53	1.55	1.43	1.40	1.32
759-1160	KLN-500A-1/4	Natural	.50	.45	.38	.28	.63	.51	.53	1.55	1.43	1.40	1.32
759-1165	KLN-500B-1/8	Black	.50	.45	.38	.28	.63	.51	.53	1.55	1.43	1.40	1.32
759-1170	KLN-500B-1/4	Black	.50	.45	.38	.28	.63	.51	.53	1.55	1.43	1.40	1.32
759-1175	KLN-700A-1/4	Natural	.75	.70	.59	.28	.63	.51	.53	1.91	1.76	1.72	1.62
759-1180	KLN-700B-1/4	Black	.75	.70	.59	.28	.63	.51	.53	1.91	1.76	1.72	1.62
759-1185	KLN-900A-1/4	Natural	.94	.88	.71	.28	.63	.51	.53	2.16	1.99	1.94	1.84
759-1190	KLN-900B-1/4	Black	.94	.88	.71	.28	.63	.51	.53	2.06	1.90	1.85	1.75

KN Series



759-1195	KN-500A-1/8	Natural	.50	.45	.38	.45	.63	.51	.46	1.61	1.48	1.45	1.37
759-1200	KN-500A-1/4	Natural	.50	.45	.38	.45	.63	.51	.46	1.60	1.54	1.51	1.45
759-1205	KN-500B-1/8	Black	.50	.45	.38	.45	.63	.51	.46	1.54	1.42	1.39	1.31
759-1210	KN-500B-1/4	Black	.50	.45	.38	.45	.63	.51	.46	1.54	1.42	1.39	1.31
759-1215	KN-700A-1/4	Natural	.75	.70	.59	.70	.63	.51	.46	1.79	1.65	1.61	1.52
759-1220	KN-700B-1/4	Black	.75	.70	.59	.70	.63	.51	.46	1.71	1.57	1.54	1.43

KN Series Two-Toned

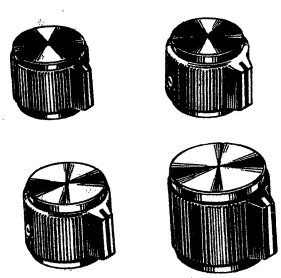
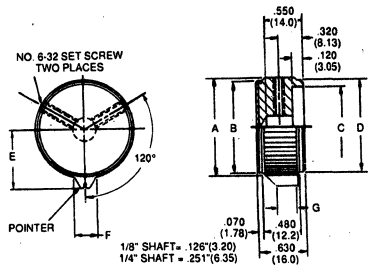
759-1225	KN-501BA-1/8	B-N*	.50	.45	.38	.45	.63	.51	.46	2.03	1.87	1.83	1.73
759-1230	KN-501BA-1/4	B-N*	.50	.45	.38	.45	.63	.51	.46	1.94	1.78	1.75	1.65
759-1235	KN-701BA-1/4	B-N*	.75	.68	.59	.70	.63	.51	.46	2.27	2.09	2.04	1.93

KNS Series Two-Toned

Refer to dimensional drawing for KN Series above. "D" equals flange dimensions.

759-1240	KNS-501BA-1/8	B-N*	.50	.45	.38	.75	.63	.51	.43	2.64	2.25	2.40	2.35
759-1245	KNS-501BA-1/4	B-N*	.50	.45	.38	.75	.63	.51	.43	2.54	2.34	2.29	2.16

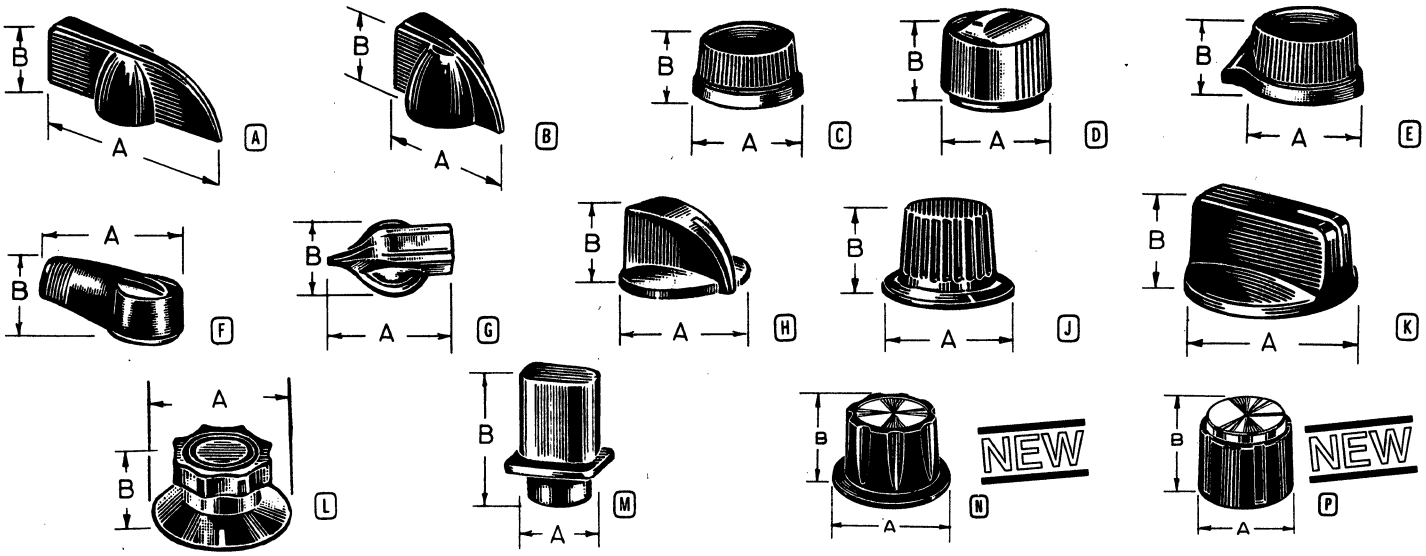
KPN Series—Straight Knurl with Pointer and Indicator Line

759-1270	KPN-500A-1/8	Natural	.50	.45	.38	.45	.37	.20	.35	3.46	3.18	3.11	3.05
759-1275	KPN-500A-1/4	Natural	.50	.45	.38	.45	.37	.20	.35	3.30	3.04	2.97	2.81
759-1280	KPN-500B-1/8	Black	.50	.45	.38	.45	.37	.20	.35	3.30	3.04	2.97	2.81
759-1285	KPN-500B-1/4	Black	.50	.45	.38	.45	.37	.20	.35	3.30	3.04	2.97	2.81
759-1290	KPN-700A-1/4	Natural	.75	.70	.59	.70	.52	.23	.39	3.64	3.35	3.28	3.09
759-1295	KPN-700B-1/4	Black	.75	.70	.59	.70	.52	.23	.39	4.27	3.93	3.84	3.63
759-1300	KPN-900A-1/4	Natural	.94	.88	.69	.88	.63	.28	.35	4.07	3.74	3.66	3.59
759-1305	KPN-900B-1/4	Black	.94	.88	.69	.88	.63	.28	.35	4.07	3.74	3.66	3.59

*Black and Natural.

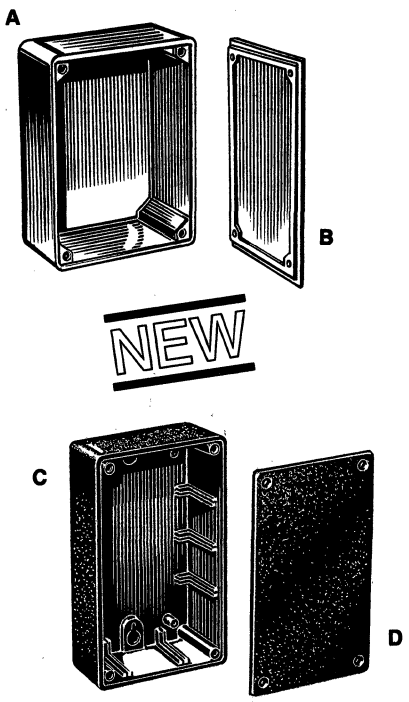
Rotating and Lever Knobs



A full line of high quality knobs for use throughout the industry. This style selection will meet most commercial and industrial applications. Choose from grooved, round, pointer bar. All are quality plastic knobs of sturdy, long-lasting phenolic plastic, with a high gloss finish. Standard setscrew construction provides one cup point slotted head setscrew. All setscrews are hardened steel cadmium plated, iridite finish. Female inserts are half hard brass rod. Mounting keys: *1/4" diameter molded hole and slotted setscrew; §1/4" diameter female brass insert and slotted setscrew; ‡self locating friction fit for use on flat wire shaft. .050 × .187".

Stock No.	Mfr.'s Type	Fig.	Size In.		Size MM		EACH		
			A	B	A	B	1-99	100-499	500-999
543-2351	2350-A	A	2	5/8	50.80	15.88	0.71	0.66	0.62
543-2301	2300-A	B	1 1/4	5/8	28.58	14.29	0.52	0.48	0.46
543-2300	2300	B	1 1/4	5/8	31.75	15.88	0.30	0.28	0.27
543-1450	1450	C*	1 1/16	1/2	17.46	10.32	0.27	0.25	0.24
543-1475	1475	C*	1	1/2	25.40	12.70	0.45	0.42	0.38
543-1700	1700	D*	3/4	19/32	19.05	15.08	0.40	0.37	0.35
543-1400	1400	E*	11/16	13/32	17.46	10.32	0.27	0.25	0.24
543-1470	1470	E*	1	1/2	25.40	12.70	0.45	0.43	0.42
543-2120	2110	F§	15/8	19/32	41.28	15.08	0.88	0.75	0.70
543-2150	2150	G‡	1 1/4	9/16	31.75	14.29	0.39	0.36	0.34
543-1550	1550	H*	1 1/8	5/8	28.58	15.88	0.38	0.35	0.33
543-1600	1600	J*	1 1/2	11/16	38.10	17.46	0.54	0.50	0.46
543-1610	1610	J*	29/32	19/32	23.02	15.08	0.46	0.43	0.40
543-1500	1500	K	1 1/8	9/16	25.63	14.29	0.41	0.38	0.36

Stock No.	Mfr.'s Type	Fig.	Size In.		Size MM		EACH		
			A	B	A	B	1-99	100-499	500-999
543-1510	1510	K	3/4	9/16	19.05	14.29	0.47	0.44	0.41
543-1520	1520	K	1 1/2	3/4	38.10	19.05	0.84	0.78	0.73
543-4108	4108	L§	2 1/16	29/32	52.39	23.02	2.20	2.05	1.93
543-2190	5149-A	M‡	1/2	51/64	12.70	20.24	0.20	0.19	0.17
543-1910	1910INL	N	3/4	1/2	19.05	12.70	0.82	0.79	0.77
543-1913	1913INL	N	1 1/8	5/8	28.58	15.88	0.95	0.92	0.90
543-1925	1925INL	N	1 1/4	23/32	31.75	18.26	0.89	0.87	0.86
543-1930	1930INL	N	1 1/2	7/8	38.10	22.23	1.00	0.98	0.96
543-1940	1940INL	N	2	15/16	50.80	23.81	1.31	1.28	1.26
543-1200	1200CAP	P	1/2	5/8	12.70	15.88	0.70	0.67	0.65
543-1202	1202CAP	P	3/4	5/8	19.05	15.88	0.71	0.69	0.67
543-1204	1204CAP	P	1	11/16	25.40	17.46	0.74	0.71	0.69
543-1206	1206CAP	P	1 3/8	3/4	34.93	19.05	0.92	0.90	0.88
543-1208	1208CAP	P	1 3/4	13/16	44.45	20.64	1.05	1.03	1.01



Plastic Cases and Panels

Molded plastic cases (Figure A) and matching plastic panels (Figure B) for mounting test equipment. . .Meters fit into cases with flanges. Cases accept sizes up to 4 5/8 × 4 3/16". Cases have recessed corner bosses — flush mounting with cover. All cases require 1/2," No. 6 self-tapping screws,except Type 220 which requires 4-36 × 1/2" screws and Type 280 which requires (6) 6-32 screws. Walls and covers of cases are made of firm 1/8" thick plastic. **Shpg. weight:** Cases, 1 1/2 lbs., Panels, 1lb.

Stock No.	Mfr.'s Type	Fig.	Outside Dimensions		EACH		
			Inches	MM	1-49	50-249	250-999
543-0212	210A*	A	3 1/2 × 2 1/2 × 1 1/4	88.9 × 51.3 × 25.7	1.52	1.40	1.30
543-0220	220	A	4 × 2 7/8 × 1 9/16	101.60 × 73.03 × 39.69	1.05	0.92	0.86
543-0201	220A*	A	4 × 2 7/8 × 1 9/16	101.60 × 73.3 × 39.69	1.52	1.40	1.30
543-0230	230	A	5 × 4 1/4 × 1 3/4	127.00 × 107.95 × 44.45	2.15	1.98	1.86
543-0203	230A*	A	5 × 4 1/4 × 1 3/4	127.00 × 107.95 × 44.45	2.58	2.39	2.21
543-0240	240	A	6 1/4 × 3 3/4 × 2	158.75 × 95.25 × 50.80	2.63	2.43	2.26
543-0202	240B*	A	6 1/4 × 3 3/4 × 2	158.75 × 95.25 × 50.80	3.19	2.98	2.76
543-0260	260	A	6 13/16 × 5 9/32 × 2 5/16	173.04 × 134.14 × 58.74	3.75	3.46	3.21
543-0204	260K*	A	6 13/16 × 5 9/32 × 2 5/16	173.04 × 134.14 × 58.74	4.15	3.83	3.56
543-0280	280	A	8 7/16 × 7 7/16 × 3 1/64	214.31 × 188.91 × 75.60	7.95	7.33	6.81
543-0211	211	B	3 5/16 × 2 5/16 × 1/16	84.13 × 58.73 × 1.59	0.44	0.40	0.37
543-0221	221	B	3 49/64 × 2 41/64 × 1/16	95.65 × 67.07 × 1.59	0.35	0.33	0.30
543-0231	231	B	4 47/64 × 3 63/64 × 1/16	120.25 × 101.20 × 1.59	0.83	0.77	0.71
543-0241	241	B	6 15/16 × 3 47/64 × 1/8	158.35 × 94.85 × 3.18	1.75	1.62	1.50
543-0261	261	B	6 51/64 × 5 17/64 × 1/8	172.64 × 133.75 × 3.18	2.18	2.03	1.89
543-0281	281	B	8 7/64 × 7 7/64 × 1/8	205.98 × 180.58 × 3.18	4.62	4.26	3.96

* Brass inserts 6/32 × 5/16

#250 Case and #251 Cover

Impact resistant. ABS Cycolac® or equivalent. Perfect for nearly every hard use industrial and electronic application easily machined — will not chip or crack during fabrication. Satin finish, with guides for use as dividers or to hold printed circuit board.

Stock No.	Mfr.'s Type	Fig.	Size		EACH		
			Inches	MM	1-49	50-249	250-999
543-0350	250	C	6 1/4 × 3 3/4 × 2	158.75 × 95.25 × 50.80	2.05	1.89	1.76
543-0351	251	D	6 15/16 × 3 47/64 × 1/8	176.22 × 93.66 × 3.18	1.34	1.28	1.19

Standard Series Round and Pointer Knobs

Explanation of Type Numbers

70-3 BL-2 G

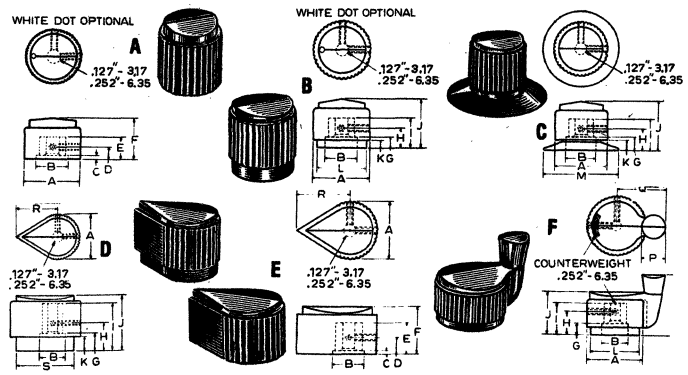
Diameter Type Style Shaft Size Finish

Diameter: 50-1/2″, 70-3/4″, 90-1″, 125-1 1/4″. **Type:** 1-Plain Round; 2-Round/Ring Skirt; 3-Round-Dial Skirt; 4-Plain Pointer Bar; 5-Pointer/Ring Skirt Bar; 6-Crank. **Style:** WD-White Dot; BL-Backlighted Skirt. **Shaft Hole Size:** 1-127″, 2-.252″. **Finish:** None-Mirror Finish; G-Matte Finish.

All are molded from high-impact polycarbonate with corrosion-resistant aluminum inserts for maximum strength. Two setscrews: 4-40 UNC-3A on 50, 70 series and 1/8″ shaft models; 8-32 UNC-3A on others.

Knob Dimensions for Standard Series Knobs (Figs. A, B, C, D, E, F)

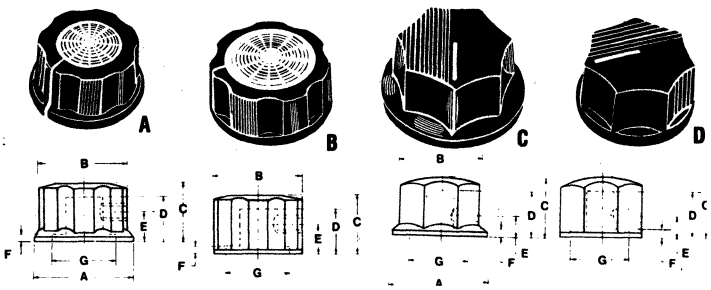
Series	A ±.030 −.010	B min.	C min.	D max.	E min.	F ±.303	G min.	H max.	I min.	J ±.030	K max.	L max.	M max.	N ±.050	P ±.025	Q max.	R ±.025 −.005	S max.
50	.500	.435	.026	.158	.405	.510	.177	.325	.560	.655	.175	.460	.900	—	—	—	.490	.690
70	.700	.485	.026	.187	.405	.610	.188	.369	.568	.782	.187	.680	1.150	—	—	—	.680	1.000
90	.900	.640	.114	.260	.520	.790	.320	.484	.730	1.010	.235	.845	1.525	—	—	—	.885	1.345
125	1.250	.750	.114	.260	.455	.700	.250	.427	.605	.850	.175	1.185	1.837	1.350	.580	1.133	—	—



Stock No.	Mfr.'s Type	Shaft Dia. in.	Shaft Dia. mm	Fig.	EACH 1-49	EACH 50-99	EACH 100-249
904-3010	50-1WD-1G	.125	3.17	A	3.35	2.97	2.54
904-3011	50-2-1	.125	3.17	B	2.51	2.11	1.86
904-3013	50-2WD-1G	.125	3.17	B	3.44	3.07	2.61
904-5010	70-1-2	.250	6.35	A	2.71	2.43	2.06
904-5011	70-1-2G	.250	6.35	A	2.94	2.65	2.23
904-5012	70-1WD-2G	.250	6.35	A	3.44	3.07	2.61
905-5013	70-2-2	.250	6.35	B	2.77	2.45	2.10
904-5015	70-2-2G	.250	6.35	B	3.00	2.71	2.28
904-5016	70-2WD-2	.250	6.35	B	3.53	3.11	2.68
904-5243	70-3-2	.250	6.35	C	3.73	3.21	2.83
904-5244	70-3-2G	.250	6.35	C	3.96	3.42	3.01
904-5081	70-3BL-2G	.250	6.35	C	7.90	6.95	5.99
904-5270	90-3-2G	.250	6.35	C	4.90	4.51	3.70
904-5155	90-4-2G	.250	6.35	E	4.46	4.05	3.38
904-5156	G90-4-2G†	.250	6.35	E	3.80	3.40	3.15
904-5161	90-5-2G	.250	6.35	D	3.53	3.11	2.68
904-5330	125-3-2G	.250	6.35	C	6.35	5.77	4.82
904-5136	125-6-2G	.250	6.35	F	14.87	13.85	11.28

†Gray.

TS and TSA Series Control Knobs



TSA Series knobs are constructed of rugged thermoset plastic and feature a black high gloss finish with a decorative spun aluminum inlay on top, easy grip fluted surfaces, and indicator markings. TS Series same, but does not have inlay. All knobs are supplied with brass inserts and one slotted head setscrew. The appealing geometry and low-profile of the knobs provide for high aesthetic value in all applications. Knobs are available with Dial Skirt—black plastic with contrasting white indicator line on top and white dot on dial skirt. Without Dial Skirt—black plastic with contrasting white indicator line on top. **Applications:** Knobs are designed for commercial and industrial instrumentation, medical, and appliance applications. **Specifications. Material:** Phenolic Plastic. **Maximum Temperature:** 300°C. **Insert:** Brass, .252″ +.002 −.000 or .127″ +.002 −.000 shaft hole diameter. **Setscrew:** Brass, slotted head. **Note:** Dimension "F" is clearance for panel nut.

TSA Series

Stock No.	Mfr.'s Type	Fig.	Shaft Size	Dimensions—In. A	B	C	D	E	F	G	EACH 1-99	100-499	500-999
904-5508	TSA50-3WL-1	A	1/8″	.75	.59	.46	.40	.24	.09	.46	.68	.65	.61
904-5509	TSA50-3WL-2	A	1/4″	.75	.59	.46	.40	.24	.09	.46	.68	.65	.61
904-5510	TSA70-3WL-1	A	1/8″	.90	.75	.50	.46	.25	.11	.57	.75	.70	.64
904-5511	TSA70-3WL-2	A	1/4″	.90	.75	.50	.46	.25	.11	.57	.75	.70	.64
904-5513	TSA90-3WL-2	A	1/4″	1.04	.92	.62	.50	.26	.12	.79	.80	.76	.68
904-5514	TSA125-3WL-2	A	1/4″	1.30	1.18	.64	.51	.31	.07	1.03	.95	.90	.82
904-5501	TSA50-2WL-1	B	1/8″	—	.59	.46	.40	.24	.09	.46	.72	.68	.64
904-5502	TSA50-2WL-2	B	1/4″	—	.59	.46	.40	.24	.09	.46	.72	.68	.64
904-5503	TSA70-2WL-1	B	1/8″	—	.75	.50	.46	.25	.11	.57	.77	.73	.65
904-5504	TSA70-2WL-2	B	1/4″	—	.75	.50	.46	.25	.11	.57	.77	.73	.65
904-5506	TSA90-2WL-2	B	1/4″	—	.92	.62	.50	.26	.12	.79	.83	.79	.72
904-5507	TSA125-2WL-2	B	1/4″	—	1.18	.64	.51	.31	.07	1.03	.96	.85	.81
TS Series													
904-5524	TS50-3WD/WL-1	C	1/8″	.75	.59	.46	.40	.24	.09	.46	.94	.71	.66
904-5525	TS50-3WD/WL-2	C	1/4″	.75	.59	.46	.40	.24	.09	.46	.94	.71	.66
904-5526	TS70-3WD/WL-1	C	1/8″	.94	.75	.59	.46	.25	.11	.57	.90	.68	.65
904-5527	TS70-3WD/WL-2	C	1/4″	.94	.75	.59	.46	.25	.11	.57	.80	.68	.65
904-5529	TS90-3WD/WL-2	C	1/4″	1.10	.95	.62	.50	.26	.12	.79	1.01	.79	.73
904-5530	TS125-3WD/WL-2	C	1/4″	1.32	.109	.66	.43	.24	.06	.94	1.19	.90	.84
904-5516	TS50-2WD/WL-1	D	1/8″	—	.59	.46	.40	.24	.09	.46	.94	.71	.66
904-5517	TS50-2WD/WL-2	D	1/4″	—	.59	.46	.40	.24	.09	.46	.94	.71	.66
904-5518	TS70-2WD/WL-1	D	1/8″	—	.75	.50	.46	.25	.11	.57	.94	.71	.66
904-5519	TS70-2WD/WL-2	D	1/4″	—	.75	.50	.46	.25	.11	.57	.94	.71	.66
904-5521	TS90-2WD/WL-2	D	1/4″	—	.92	.62	.50	.26	.12	.79	1.01	.79	.73
904-5222	TS125-2WD/WL-2	D	1/4″	—	1.09	.66	.43	.24	.06	.94	1.19	.90	.84

Galaxy III Systems—TRA Series

The additional elegance of a spun aluminum disc, recessed and protected for wearability, enhances the appearance of these knobs. The knob body is molded in black phenolic plastic with a semi-gloss finish. Round and ring base knobs are available with or without a black indicator line of the aluminum disc top. All knobs have brass insert and two brass slotted-head screws.

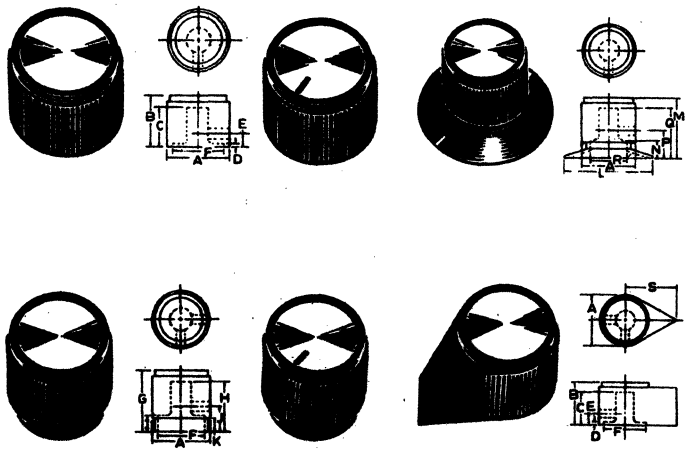
No Marking Stock No.	No Marking Mfr.'s Type	With Black Line on Top Stock No.	With Black Line on Top Mfr.'s Type	Description	Knob Dia.	Shaft Dia.	EACH 1-249	EACH 250-499	EACH 500-999
904-1035	TRA5011	904-1040	TRA501BL1	Round	1/2″	1/8″	1.70	1.15	.90
904-1036	TRA5012	904-1041	TRA501BL2	Round	1/2″	1/4″	1.70	1.15	.90
904-1054	TRA7011	904-1058	TRA701BL1	Round	3/4″	1/8″	1.70	1.15	.90
904-1055	TRA7012	904-1059	TRA701BL2	Round	3/4″	1/4″	1.70	1.15	.90
904-1037	TRA5021	904-1042	TRA502BL1	Round with ring base	1/2″	1/8″	1.70	1.15	.90
904-1038	TRA5022	904-1043	TRA502BL2	Round with ring base	1/2″	1/4″	1.70	1.15	.90
904-1056	TRA7021	904-1062	TRA702BL1	Round with ring base	3/4″	1/8″	1.70	1.15	.90
904-1057	TRA7022	904-1061	TRA702BL2	Round with ring base	3/4″	1/4″	1.70	1.15	.90

Dial Skirted With White Line on Skirt

Stock No.	Mfr.'s Type	Knob Diameter	Shaft Diameter	EACH 1-249	EACH 250-499	EACH 500-999
904-1044	TRA5031	1/2″	1/8″	1.77	1.35	1.15
904-1045	TRA5032	1/2″	1/4″	1.77	1.35	1.15
904-1060	TRA7031	3/4″	1/8″	1.77	1.35	1.15
904-1063	TRA7032	3/4″	1/4″	1.77	1.35	1.15

Pointer Knob No Marking

904-1046	TRA5041	1/2″	1/8″	1.70	1.15	.90
904-1047	TRA5042	1/2″	1/4″	1.70	1.15	.90
904-1064	TRA7041	3/4″	1/8″	1.70	1.15	.90
904-1065	TRA7042	3/4″	1/4″	1.70	1.15	.90



Dimensions in Inches

Nominal Diameter	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	Set Screw Threads (mm)
1/2″	.53	.48	.41	.045	.20	.400	.64	.57	.21	.36	.16	.90	.66	.18	.36	.59	.31	.50	.35	M3 × 3
3/4″	.73	.58	.45	.045	.20	.580	.75	.61	.20	.38	.17	1.15	.77	.20	.38	.65	.48	.69	.46	M3 × 5

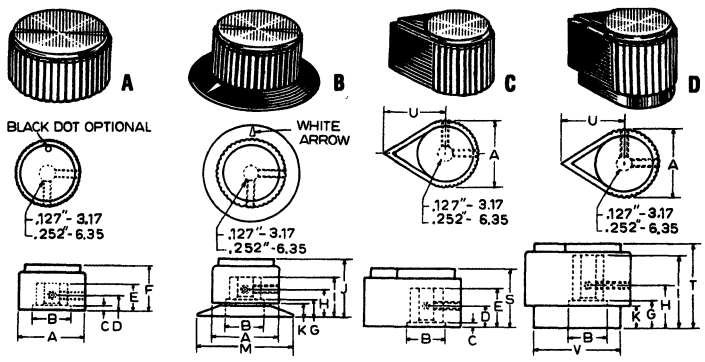
"Just Great Service"—Call 1-800-433-5700

Designer Line Round and Pointer Knobs

Knobs have aluminum caps and black polycarbonate bases. Strong rust resistant aluminum inserts. Comes with two set screws: 4-40 UNC-3A on 70 series, 8-32 UNC-3A on all others.

Stock No.	Mfr.'s Type	Shaft Dia.		Fig.	EACH			
		In.	mm		1-49	50-99	100-249	250-499
904-5422	DS70-1-2G	.252	6.40	A	4.51	4.20	3.42	3.20
904-5443	DS70-3-2G	.252	6.40	B	5.94	5.30	4.51	4.25
904-5444	DS90-3-2	.252	6.40	B	5.09	4.69	4.44	4.00
904-5445	DS90-3-2G	.252	6.40	B	7.10	6.57	5.39	5.10
904-5446	DS125-3-2	.252	6.40	B	5.09	4.69	4.44	4.00
904-5455	DS70-4-2G	.252	6.40	C	6.89	6.47	5.22	5.00
904-5461	DS70-5-2G	.252	6.40	D	8.47	7.50	6.43	5.46
904-5423	DS70-1BD-2G	.250	6.35	A	5.27	4.92	4.00	3.85
904-0123	DS70-3-2	.250	6.35	B	5.96	5.56	4.37	4.00

*Prefix indicates diameter: 70 = 3/4"; 90 = 1"; 125 = 1 1/4". Suffix G indicates matte (dull) finish, all other knobs have mirror finish. "BD" in type number indicates black dot.



Dimensions For Designer Series Control Knobs

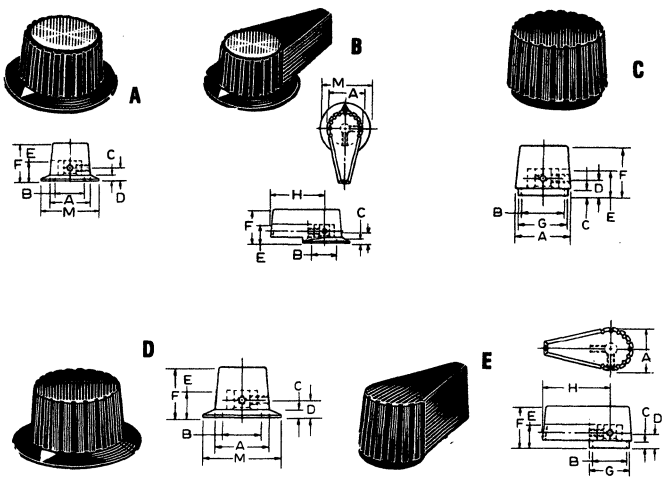
Series	A +.030 −.010	B min.	C min.	D max.	E min.	F ±.030	G min.	H max.	I min.	J ±.030	K max.	L max.	M max.	N ±.050	P ±.025	Q max.	R ±.030	S ±.030	T ±.030	U +.025 −.005	V max.
DS70	.700	.485	.026	.187	.405	.590	.188	.369	.568	.780	.187	.630	1.150	—	—	—	—	.590	.765	.680	1.000
DS90	.900	.640	.114	.260	.520	.735	.320	.484	.730	.980	.235	.845	1.525	—	—	—	—	.735	.970	.885	1.345
DS125	1.250	.750	.114	.260	.455	.620	.250	.427	.605	.785	.175	1.185	1.837	1.350	.580	1.133	.850	—	—	—	—

400 Series And Panelrama Series Knobs

The 400 Series and the Panelrama Series knobs are made of durable, high-impact acrylonitrite-butadiene-styrene (ABS). 400 Series has lusterless finish, containing bushings and set screws, 4-40 UNC-3A. Panelrama Series has black matte finish capped with an epoxy-coated aluminum disk. Contains circular shaft metal inserts with two 6-32 UNC-2A set screws. **Shaft hole size:** 1—1/8"; 2—1/4".

Stock No.	Mfr.'s Type	Fig.	EACH			
			1-49	50-99	100-249	250-499
904-5383	407R2K1	C	3.00	2.27	2.15	2.01
904-5392	407D2K1	D	3.29	3.01	2.50	2.20
904-5397	412D2K1	D	3.65	3.36	2.77	2.63
904-5401	409P2K1	E	2.58	2.18	1.93	1.74
904-5290	407D1K1	D	2.91	2.51	2.26	2.04
904-5210	PS7D2K1R	A	5.37	4.92	4.07	3.90
904-5214	PS7PD2K1R	B	5.49	4.98	4.16	3.95

*Prefix indicates diameter: 407 = 3/4", 409 = 7/8", 412 = 1 1/4", PS7 = 3/4". Suffix colors: K1-black; K1R-black with aluminum cap.



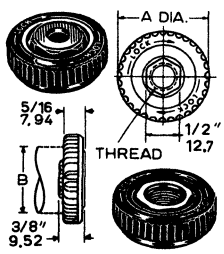
Dimensions For 400 Series and Panelrama Series Knobs

Series	A +.025 −.005	B min.	C min.	D max.	E min.	F ±.030	G max.	H max.	J max.	K max.	M max.
PS7	.720	.520	.120	.290	.625	.813	.640	1.120	—	—	1.050
407	.720	.520	.120	.290	.625	.813	.640	1.120	—	—	1.050
409	.875	.660	.120	.290	.625	.813	.800	1.375	1.540	.500	1.270
412	1.250	1.041	.120	.290	.625	.813	1.170	2.000	1.540	.500	1.710

Knob Locks

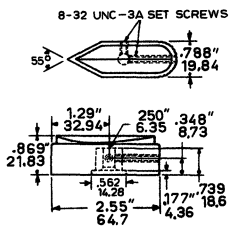
Knob locks used only with standard round and pointer knobs. **Knob diameter:** 3/4". **Thread:** 3/8-32. **Dimensions:** A, 1" (25.4 mm); B, .721" (18.3 mm).

Stock No.	Mfr.'s Type	EACH			
		1-99	100-249	250-499	500-999
904-5185	KL701	4.66	3.54	3.34	2.90
904-5186	KI701G	4.81	3.65	3.45	2.90

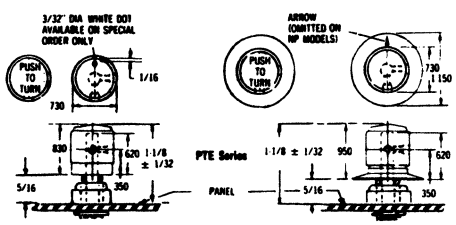


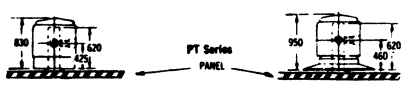
Bar Pointer Knob

High impact, crack resistant, polycarbonate with alum. insert for maximum strength. Two set screws provided.



Stock No.	Mfr.'s Type	Shaft Dia.—In.	EACH			
			1-49	50-99	100-249	250-499
904-5358	125-7-2G	.252	9.79	7.43	7.21	7.06





70 Series Self Locking: Push-to-Turn Devices

- **PTE knobs are free to rotate in unengaged mode and therefore are not recommended for use when calibration markings must be fixed in the unengaged mode**
- **PT knobs are locked in the unengaged mode and are recommended for use with calibration markings.**
- **These knobs are available in gray by special order.**
- **Mounting hardware supplied with knobs.**
- **All knobs are in matte finish.**

PPC's "Self-Locking Push-to-Turn" devices are designed for applications in which control settings must be maintained under conditions of shock and vibration. The setting cannot be changed accidently since the knob must be fully depressed before movement.

Easy to install, the "Push-to-Turn" knob, having zero backlash, allows the operator infinite resolution of setting yet locks positively when released.

The design is exactly the same as the standard line of control knobs and allows uniformity of panel design when used in conjunction with other types.

Stock No.	Mfr.'s Type	Shaft Dia.	Use*	Style	EACH
904-7040	PT70-2-1G	1/8	PT	Round-Ring Skirted	63.20
904-7041	PT70-2-2G	1/4	PT	Round-Ring Skirted	61.70
904-7042	PTE70-2-1G	1/8	PTE	Round-Ring Skirted	14.83
904-7043	PTE70-2-2G	1/4	PTE	Round-Ring Skirted	13.92
904-7060	PT70-3-1G	1/8	PT	Round-Dial with Arrow	52.47
904-7061	PT70-3-2G	1/4	PT	Round-Dial with Arrow	56.25

*PT are push-to-turn, PTE are push-to-engage.

Recessed Bumpers

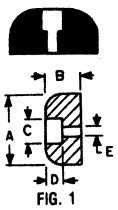


FIG. 1

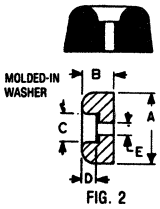


FIG. 2

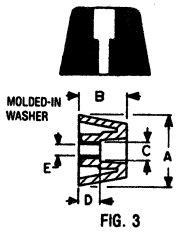


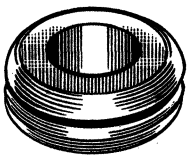
FIG. 3

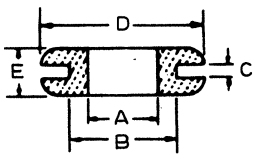
Excellent traction and shock absorption. Available with or without molded-in washer. Made of rubber and BUNA S (Fig. 1, 2) or rubber and vinyl (Fig. 3).

Stock No.	Mfr.'s Type	Fig.	A	B	C	D	E	Screw Size	PK./100	
									1-9	10-Up
839-2433	720	1	.500	.250	.250	.125	.125	4	8.40	7.65
839-2434	721	1	.625	.312	.250	.187	.125	4	13.30	12.10
839-2435	722	1	.750	.437	.250	.218	.125	4	26.65	24.25
839-2436	723	2	.937	.375	.375	.187	.187	8	25.60	23.25
839-2437	724*	3	.687	.250	.343	.125	.155	6	24.15	22.00
839-2438	725*	3	.875	.312	.406	.187	.187	8	24.55	31.35
839-2439	726*	3	1.062	.437	.468	.234	.200	10	44.70	40.60
839-2440	727	3	.562	.375	.218	.187	.115	4	24.15	22.00
839-2441	728	3	.750	.437	.265	.250	.148	6	34.55	31.35
839-2442	729	3	.937	.625	.359	.328	.174	8	44.70	40.60

* Grey — all others black.

Rubber Grommets

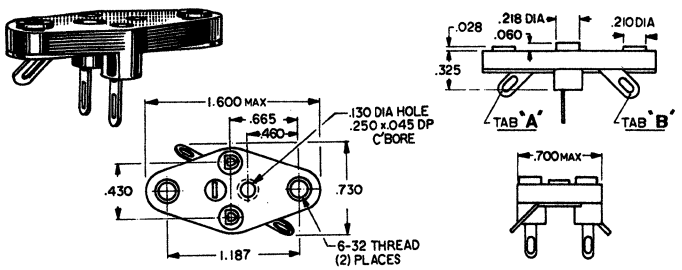




For electrical insulation and mechanical damping. Made of BUNA S.

Stock No.	Mfr.'s Type	I.D. "A"	For Hole Size "B"	For Panel "C"	"D"	"E"	PK./100	
							1-9	10-Up
839-2443	730	.125	0.187	.062	0.312	.187	4.80	4.35
839-2444	733	.125	0.250	.062	0.343	.156	4.40	4.00
839-2445	734	.125	0.437	.062	0.625	.187	44.80	40.70
839-2446	735	.125	0.375	.093	0.500	.312	16.25	14.80
839-2447	736	.187	0.312	.062	0.437	.187	5.25	4.80
839-2448	731	.187	0.312	.062	0.437	.218	6.40	5.80
839-2449	737	.187	0.281	.093	0.437	.218	12.55	11.40
839-2450	738	.250	0.437	.062	0.625	.187	13.00	11.85
839-2451	739	.250	0.375	.062	0.500	.218	6.65	6.00
839-2452	740	.250	0.375	.093	0.500	.250	11.20	10.20
839-2453	741	.312	0.562	.062	0.625	.281	23.40	21.25
839-2454	742	.312	0.437	.062	0.625	.281	7.65	6.95
839-2455	743	.312	0.437	.093	0.625	.312	13.65	12.70
839-2456	744	.375	0.625	.062	0.875	.312	25.15	22.85
839-2457	745	.375	0.500	.062	0.625	.250	7.20	6.55
839-2458	732	.437	0.562	.062	0.750	.250	8.70	7.90
839-2459	746	.437	0.687	.062	0.937	.312	27.85	25.30
839-2460	747	.500	0.812	.062	1.062	.312	28.16	25.55
839-2461	748	.500	1.250	.062	1.500	.250	35.30	32.16
839-2462	749	.500	0.750	.093	0.875	.343	17.25	15.65
839-2463	750	.562	0.812	.062	1.062	.312	34.15	31.05
839-2464	752	.625	0.875	.062	1.125	.312	18.05	16.40
839-2465	753	.625	1.250	.062	1.500	.250	51.25	46.60
839-2466	755	.750	1.062	.062	1.375	.375	52.35	47.55
839-2467	756	.750	1.437	.062	1.812	.375	115.00	104.55
839-2468	757	.875	1.250	.062	1.625	.437	80.00	72.75

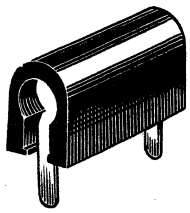
One-Piece All Molded Transistor Sockets For TO-3 Case

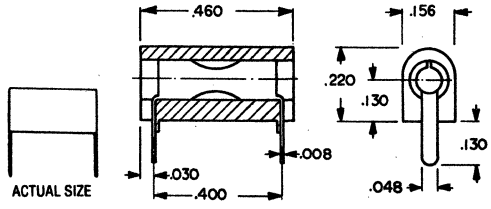


All-in-one mounting plate and solder tabs for complete electrical isolation of solder tab connection. **Material:** Insulating base filled reinforced polyester — 94V-0 rating. **Contacts:** Phosphor bronze tin plate. **Mounting Bracket:** Brass cadmium plate. **Rating:** 5 amps DC continous; 15 amps DC intermittent. Model 4513 features transistor lead-in insulating shoulders.

Stock No.	Mfr.'s Type	EACH		
		1-19	20-99	100-Up
839-2479	4513	1.37	1.23	1.12
839-2480	4515	1.50	1.37	1.25

Low Profile Horizontal PC Test Jack

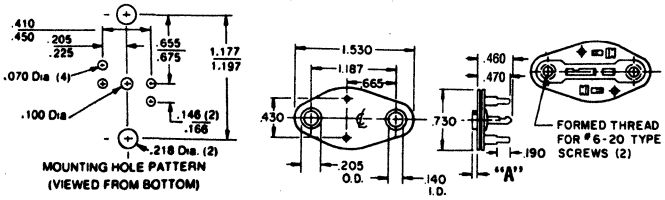




Allows dense packaging on .160" centers. Side by side mounting. Closed entry design for tips less than .084" — will accept probes of .074" minimum diameter. Mounts on .400" centers on .052" holes. **Current Rating:** 5A. **WVAC:** 1500V max. **Contact Resistance:** 0.01 ohms max. **Material:** Body — Nylon per ASTM D4066; Contact — Beryllium copper, gold plated. Choice of colors (see table below).

Stock No.	Mfr.'s Type	Color	EACH		
			1-19	20-99	100-Up
839-2469	6060	White	0.51	0.47	0.43
839-2470	6061	Red	0.51	0.47	0.43
839-2471	6062	Black	0.51	0.47	0.43
839-2472	6063	Yellow	0.51	0.47	0.43
839-2473	6064	Green	0.51	0.47	0.43
839-2474	6065	Blue	0.51	0.47	0.43

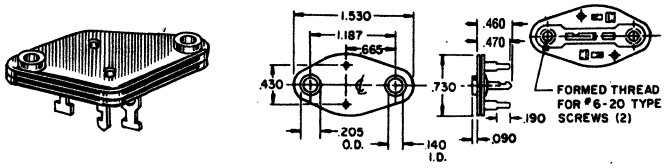
Sockets For To-3



Various Molded Boss Heights. Held underneath chassis — semiconductor is inserted into the contacts of the socket holding the assembly in position. 6-20 screws engage the formed holes in collector plate to complete the mounting. **Top Plate:** Molded nylon. **Base:** Phenolic.

Stock No.	Mfr.'s Type	Dim. "A"	EACH		
			1-19	20-99	100-Up
839-2475	4603	.030	0.74	0.68	0.62
839-2476	4602	.045	0.71	0.67	0.61
839-2477	4601	.090	0.70	0.64	0.58

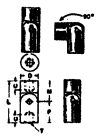
PC Sockets For TO-3



Easy to assemble — eliminates wiring. Stops on PC terminals provide spacing between socket and PC board for proper assembly of transistor to socket. Can be screwed down tightly to heat sink. **Top Plate:** Molded nylon. **Base:** Phenolic.

839-2478. Type 4600. **1-19** ..... **EACH 0.80**
20-99 ..... **EACH 0.74** **100-Up** ..... **EACH 0.67**

Hinged Standoffs For Terminal Boards



Unlimited Applications
Wiring Exposed For Easy Test

Interconnect Circuits or Services Without Danger of Shorting

Material: Brass per MIL Spec. QQ-B-626A Comp. 22 1/2 Hard. **Finish:** Cadmium Plate per QQ-P-416 Class 2, Type 2 and gold Iridite.

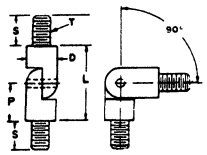
Female/Female Hinge

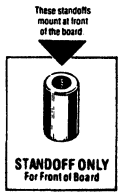
Stock No.	Mfr.'s Type	T Thread	D Diam	L Length	U	M	P	EACH 1-99	EACH 100-Up
839-3315	351	4-40	.187"	.750"	.172"	.375"	.375"	0.42	0.39
839-3316	352	4-40	.187"	1.000"	.250"	.375"	.625"	0.46	0.42
839-2260	330	4-40	.187"	1.250"	.250"	.625"	.625"	0.48	0.44
839-3317	353	6-32	.250"	.750"	.172"	.375"	.375"	0.60	0.56
839-3318	354	6-32	.250"	1.000"	.250"	.375"	.625"	0.62	0.57
839-2261	331	6-32	.250"	1.250"	.250"	.625"	.625"	0.63	0.59
839-2262	355	8-32	.250"	.750"	.172"	.375"	.375"	0.55	0.51
839-2263	356	8-32	.250"	1.000"	.250"	.375"	.625"	0.58	0.54
839-2264	332	8-32	.250"	1.250"	.250"	.625"	.625"	0.59	0.55

Standoff Only

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100 1-9	PER PK./100 10-Up
839-3421	1657A	.750	19.75	17.95
839-3422	1657B	1.000	25.20	22.90
839-2201	1881	1.250	43.90	39.95
839-2198	1548E	.750	24.30	22.10
839-2200	1548F	1.000	24.75	22.50
839.2211	1692D	.750	34.05	30.95
839-2213	1692E	1.000	35.10	31.90

Male/Male Hinge



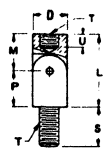


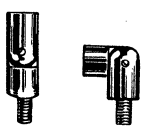
Stock No.	Mfr.'s Type	T Thread	L Length	D Diam.	S	U	EACH 1-99	EACH 100-Up
839-3321	357	4-40	1/2"	.187"	1/4"	.250"	0.57	0.53
839-3322	358	6-32	1/2"	.250"	5/16"	.250"	0.59	0.55
839-2271	359	8-32	1/2"	.250"	5/16"	.250"	0.66	0.62

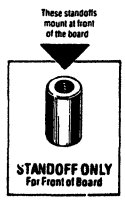
Standoff Only

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100 1-9	PER PK./100 10-Up
839-2182	1657	.500	15.55	14.15
839-2196	1548C	.500	15.10	13.70

Male/Female Hinge





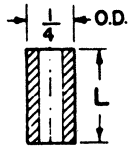


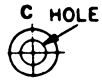
Stock No.	Mfr.'s Type	T Thread	L Length	D Diam.	S	U	P	M	EACH 1-99	EACH 100-Up
839-2265	333	4-40	.625"	.187"	.250"	.172"	.250"	.375"	0.51	0.46
839-2266	334	4-40	.875"	.187"	.250"	.250"	.250"	.625"	0.53	0.49
839-2267	335	6-32	.625"	.250"	.312"	.172"	.250"	.375"	0.59	0.56
839-2268	336	6-32	.875"	.250"	.312"	.250"	.250"	.625"	0.62	0.57
839-2269	337	8-32	.625"	.250"	.312"	.172"	.250"	.375"	0.58	0.54
839-2270	338	8-32	.875"	.250"	.312"	.250"	.250"	.625"	0.63	0.58

Standoff Only

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100 1-9	PER PK./100 10-Up
839-2183	1865	.625	18.35	16.70
839-2184	1866	.875	25.40	23.10
839-2197	1548D	.625	20.30	18.45
839-2199	1879	.875	25.30	23.00
839-2210	1887	.625	32.65	29.70
839-2212	1888	.875	32.65	29.70

Brass or Aluminum Round Clear Spacers





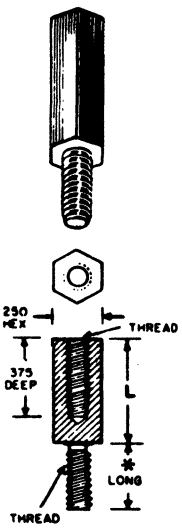
CLEARANCE HOLE:
.120 FOR #4 SCREW
.140 FOR #6 SCREW
.171 FOR #8 SCREW

Choice of: Brass-nickel plate QQ-N-290, Type VII. Aluminum-iridite finish MIL-C-5541.

Length (in.) L	Hole (in.) C	Brass Stock No.	Brass Mfr.'s Type	Brass PER PK./100 1-9	Brass PER PK./100 10-Up	Aluminum Stock No.	Aluminum Mfr.'s Type	Aluminum PER PK./100 1-9	Aluminum PER PK./100 10-Up
.125	.120	839-2272	1909	11.35	10.35	839-2302	2036	7.15	6.50
.250	.120	839-2273	1454A	12.95	11.80	839-2303	3457	7.25	6.60
.375	.120	839-2274	1454B	13.80	12.55	839-2304	3458	8.55	7.80
.500	.120	839-2275	1454C	16.45	15.00	839-2305	3459	9.75	8.85
.625	.120	839-2276	1919	18.45	16.80	839-2306	2314	10.75	9.80
.750	.120	839-2277	1454D	18.70	17.05	839-2307	3460	11.60	10.50
.875	.120	839-2278	1920	28.95	26.30	839-2308	3402	14.55	13.20
1.000	.120	839-2279	1454E	29.80	27.10	839-2309	3461	15.10	13.70
1.500	.120	839-2280	1924	46.95	42.70	839-2310	3462	30.95	28.15
2.000	.120	839-2281	1925	62.20	56.55	839-2311	3463	41.00	37.30
.125	.140	839-2282	1934	11.35	10.35	839-2312	3403	7.15	6.50
.250	.140	839-2283	1457A	12.95	11.80	839-2313	3464	7.25	6.60
.375	.140	839-2284	1457B	13.80	12.55	839-2314	3465	8.55	7.80
.500	.140	839-2285	1456C	16.45	15.00	839-2315	3466	9.75	8.85
.625	.140	839-2286	1935	18.45	16.80	839-2316	3429	10.75	9.80
.750	.140	839-2287	1457D	18.70	17.05	839-2317	3467	11.60	10.50
.875	.140	839-2288	1936	28.95	26.30	839-2318	3438	14.55	13.20
1.000	.140	839-2289	1457E	29.80	27.10	839-2319	3468	15.10	13.70
1.500	.140	839-2290	1937	46.95	42.70	839-2320	3469	30.95	28.15
2.000	.140	839-2291	1938	62.10	56.45	839-2321	3470	36.55	33.39
.125	.171	839-2292	1942	11.35	10.35	839-2322	4258	7.15	6.50
.250	.171	839-2293	1480	12.95	11.80	839-2323	3471	7.25	6.60
.375	.171	839-2294	1481	13.80	12.55	839-2324	3472	8.55	7.80
.500	.171	839-2295	1482	16.45	15.00	839-2325	3473	9.78	8.85
.625	.171	839-2296	2032	18.45	16.80	839-2326	4259	10.75	9.80
.750	.171	839-2297	1483	18.70	17.05	839-2327	3474	11.60	10.50
.875	.171	839-2298	2033	28.95	26.30	839-2328	4260	14.55	13.20
1.000	.171	839-2299	1484	16.75	15.57	839-2329	3475	15.10	13.70
1.500	.171	839-2300	2034	46.95	42.70	839-2330	3476	30.95	28.15
2.000	.171	839-2301	2035	62.10	56.45	839-2331	3477	41.00	37.30

Hex Male/Female Threaded Spacers

Brass-nickel plated. 3/8" external thread on 8-32 spacers; 1/4" external thread on 6-32 spacers; and 3/16" external thread on 4-40 spacers.



4-40 Thread

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100 1-9	PER PK./100 10-Up
839-2332	7200	3/8 (.375)*	34.05	30.95
839-2333	1944	1/2 (.500)	38.25	34.80
839-2334	1945	5/8 (.625)	38.80	35.30
839-2335	1946	3/4 (.750)	40.00	36.35
839-2336	7201	7/8 (.875)	46.95	37.25
839-2337	1947	1 (1.000)	41.50	37.75
839-2338	7202	1 1/8 (1.125)	50.70	46.10
839-2339	1948	1 1/4 (1.250)	56.50	51.35
839-2340	1949	1 3/8 (1.375)	58.65	53.30
839-2341	1950	1 1/2 (1.500)	60.20	54.70
839-2342	7203	1 5/8 (1.625)	61.30	55.70
839-2343	7205	1 3/4 (1.750)	62.30	56.65
839-2344	1951	2 (2.000)	69.60	58.75

6-32 Thread

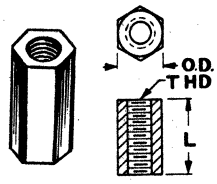
Stock No.	Mfr.'s Type	Length (in.)	PER PK./100 1-9	PER PK./100 10-Up
839-2345	7210	3/8 (.375)*	33.60	30.55
839-2346	1952	1/2 (.500)	38.05	34.60
839-2347	1953	5/8 (.625)	38.55	35.05
839-2348	1954	3/4 (.750)	39.70	36.05
839-2349	7211	7/8 (.875)	40.40	36.70
839-2350	1644	1 (1.000)	40.95	37.25
839-2351	7212	1 1/8 (1.125)	50.15	45.60
839-2352	1955	1 1/4 (1.250)	56.00	50.90
839-2353	1956	1 3/8 (1.375)	58.10	52.80
839-2354	1645	1 1/2 (1.500)	59.65	54.25
839-2355	7214	1 5/8 (1.625)	60.70	55.20
839-2356	7215	1 3/4 (1.750)	62.30	56.65
839-2357	1646	2 (2.000)	64.60	58.75

8-32 Thread

Stock No.	Mfr.'s Type	Length (in.)	PER PK./100 1-9	PER PK./100 10-Up
839-2358	7220	3/8 (.375)*	33.60	30.55
839-2359	1957	1/2 (.500)	38.05	34.60
839-2360	1958	5/8 (.625)	38.55	35.05
839-2361	1959	3/4 (.750)	39.70	36.05
839-2362	7221	7/8 (.875)	40.65	36.90
839-2363	1960	1 (1.000)	40.95	37.25
839-2364	7222	1 1/8 (1.125)	50.15	45.60
839-2365	1961	1 1/4 (1.250)	56.00	50.39
839-2366	1962	1 3/8 (1.375)	58.10	52.80
839-2367	1963	1 1/2 (1.500)	59.65	54.25
839-2368	7224	1 5/8 (1.625)	51.05	45.45
839-2369	7225	1 3/4 (1.750)	62.30	56.65
839-2370	1964	2 (2.000)	64.60	58.75

*Internal thread .250" deep.

Hex Threaded Spacers



Specifications. Brass: QQ-B-626, Alloy 360, 1/2 hard. **Aluminum:** QQ-A-225/3, Alloy 2011-T3. **Iridite Finish:** MIL-C-5541. **Cadmium Plate:** QQ-P-416, Type 2, Class B. **Zinc:** QQ-2-325B, Type 1, Class 3. Spacers over 1.00" long are tapped .375 deep each end.

2-56 Thread × .156 O.D.(5/32")

Length Inches	Aluminum Iridite Finish				Brass Zinc Plate			
	Stock No.	Mfr.'s Type	PER PK./100		Stock No.	Mfr.'s Type	PER PK./100	
			1-9	10-Up			1-9	10-Up
3/16 (.187)	839-2035	1797A	28.50	25.90	839-2082	1798A	31.05	28.25
1/4 (.250)	839-2036	1797B	30.50	27.75	839-2083	1798B	33.25	30.25
5/16 (.312)	839-2037	1797C	38.80	35.30	839-2084	1798C	39.85	36.20
3/8 (.375)	839-2038	1797D	41.30	37.55	839-2085	1798D	47.20	42.90

4-40 Thread × .187 O.D.(3/16")

1/4 (.250)	839-2039	1891	17.05	10.05	839-2086	1450	11.65	10.55
3/8 (.375)	839-2040	1892	12.85	11.70	839-2087	1803	13.40	12.20
1/2 (.500)	839-2041	1893	15.00	13.60	839-2088	1656	15.90	14.50
5/8 (.625)	839-2042	1894	16.35	14.90	839-2089	1804	21.40	19.50
3/4 (.750)	839-2043	1895	18.30	16.65	839-2090	1656A	20.30	18.45
7/8 (.875)	839-2044	1896	20.20	18.35	839-2091	1805	26.20	23.80
1 (1.000)	839-2045	1897	26.50	24.10	839-2092	1656B	26.20	23.80

4-40 Thread × .250 O.D.(1/4")

1/4 (.250)	839-2046	2201	10.80	9.85	839-2093	1450A	10.80	9.85
3/8 (.375)	839-2047	2202	11.95	10.85	839-2094	1450B	12.55	11.40
1/2 (.500)	839-2048	2203	13.20	12.00	839-2095	1450C	15.75	14.35
5/8 (.625)	839-2049	1808	14.50	13.15	839-2096	1829	21.35	19.45
3/4 (.750)	839-2050	2204	15.75	14.35	839-2097	1450D	24.85	22.60
7/8 (.875)	839-2051	1809	21.75	19.75	839-2098	1830	25.85	23.50
1 (1.000)	839-2052	2205	24.25	22.05	839-2099	1450E	25.20	22.90
1 1/2 (1.500)	839-2053	2206	41.15	37.45	839-2100	1831	65.10	59.15
2 (2.000)	839-2054	2207	47.55	43.20	839-2101	1832	66.75	60.70

6-32 Thread × .250 O.D.(1/4")

1/4 (.250)	839-2055	2208	10.80	9.85	839-2102	1451A	10.80	9.85
3/8 (.375)	839-2056	2209	11.95	10.85	839-2103	1451B	12.55	11.40
1/2 (.500)	839-2057	2210	13.20	12.00	839-2104	1451C	15.75	14.35
5/8 (.625)	839-2058	1813	14.75	13.40	839-2105	1451D	21.35	19.45
3/4 (.750)	839-2059	2211	15.75	14.35	839-2106	1451E	24.85	22.60
7/8 (.875)	839-2060	1816	16.65	10.25	839-2107	1833	25.85	23.50
1 (1.000)	839-2061	2212	24.25	22.05	839-2108	1635	25.20	22.90
1 1/4 (1.250)	839-2062	1818	36.45	33.15	839-2109	1636	44.80	40.70
1 1/2 (1.500)	839-2063	2213	41.15	37.45	839-2110	1637	51.70	47.00
1 3/4 (1.750)	839-2064	1819	43.00	39.05	839-2111	1638	65.95	59.95
2 (2.000)	839-2065	2214	47.55	43.20	839-2112	1639	40.15	36.77
2 1/4 (2.250)	839-2066	1820	52.75	47.95	839-2113	1642	68.10	61.90
2 1/2 (2.500)	839-2067	1825	57.70	52.45	839-2114	1643	62.40	49.57

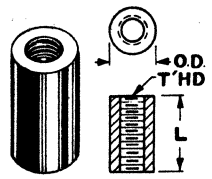
8-32 Thread × .250 O.D.(1/4")

1/4 (.250)	839-2068	2215	10.80	9.85	839-2115	1474A	12.15	11.00
3/8 (.375)	839-2069	2216	11.95	10.85	839-2116	1474B	12.55	11.40
1/2 (.500)	839-2070	2217	13.20	12.00	839-2117	1474C	15.75	14.35
5/8 (.625)	839-2071	1827	17.25	15.65	839-2118	1834	21.35	19.45
3/4 (.750)	839-2072	2218	18.55	16.90	839-2119	1474D	24.85	22.60
7/8 (.875)	839-2073	1828	23.05	20.95	839-2120	1836	25.85	23.50
1 (1.000)	839-2074	2219	24.25	22.05	839-2121	1474E	25.20	22.90
1 1/2 (1.500)	839-2075	2220	41.15	37.95	839-2122	1837	65.10	59.15
2 (2.000)	839-2076	2221	47.55	43.20	839-2123	1838	66.75	60.70

8-32 Thread × .375 O.D.(3/8")

3/8 (.375)	839-2077	1926A	21.30	19.40	839-2124	1452A	27.45	24.95
1/2 (.500)	839-2078	1926B	22.30	20.25	839-2125	1452B	35.25	32.05
5/8 (.625)	839-2079	1926C	29.15	26.50	839-2126	1452C	45.55	41.40
3/4 (.750)	839-2080	1926D	33.85	30.80	839-2127	1452D	49.15	44.70
1 (1.000)	839-2081	1926E	41.10	37.40	839-2128	1452E	56.45	46.08

Round Threaded Spacers



Specifications. Brass: QQ-B-626, Alloy 360, 1/2 hard. **Aluminum:** QQ-A-225/3, Alloy 2911-T3. **Iridite Finish:** MIL-C-5541. **Cadmium Plate:** QQ-P-416, Type 2, Class B. **Nickel Plated:** QQ-N-290, Type V11.

2-56 Thread × .156 O.D.(5/32")

Length Inches	Aluminum Iridite Finish				Brass Zinc Plate			
	Stock No.	Mfr.'s Type	PER PK./100		Stock No.	Mfr.'s Type	PER PK./100	
			1-9	10-Up			1-9	10-Up
3/16 (.187)	839-2129	1801A	22.40	20.35	839-2176	1802A	24.85	22.60
1/4 (.250)	839-2130	1801B	25.40	23.10	839-2177	1802B	26.70	24.30
5/16 (.312)	839-2131	1801C	38.05	34.60	839-2178	1802C	39.40	35.85
3/8 (.375)	839-2132	1801D	40.60	36.90	839-2179	1802D	45.25	41.10

4-40 Thread × .187 O.D.(3/16")

1/4 (.250)	839-2133	2025	10.70	9.75	839-2180	1547	10.70	9.75
3/8 (.375)	839-2134	2026	12.65	11.50	839-2181	1864	16.35	14.90
1/2 (.500)	839-2135	2027	13.90	12.65	839-2182	1657	15.55	14.15
5/8 (.625)	839-2136	2028	15.10	13.70	839-2183	1865	18.35	16.70
3/4 (.750)	839-2137	2029	17.60	16.00	839-3421	1657A	16.90	13.22
7/8 (.875)	839-2138	2030	18.90	17.20	839-2184	1866	25.40	23.10
1 (1.000)	839-2139	2031	26.50	24.10	839-3422	1657B	21.60	17.28

4-40 Thread × .250 O.D.(1/4")

1/4 (.250)	839-2140	3478	9.35	8.45	839-2185	1547A	15.70	14.30
3/8 (.375)	839-2141	3479	10.80	9.85	839-2186	1547B	18.40	16.75
1/2 (.500)	839-2142	3480	11.65	10.55	839-2187	1547C	22.45	20.40
5/8 (.625)	839-2143	1839	17.20	15.60	839-2188	1867	18.10	14.17
3/4 (.750)	839-2144	3481	14.50	13.15	839-2189	1547D	21.65	16.85
7/8 (.875)	839-2145	1846	21.35	19.45	839-2190	1876	32.00	29.05
1 (1.000)	839-2146	3482	23.55	21.40	839-2191	1547E	35.65	32.40
1 1/2 (1.500)	839-2147	3483	39.38	36.15	839-2192	1877	63.15	57.40
2 (2.000)	839-2148	3484	46.10	41.90	839-2193	1878	64.50	58.65

6-32 Thread × .250 O.D.(1/4")

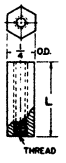
1/4 (.250)	839-2149	3485	9.35	8.45	839-2194	1548A	9.95	9.05
3/8 (.375)	839-2150	3486	10.80	9.85	839-2195	1548B	11.65	10.15
1/2 (.500)	839-2151	3487	11.69	10.55	839-2196	1548C	15.10	13.70
5/8 (.625)	839-2152	1847	16.90	15.35	839-2197	1548D	20.30	18.45
3/4 (.750)	839-2153	3488	14.50	13.15	839-2198	1548E	24.30	22.10
7/8 (.875)	839-2154	1848	15.85	14.45	839-2199	1879	25.30	23.00
1 (1.000)	839-2155	3489	23.55	21.40	839-2200	1548F	24.75	22.50
1 1/4 (1.250)	839-2156	1853	35.70	32.45	839-2201	1881	43.90	39.95
1 1/2 (1.500)	839-2157	3490	39.80	36.15	839-2202	1882	63.15	57.40
1 3/4 (1.750)	839-2158	1855	42.30	38.45	839-2203	1883	63.95	58.15
2 (2.000)	839-2159	3491	46.10	41.90	839-2204	1884	64.50	58.65
2 1/4 (2.250)	839-2160	1856	51.35	46.65	839-2205	1885	66.15	60.15
2 1/2 (2.500)	839-2161	1857	56.30	51.20	839-2206	1886	68.10	61.90

8-32 Thread × .250 O.D.(1/4")

1/4 (.250)	839-2162	3492	9.35	8.45	839-2207	1692A	18.80	17.10
3/8 (.375)	839-2163	3493	9.65	7.10	839-2208	1692B	19.75	17.95
1/2 (.500)	839-2164	3494	11.65	10.55	839-2209	1692C	13.45	11.93
5/8 (.625)	839-2165	1858	13.35	12.15	839-2210	1887	32.65	29.70
3/4 (.750)	839-2166	3495	10.90	10.54	839-2211	1692D	34.05	30.95
7/8 (.875)	839-2167	1859	15.85	14.45	839-2212	1888	32.65	29.70
1 (1.000)	839-2168	3496	23.55	21.40	839-2213	1692E	35.10	31.90
1 1/2 (1.500)	839-2169	3497	39.80	36.15	839-2214	1889	63.15	57.40
2 (2.000)	839-2170	3498	46.10	41.90	839-2215	1899	67.90	61.70

8-32 Thread × .375 O.D.(3/8")

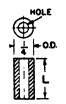
3/8 (.375)	839-2171	2315A	33.40	30.35	839-2216	1549A	37.00	33.60
1/2 (.500)	839-2172	2315B	35.30	32.10	839-2217	1549B	39.90	36.25
5/8 (.625)	839-2173	2315C	38.05	34.60	839-2218	1549C	43.90	39.95
3/4 (.750)	839-2174	2315D	40.85	37.15	839-2219	1549D	48.25	43.85
1 (1.000)	839-2175	2315E	48.70	44.25	839-2220	1549E	59.25	53.85



Nylon Hex Threaded Spacers

Made of Nylon 6/6. For terminal or printed circuit board supports. (A) 4-40 thread. (B) 6-32 thread. (C) 8-32 thread.

Stock No.	Mfr.'s Type (A)	Stock No.	Mfr.'s Type (B)	Stock No.	Mfr.'s Type (C)	Length Inches	PER PK./100	
							1-9	10-Up
839-2245	1902A	839-2250	1903A	839-2255	1904A	1/4 (.250)	17.60	16.60
839-2246	1902B	839-2251	1903B	839-2256	1904B	3/8 (.375)	18.00	16.35
839-2247	1902C	839-2252	1903C	839-2257	1904C	1/2 (.500)	18.80	17.10
839-2248	1902D	839-2253	1903D	839-2258	1904D	3/4 (.750)	24.10	21.95
839-2249	1902E	839-2254	1903E	839-2259	1904E	1 (1.000)	24.15	22.00

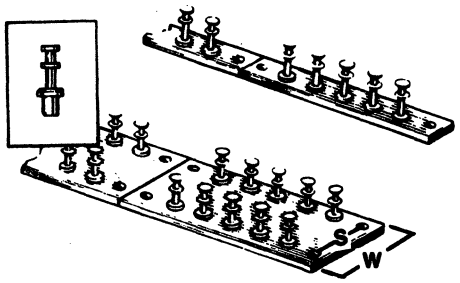


Nylon Round Thru-Hole Spacers

Made of Nylon 6/6. For terminal or printed circuit board supports. (A) For #4 screw .120" hole. (B) for #6 screw .140" hole. (C) For #8 screw .171" hole.

Stock No.	Mfr.'s Type (A)	Stock No.	Mfr.'s Type (B)	Stock No.	Mfr.'s Type (C)	Length Inches	PER PK./100	
							1-9	10-Up
839-2221	875	839-2229	883	839-2237	891	1/8 (.125)	5.75	5.25
839-2222	876	839-2230	884	839-2238	892	1/4 (.250)	6.40	5.80
839-2223	877	839-2231	885	839-2239	893	3/8 (.375)	7.90	7.20
839-2224	878	839-2232	886	839-2240	894	1/2 (.500)	8.75	7.95
839-2225	879	839-2233	887	839-2241	895	5/8 (.625)	9.15	8.30
839-2226	880	839-2234	888	839-2242	896	3/4 (.750)	9.85	8.95
839-2227	881	839-2235	889	839-2243	897	7/8 (.875)	10.85	9.90
839-2228	882	839-2236	890	839-2244	898	1 (1.000)	11.85	10.75

Scored Turret Terminal Boards



Terminals: Brass, QQ-B-626, Comp.22, 1/2hard. Staked in all holes except end mounting holes. Securely riveted and hot tinned. **Plating:** Hot dip solder finish, MIL-F-14072. **Material:** PBE (Fed. LP-513, Type XXXP natural. 250 F max.) or GEE (MIL-P-18177, Type G-10. 300 F max.). 3/8" spacing.

Stock No.	Mfr.'s Type	Material	W	S	No. of Terms	EACH		
						1-19	20-99	100-Up
839-2371	15031	PBE	1/2	Single	25	3.73	3.27	3.12
839-2372	15231	GEE	1/2	Row	25	4.22	3.70	3.56
839-2373	15032	PBE	1 1/2	1	50	7.43	6.53	6.21
839-2374	15232	GEE	1 1/2	1	50	9.02	7.92	7.54
839-3455	15036	PBE	1 1/2	13/16	50	7.43	6.53	6.21
839-2375	15236	GEE	1 1/2	13/16	50	9.02	7.92	7.54
839-3452	15033	PBE	2	1 1/2	50	7.84	6.89	6.56
839-3465	15233	GEE	2	1 1/2	50	9.27	8.12	7.73
839-2376	15034	PBE	2 1/2	2	50	8.30	7.28	6.94
839-2377	15234	GEE	2 1/2	2	50	9.51	8.33	7.94
839-2378	15035	PBE	3	2 1/2	50	8.88	7.79	7.43
839-2379	15235	GEE	3	2 1/2	50	9.74	8.55	8.14

Lockwasher Terminal Lugs

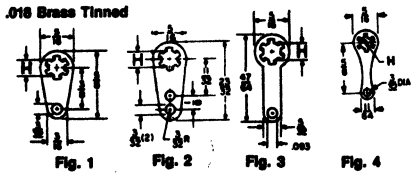


Fig. 1 Fig. 2 Fig. 3 Fig. 4

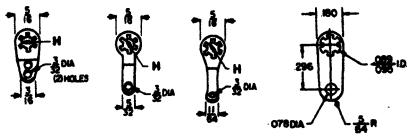
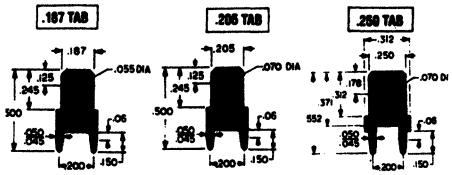


Fig. 5 Fig. 6 Fig. 7 Fig. 8

Stock No.	Mfr.'s Type	Fig.	H	PER PK./100		
				1-3	4-9	10-49
839-2380	908	1	#4	4.65	4.25	3.30
839-2381	914	1	#6	4.65	4.25	3.30
839-2382	915	1	#8	4.65	4.25	3.30
839-2383	910	2	#4	4.65	4.25	3.30
839-2384	918	2	#6	4.65	4.25	3.30
839-2385	906	2	#8	4.65	4.25	3.30
839-2386	909	3	#4	4.65	4.25	3.30
839-2387	916	3	#6	4.65	4.25	3.30
839-2388	917	3	#8	4.65	4.25	3.30
839-2389	903	4	#4	4.65	4.25	3.30
839-2390	904	4	#6	4.65	4.25	3.30

Stock No.	Mfr.'s Type	Fig.	H	PER PK./100		
				1-3	4-9	10-49
839-2391	905	4	#8	4.65	4.25	3.30
839-2392	7311	5	#4	4.65	4.25	3.30
839-2393	7312	5	#6	4.65	4.25	3.30
839-2394	7313	5	#8	4.65	4.25	3.30
839-2395	7314	6	#4	4.65	4.25	3.30
839-2396	7315	6	#6	4.65	4.25	3.30
839-2397	7316	6	#8	4.65	4.25	3.30
839-2398	7317	7	#4	4.65	4.25	3.30
839-2399	7318	7	#6	4.65	4.25	3.30
839-2400	7319	7	#8	4.65	4.25	3.30
839-2401	907	8	—	6.15	5.60	5.20

Kwik Disconnect PC Terminals

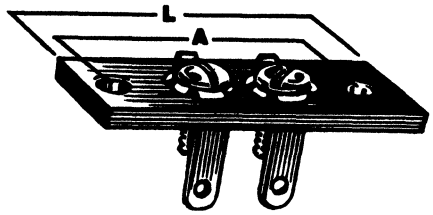


Brass tinned. Mating tab meets NEMA standards, mates with std. Female connectors. Direct mount.

Stock No.	Mfr.'s Type	For Cables	PER PK./100	
			1-9	10-Up
839-2402	1285	.187	3.50	3.20
839-2403	1286	.205	6.20	5.65
839-2404	1287	.250	4.40	4.00

Hand Insertion Tool.
839-2405. Type 1288 ..... **EACH 10.40**

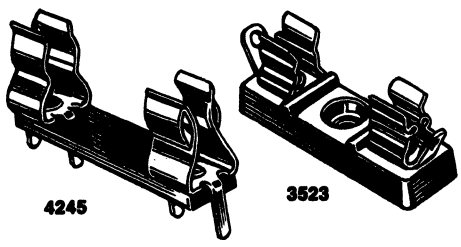
Standard Binding Post Strips



PBE, Fed. LP-513. Type XP natural. 250 F max. Material is 1/16" thick, 5/8" wide. 0.140" dia. holes. Terminals spaced 7/16" apart.

Stock No.	Mfr.'s Type	"L" Length	"A" Mtg. Centers	No. of Term	EACH		
					1-19	20-99	100-Up
839-2406	4187	1 1/4	7/8	1	0.24	0.21	0.20
839-2407	4188	1 11/16	15/16	2	0.34	0.29	0.28
839-2408	4189	2 1/8	1 3/4	3	0.48	0.41	0.39
839-2409	4190	2 9/16	2 3/16	4	0.62	0.56	0.53
839-2410	4191	3	2 5/8	5	0.77	0.65	0.62
839-2411	4192	3 7/16	3 1/16	6	0.90	0.79	0.74
839-2412	4193	3 7/8	3 1/2	7	1.12	0.99	0.64
839-2413	4194	4 5/16	3 15/16	8	1.26	1.11	1.06
839-2414	4195	4 3/4	4 13/16	9	1.43	1.24	1.18
839-2415	4196	5 3/16	4 13/16	10	1.57	1.38	1.32

Fuse Holders



PC Fuse Holder Model 4245. For 1/4" dia. fuse 3AG. Material — 062 GPO-3 94V-O. Clips — Brass tin plate.
839-2424. Model 4245.
1-9 ..... **PER PK./100 54.15**
10-Up ..... **PER PK./100 49.20**

Molded Fuse Holder 3523. For 3AG fuses. Withstand test of 1080 VRMS at 60Hz/1 min.; 3000 VDC/1 min. Clips — Brass alloy type CDA 260; bright dip plated. Molded Plastic — mineral filled flame-retardant alkyd. UL rated 94V-O. Conforms to 180 sec. arc tracking test spec per ASTM 495-D. Low contact resistance.
839-2425. Model 3523.
1-9 ..... **PER PK./100 50.00**
10-Up ..... **PER PK./100 45.45**

Fuse Clips

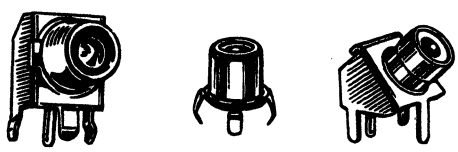
1/4" diameter PC clips. Brass, tin plated. "A" — width of orientation on tab "B" — width of tab. "L" — length of tab.

Stock No.	Mfr.'s Type	"A" (In.)	"B" (In.)	"L" (In.)	PER PK./100	
					1-9	10-Up
839-2416	3529†	—	—	.140	9.40	8.50
839-2417	3514†	—	—	.250	20.65	19.90
839-2418	3515°	.060	.060	.140	12.95	11.80
839-2419	3516P°	.060	.120	.140	15.80	14.40
839-2420	3517*	.060	.060	.140	10.25	9.35
839-2421	3518P*	.060	.093	.140	9.20	8.35
839-2422	3530‡	—	—	—	8.80	8.00
839-2423	3532**	—	—	—	6.20	5.65

* 5mm; available with or without orientation pc solder tabs. ** Fuse clip, brass nickel plated with end stops. ° Snap-in, with or without orientation PC solder tabs.
† PC tabs at each end.
‡ PC tabs in center.

PC Phono Jacks

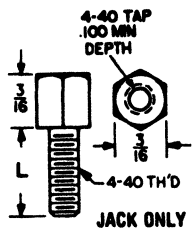
Fig. A Fig. B Fig. C



Shells: Steel, cad. plate. **Pins:** Brass, N.P. **Contacts:** Brass cad. plate. **Type 901** — 1 piece jack, no wiring needed. Steel, tinned. **Type 572** — 3-hole mounted, no staking required. Snap-in. **Type 578** — 50° angle, direct mount. Takes .125" dia. pins.

Stock No.	Mfr.'s Type	Fig.	PER PK./100	
			1-9	10-Up
839-2426	901	A	58.50	53.20
839-2427	572	B	60.70	55.20
839-2428	578	C	57.60	52.35

Jack Screws



"D" subminiature connector mounting screw. MIL-C-24308/26-1. Made of steel, zinc. plate, and gold iridite.

Stock No.	Mfr.'s Type	"L"	PER PK./100	
			1-9	10-Up
839-7228	7228	.250	16.10	14.65
839-7229	7229	.250	20.05	18.20
839-2429	7230*	.312	16.10	14.65
839-2430	7232*	.625	36.90	33.55
839-2431	7231†	.312	20.05	18.20
839-2432	7233†	.625	41.10	37.40

* Jack only.
† Jack with hardware (2 flat washers, lock washer, and nut) supplied unassembled bulk.

7

Round Head Machine Screws

Steel, zinc plated.

Stock No.	Mfr.'s Type	Size In.	PER PKG./100			
			1-49	50-99	100-249	250-499
226-7183	F2-1183	4-36 × 3/4	.84	.77	.65	.52
226-7350	F2-1350	4-40 × 1/4	.78	.71	.61	.48
226-7352	P2-1352	2-40 × 1/2	.78	.71	.61	.48
226-7354	F2-1354	4-40 × 3/4	.88	.81	.68	.56
226-7000	F2-1000	6-32 × 1/4	.82	.76	.63	.50
226-7001	F2-1001	6-32 × 3/8	.96	.88	.83	.66
226-7002	F2-1002	6-32 × 1/2	.99	.90	.79	.63
226-7355	F2-1355	6-32 × 5/8	1.05	.96	.82	.65
226-7356	F2-1356	6-32 × 3/4	1.05	.96	.82	.65
226-7357	F2-1357	6-32 × 1	1.18	1.07	.92	.76
226-7358	F2-1358	6-32 × 2	1.80	1.64	1.40	1.12
226-7006	F2-1006	8-32 × 1/4	.96	.88	.83	.66
226-7008	F2-1008	8-32 × 1/2	1.07	1.00	.92	.80
226-7359	F2-1359	8-32 × 3/4	1.39	1.26	1.08	.90
226-7360	F2-1360	10-32 × 1/2	1.43	1.30	1.16	.95
226-7362	F2-1362	10-32 × 1	1.97	1.81	1.57	1.30

7

Internal Lockwashers

Steel, zinc plated.

Stock No.	Mfr.'s Type	I.D. In.	O.D. In.	PER PKG./100			
				1-49	50-99	100-249	250-499
226-7118	IH-1118	#2	3/16	.86	.77	.72	.66
226-7127	IH-1127	#4	1/4	.50	.47	.43	.40
226-7128	IH-1128	#6	9/32	.78	.65	.60	.56
226-7130	IH-1130	#10	3/8	.50	.46	.42	.34
226-7132	IH-1132	1/4	15/32	.80	.73	.66	.54
226-7146	IH-1146	3/8	11/16	1.73	1.62	1.29	1.16

Steel Hex Nuts

Steel, zinc plated.

Stock No.	Mfr.'s Type	Size In.	PER PKG./100			
			1-49	50-99	100-249	250-499
226-7363	NS-1363	2-56 × 3/16	1.13	1.04	.87	.70
226-7365	NS-1365	4-40 × 1/4	1.03	.94	.79	.64
226-7179	NS-1179	6-32 × 1/4	1.13	1.03	.85	.69
226-7180	NS-1180	6-32 × 5/16	1.18	1.07	.87	.71
226-7366	NS-1366	8-32 × 1/4	1.24	1.12	1.00	.81
226-7181	NS-1181	8-32 × 5/16	1.24	1.03	.91	.80
226-7367	NS-1367	10-32 × 3/8	1.24	1.12	1.00	.80
226-7368	NS-1368	1/4-20 × 7/16	1.70	1.55	1.31	1.05
226-7199	NS-1199	3/8-32 × 1/2 × 3/32	2.29	2.05	1.71	1.40
226-7196	NS-1196	15/32 × 9/16 × 5/64	2.29	2.08	1.89	1.51

Binding-Head Machine Screws

All have extra-wide shoulder for binding-in lugs on speaker terminals. Steel, zinc plated.

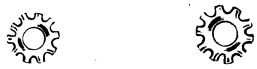
Stock No.	Mfr.'s Type	Size In.	PER PKG./100			
			1-49	50-99	100-249	250-499
226-7369	F2-1369	2-56 × 1/4	.88	.81	.68	.55
226-7370	F2-1370	2-56 × 1/2	.88	.81	.68	.55
226-7372	F2-1372	4-40 × 1/4	.78	.71	.61	.48
226-7373	F2-1373	4-40 × 1/2	.82	.75	.63	.52
226-7374	F2-1374	4-40 × 3/4	.88	.81	.74	.69
226-7375	F2-1375	6-32 × 3/16	.84	.77	.66	.54
226-7425	F2-1425	6-32 × 1/4	.84	.77	.66	.54
226-7426	F2-1426	6-32 × 3/8	.88	.81	.68	.55
226-7429	F2-1429	8-32 × 3/8	1.16	1.05	.89	.71
226-7430	F2-1430	8-32 × 1/2	1.22	1.11	.94	.76
226-7380	F2-1380	10-32 × 1/2	1.82	1.60	1.45	1.32

Cabinet Screws

Oval Head. Steel, zinc plated.

Stock No.	Mfr.'s Type	Size In.	PER PKG./100			
			1-49	50-99	100-249	250-499
226-7383	F2-1383	8-32 × 3/4	1.39	1.26	1.08	.87
226-7111	F2-1111	10-32 × 1/2	1.32	1.26	1.19	.94

External Lockwashers



Steel, zinc plated.

Stock No.	Mfr.'s Type	I.D. In.	O.D. In.	PER PKG./100			
				1-49	50-99	100-249	250-499
226-7139	EH-1139	#4	1/4	.46	.43	.37	.30
226-7141	EH-1141	#8	3/8	.53	.48	.46	.43
226-7142	EH-1142	#10	13/32	.63	.58	.55	.51
226-7144	EH-1144	1/4	1/2	1.24	1.13	.94	.77

Brass Hex Nuts

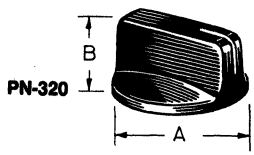
Brass, nickel plated.

Stock No.	Mfr.'s Type	Size In.	PER PKG./100			
			1-49	50-99	100-249	250-499
226-7168	NB-1168	4-40 × 1/4	1.24	1.13	.98	.78
226-7190	NB-1190	6-32 × 5/16	1.68	1.56	1.45	1.17
226-7192	NB-1192	8-32 × 5/16	1.72	1.60	1.47	1.20
226-7187	NB-1187	1/4-32 × 7/16	3.27	2.70	2.45	2.20

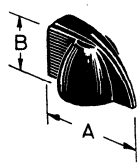
Pointer Bar Knobs

High quality knobs for use throughout the industry. Will meet most commercial and industrial applications. Both are quality plastic pointer bar knobs of sturdy, long-lasting phenolic plastic, with a high gloss finish. Standard set screw and brass insert construction.

Stock No.	Mfr.'s Type	Size—In.		Size-MM		EACH			
		A	B	A	B	1-99	100-999	1000-2499	2500-4999
260-3200	PN-320	11/16	5/8	31.75	15.88	.56	.53	.49	.46
260-0100	PN-1B	1 1/4	9/16	28.58	14.29	.45	.40	.37	.35



PN-320

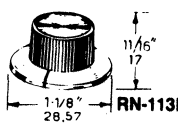


PN-1B

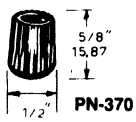
Plastic Knobs With and Without Aluminum Tops

Decorative polished aluminum plating on top and a molded Thermosetting black plastic body. Set screw and brass inset. **Type RN-113B** and **RN-117B** have an aluminum skirt, and **Type RN-112A** has a calibrated aluminum skirt.

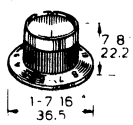
PN-27



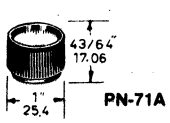
RN-113B



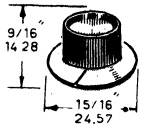
PN-370



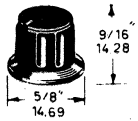
RN-112A



PN-71A



RN-117B



PN-38D

RN-71C

Stock No.	Mfr.'s Type	Shaft Length		Shaft Diameter		EACH			
		In.	mm	In.	mm	1-99	100-499	500-999	1000-2499
240-0027	PN-27	.86	22.0	1/4	6.35	.56	.47	.43	.39
240-0711	PN-71A	.65	16.7	1/4	6.35	.69	.59	.55	.50
240-1132	RN-113B	.65	16.7	1/4	6.35	.90	.76	.70	.65
240-1172	RN-117B	.56	14.3	1/4	6.35	.64	.54	.48	.43
260-0380	PN-370*	5/8	15.8	1/4	6.35	.52	.47	.43	.37
260-0384	PN-38D*	.56	14.3	1/4	6.35	.53	.48	.44	.38
260-1121	RN-112A	25/32	19.8	1/4	6.35	1.00	.84	.68	.59
260-0713	RN-71C	1/2	12.7	1/4	6.35	.95	.87	.81	.77

*Supplied with plastic top with white markings.

Quality Hardware for the Electronics Industry at Low Prices. Let Allied Supply All Your Hardware Requirements with Fine-Quality Products and Fast Service. Select the Hardware You Want From the Wide Assortment of Styles and Types Below. All Are Made From the Finest Materials and Machined to Close Tolerances. Sold in Packages of 100 (Solder Lugs, 1000).

Binding-Head Machine Screws

All have extra-wide shoulder for binding-in lugs on speaker terminals. Steel, zinc plated. 3 oz.

Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-7370	1370	2-56 × 1/2	4.44	4.11
920-7372	1372	4-40 × 1/4	5.26	4.86
920-7373	1373	4-40 × 1/2	5.56	5.14
920-7374	1374	4-40 × 3/4	6.06	5.60
920-7375	1375	6-32 × 3/16	4.69	4.34
920-7425	1425	6-32 × 1/4	4.75	4.39
920-7426	1426	6-32 × 3/8	5.04	4.66
920-7427	1427	6-32 × 1/2	5.33	4.93
920-7377	1377	6-32 × 3/4	6.06	5.60
920-7429	1429	8-32 × 3/8	5.05	4.67
920-7430	1430	8-32 × 1/2	5.59	5.17
920-7380	1380	10-32 × 1/2	5.56	5.14

Cabinet Screws

Oval head. Steel, nickel plated. 1 lb.

Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-7382	1382	6-32 × 3/4	6.06	5.60
920-7383	1383	8-32 × 3/4	7.32	6.77
920-7111	1111	10-32 × 1/2	7.70	7.11

Nylon Screws

Round Head. Natural color. 8 oz.

Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-2522	2522	4-40 × 1/2	11.19	10.17
920-2526	2526	6-32 × 5/8	11.19	10.17
920-2527	2527	6-32 × 3/4	11.19	10.17
920-2531	2531	8-32 × 1/2	11.19	10.17

Binding Head. Shpg. wt.: 8 oz.

920-2502	2502	4-40 × 1/2	11.19	10.17
920-2505	2505	6-32 × 1/2	11.19	10.17
920-2507	2507	6-32 × 3/4	11.19	10.17
920-2511	2511	8-32 × 1/2	11.19	10.17

Round Head Machine Screws

Steel, zinc plated. 3 ozs.

Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-7173	1173	2-56 × 1/4	4.20	3.88
920-7174	1174	2-56 × 1/2	4.44	4.11
920-7175	1175	2-56 × 3/4	5.25	4.85
920-7350	1350	4-40 × 1/4	4.18	3.86
920-7352	1352	4-40 × 1/2	4.83	4.46
920-7354	1354	4-40 × 3/4	5.33	4.93
920-7000	1000	6-32 × 1/4	3.60	3.32
920-7002	1002	6-32 × 1/2	4.10	3.79
920-7355	1355	6-32 × 5/8	4.44	4.11
920-7356	1356	6-32 × 3/4	4.83	4.46
920-7357	1357	6-32 × 1	4.96	4.59
920-7358	1358	6-32 × 2	9.20	8.50
920-7006	1006	8-32 × 1/4	5.05	4.67
920-7008	1008	8-32 × 1/2	5.56	5.14
920-7359	1359	8-32 × 3/4	6.26	5.79
920-7360	1360	10-32 × 1/2	6.64	6.13
920-7361	1361	10-32 × 3/4	7.35	6.79
920-7362	1362	10-32 × 1	7.95	7.34

Counter Sunk Washers

Brass, nickel plated. 2 oz.

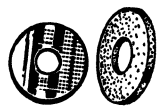
Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-1115	1115	#6	5.33	4.93
920-1116	1116	#8	5.49	5.08
920-1117	1117	#10	6.29	5.79

External Lockwashers

Steel, cadmium plated.

Stock No.	Mfr.'s Type	I.D. In.	O.D. In.	PER PKG./100	
				1-4	5-9
920-7139	1139	#4	1/4	2.60	2.40
920-7140	1140	#6	5/16	2.60	2.40
920-7141	1141	#8	3/8	2.60	2.40
920-7142	1142	#10	13/32	2.60	2.40

Flat Washers



Fiber. MIL-F-1148A. Grade CH. 1/16" thick. **Avg. weight:** 2 oz.

Stock No.	Mfr.'s Type	Size Inches*	PER PKG./100	
			1-4	5-9
920-2160	2160	.141 × .250	2.15	1.99
920-2161	2161	.115 × .250	2.15	1.99
920-2162	2162	.141 × .375	2.15	1.99
920-2163	2163	.169 × .375	2.42	2.23
920-2164	2164	.196 × .375	2.42	2.23
920-2165	2165	.253 × .500	2.42	2.23
920-2168	2168	.385 × .625	2.94	2.26
920-2169	2169	.378 × .750	4.54	4.18

Nylon: MIL-P-20693A. 1/16". **Type 2515:** .047". **Type 2517:** .062".

920-2672	2672	.141 × .375	3.16	2.92
920-2515	2515	.141 × .312	2.78	2.57
920-2673	2673	.170 × .375	3.16	2.92
920-2517	2517	.196 × .437	4.18	3.86
920-2675	2675	.253 × .500	6.39	5.90

*I.D. × O.D.

Steel, nickel plated. All 1/32" thk except *3/64".

Stock No.	Mfr.'s Type	I.D. In.	O.D. In.	PER PKG./100	
				1-4	5-9
920-1149	1149	#4	3/8	2.60	2.40
920-1150	1150	#6	3/8	2.60	2.40
920-1151	1151	#8	3/8	2.60	2.40
920-1152	1152	#10	3/8	2.60	2.40
920-1147	1147	1/4"	9/16	2.60	2.40
920-1148	1148	3/8"	5/8	4.33	4.00

Shoulder Washers

Fiber. MIL-F-1148A. Grade CH. **Shoulder height:** .031. 4 oz.

Stock No.	Mfr.'s Type	Size Inches*	PER PKG./100	
			1-4	5-9
920-2150	2150	.141 × .375	3.45	3.19
920-2153	2153	.141 × .312	3.45	3.19
920-2154	2154	.253 × .500	3.69	3.41
920-2155	2155	.167 × .375	3.45	3.19
920-2156	2156	.194 × .375	3.69	3.41
920-2157	2157	.378 × .750	6.39	5.90
920-2158	2158	.385 × .625	5.53	5.11
920-2660	2660	.141 × .375	5.06	4.68
920-2664	2664	.253 × .500	7.48	6.92
920-2666	2666	.194 × .375	5.06	4.68

*I.D. × O.D.

Internal Lockwashers

Steel, cadmium plated. 2 oz.

Stock No.	Mfr.'s Type	I.D. In.	O.D. In.	PER PKG./100	
				1-4	5-9
920-7118	1118	#2	3/16	2.60	2.40
920-7127	1127	#4	1/4	2.60	2.40
920-7128	1128	#6	9/32	2.60	2.40
920-7129	1129	#8	11/32	2.60	2.40
920-7130	1130	#10	3/8	2.60	2.40

Hex Nuts

Brass, nickel plated. 8 ozs.

Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-7168	1168	4-40 × 1/4	4.81	4.45
920-7189	1189	6-32 × 1/4	4.80	4.44
920-7192	1192	8-32 × 5/16	6.81	6.29
920-7193	1193	10-32 × 5/16	6.81	6.29
920-7187	1187	1/4-32 × 7/16	7.18	6.63

Nylon Hex Nuts

Natural color. MIL-P-20693A. (4 oz.)

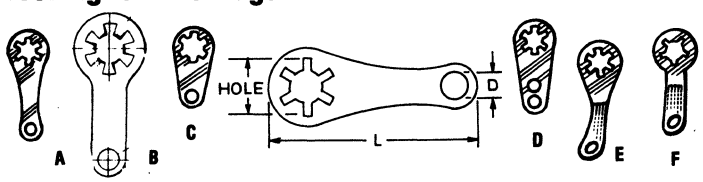
Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-2554	2554	4-40 × 1/4	18.72	16.64
920-2555	2555	6-32 × 5/16	18.72	16.64
920-2556	2556	8-32 × 11/32	18.72	16.64

Steel Hex Nuts

Cadmium-plated, except 1196 brass—nickel plated, 4 oz.

Stock No.	Mfr.'s Type	Size Inches	PER PKG./100	
			1-4	5-9
920-7363	1363	2-56 × 3/16	3.91	3.61
920-7365	1365	4-40 × 1/4	3.91	3.61
920-7179	1179	6-32 × 1/4	3.91	3.61
920-7180	1180	6-32 × 5/16	3.91	3.61
920-7366	1366	8-32 × 1/4	4.44	4.11
920-7181	1181	8-32 × 5/16	4.41	4.07
920-7367	1367	10-32 × 3/8	6.37	5.89
920-7199	1199	3/8-32 × 1/2	6.77	6.26
920-7196	1196	15/32-32 × 9/16	7.95	7.34

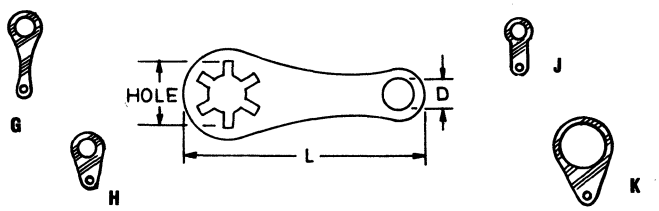
Locking Terminal Lugs



A wide selection of the most widely used locking terminal lug styles with hole sizes #4 through #10. Designed for broad usage in military, industrial and commercial applications. **Average weight per 1000:** 1 lb.

Stock No.	Mfr.'s Type	L In.	Thickness Inches	Hole	Fig.	PER PKG./1000		
						1-4	5-9	10-Up
920-1438	1410-4	7/8	.018	#4	A	42.70	38.10	30.50
920-1439	1410-6	7/8	.018	#6	A	42.70	38.10	30.50
920-1440	1410-8	7/8	.018	#8	A	42.70	38.10	30.50
920-1441	1410-10	57/64	.018	#10	A	42.70	38.10	30.50
920-1442	1410-14	13/16	.018	1/4"	A	42.70	38.10	30.50
920-1390	1411-6	47/64	.018	#6	B	42.70	38.10	30.50
920-1443	1412-4	5/8	.018	#4	C	42.70	38.10	30.50
920-1444	1412-6	5/8	.018	#6	C	42.70	38.10	30.50
920-1447	1413-6	25/32	.018	#6	D	42.70	38.10	30.50
920-1449	1414-6	13/16	.018	#6	E	42.70	38.10	30.50
920-1391	1414-8	13/16	.018	#8	E	42.70	38.10	30.50
920-1452	1415-6	41/64	.018	#6	F	42.70	38.10	30.50

Hot Tinned Solder Lugs



A complete assortment of the most widely used solder lug styles. **Average weight per 1000:** 1 lb.

Stock No.	Mfr.'s Type	L In.	Thickness Inches	Hole	Fig.	PER PKG./1000		
						1-4	5-9	10-Up
920-1453	1485-6	17/32	.012	#6	H	30.00	26.80	21.40
920-1392	1485-8	9/16	.010	#8	H	30.00	26.80	21.40
920-1454	1486-6	13/16	.012	#6	G	30.00	26.80	21.40
920-1393	1486-8	27/32	.010	#8	G	30.00	26.80	21.40
920-1455	1488-4	9/16	.012	#4	J	30.00	26.80	21.40
920-1456	1488-6	9/16	.012	#6	J	30.00	26.80	21.40
920-1464	1497†	7/8	.017	3/8"	K	30.00	26.80	21.40

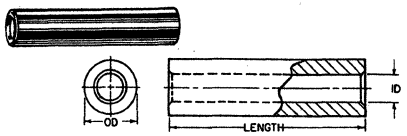
†Brass.

Thread Depth Chart #1

Maximum depths for brass and aluminum standoffs.

Thread Size	4-40	6-32	8-32	10-32
Thread Length "A"	1	1	1	1
Thread Length "B"	1/4	3/8	7/16	1/2

Brass Round Spacers

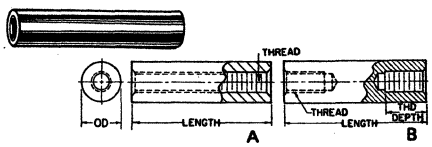


1/4" OD. #6 ID.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6000	2100	1/4	9.30	8.09	7.16
920-2101	2101	3/8	11.15	9.70	8.59
920-6001	2102	1/2	12.47	10.84	9.60
920-6002	2103	3/4	19.26	16.75	14.83
920-6003	2104	1	24.73	21.51	19.05
920-6004	2105*	1/4	9.30	8.09	7.16
920-6005	2106*	3/8	11.15	9.70	8.59
920-6006	2107*	1/2	12.47	10.84	9.60
920-6007	2108*	3/4	19.26	16.75	14.83
920-6008	2109*	1	24.73	21.51	19.05

* #8 ID.

Round Brass Standoffs

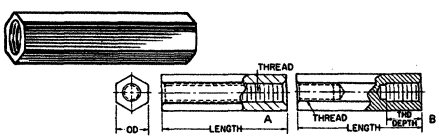


1/4" OD. Thread: See Thread Depth Chart #1.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-2270	2370*	1/4	10.62	9.24	8.18
920-2271	2371*	3/8	12.60	10.96	9.71
920-2272	2372*	1/2	16.48	14.33	12.69
920-2273	2373*	3/4	23.93	20.82	18.44
920-2274	2374*	1	27.94	24.30	21.52
920-2220	2120°	1/4	10.87	9.46	8.38
920-2221	2121°	3/8	12.60	10.96	9.71
920-2222	2122°	1/2	16.48	14.33	12.69
920-2223	2123°	3/4	23.93	20.82	18.44
920-2224	2124°	1	27.94	24.30	21.52
920-2227	2127†	1/8	16.48	14.33	12.69
920-2228	2128†	3/4	23.93	20.82	18.44
920-2229	2129†	1	27.94	24.30	21.52

* #4-40; ° #6-32; † #8-32.

Brass Hex Threaded Standoffs



1/4" OD. Thread: See Thread Depth Chart #1.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6009	2330*	1/4	11.55	10.05	8.90
920-6010	2231*	3/8	14.07	12.24	10.84
920-6011	2232*	1/2	16.48	14.33	12.69
920-6012	8835*	5/8	23.01	20.01	17.72
920-6013	2333*	3/4	25.66	22.32	19.77
920-6014	2334*	1	30.31	26.36	23.35
920-6015	2320°	1/4	11.55	10.05	8.90
920-6016	2321°	3/8	14.07	12.24	10.84
920-6017	2322°	1/2	16.48	14.33	12.69
920-6018	8836°	5/8	23.01	20.01	17.72
920-6019	2323°	3/4	25.66	22.32	19.77
920-6020	2324°	1	30.31	26.36	23.35
920-6021	2325†	1/4	11.55	10.05	8.90
920-6022	2326†	3/8	14.07	12.24	10.84
920-6023	2327†	1/2	16.48	14.33	12.69
920-6024	2328†	3/4	25.66	22.32	19.77
920-6025	2329†	1	30.31	26.36	23.35

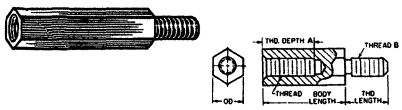
* #4-40; ° #6-32; †#8-32.

Thread Depth Chart #2

Thread specs for male/female hex threaded spacers.

Thread Size	Body Length Range	Thread Depth	Thread Length
4-40	1/4 to 3/8"	3/16"	3/16"
	1/2 to 3"	1/4"	
6-32	1/4 to 3/8"	3/16"	1/4"
	1/2 to 3"	3/8"	
8-32	1/4 to 3/8"	3/16"	3/8"
	1/2 to 3"	7/16"	

Brass Male/Female Standoffs



Hex threaded. See Thread Depth Chart #2.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6026	8216*	1/4	30.31	26.36	23.35
920-6027	8217*	3/8	30.84	26.82	23.75
920-6028	8218*	1/2	31.51	27.40	24.27
920-6029	8220*	3/4	32.85	28.57	25.31
920-6030	8222*	1	34.46	29.97	26.54
920-6031	8248°	1/4	30.31	26.36	23.35
920-6032	8250°	1/2	31.51	27.40	24.27
920-6033	8251°	5/8	32.19	28.00	24.80
920-6034	8252°	3/4	32.85	28.57	25.31
920-6035	8253°	7/8	33.52	29.15	25.82
920-6036	8254°	1	34.46	29.97	26.54
920-6037	8257°	1 3/8	39.73	34.56	30.61
920-6038	8258°	1 1/2	41.23	35.86	31.76
920-6039	8261°	2	44.31	38.54	34.13
920-6040	8282†	1/2	31.51	27.40	24.27
920-6041	8284†	3/4	32.85	28.57	25.31
920-6042	8286†	1	34.46	29.97	26.54
920-6043	8290†	1 1/2	41.23	35.86	31.76

* #4. ° #6.† #8.

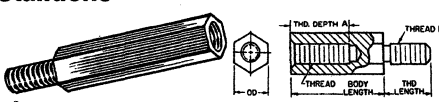
Aluminum Round Spacers

1/4" (Types 8541, 8543, 8547, 8549: 5/16") OD. #6 ID.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6044	8500	1/8	6.62	5.76	5.10
920-8401	8501	1/4	7.93	6.90	6.11
920-6045	8502	3/8	9.27	8.06	7.14
920-8403	8503	1/2	10.58	9.20	8.15
920-8405	8505	3/4	13.25	11.53	10.21
920-8407	8507	1	16.34	14.21	12.59
920-6046	8520*	1/8	6.62	5.76	5.10
920-6047	8521*	1/4	7.93	6.90	6.11
920-6048	8522*	3/8	9.27	8.06	7.14
920-6049	8523*	1/2	10.58	9.20	8.15
920-6050	8525*	3/4	13.25	11.43	10.21
920-6051	8527*	1	15.89	13.82	12.24
920-6161	8541°	1/4	10.87	9.46	8.38
920-6162	8543	1/2	13.57	11.81	10.46
920-6052	8547°	1	19.04	16.56	14.67
920-6053	8549°	1 1/2	21.74	18.91	16.75

* #8 ID. °#10 ID.

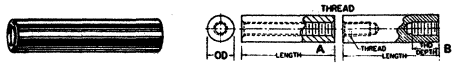
Aluminum Hex Male/Female Standoffs



1/4" OD. Thread 8001 Series: 6-32. 8002 Series: 8-32. See Thread Depth Chart #2.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6095	8001C	1/4	18.38	15.95	14.52
920-6096	8001G	1/2	19.22	16.68	15.18
920-6097	8001L	3/4	19.95	17.32	15.76
920-6098	8001Q	1	20.48	17.78	16.18
920-6099	8002C	1/4	18.90	16.41	14.93
920-6100	8002G	1/2	19.43	16.87	15.35
920-6101	8002L	3/4	20.27	17.59	16.01
920-6102	8002Q	1	21.00	18.23	16.59

Aluminum Round Threaded Standoffs

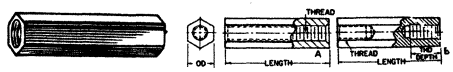


1/4"OD. Thread: See Thread Chart #1.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6054	8321*	1/4	9.27	8.06	7.14
920-6163	8322*	3/8	10.58	9.20	8.15
920-8323	8323*	1/2	11.90	10.35	9.17
920-6164	8324*	5/8	13.25	11.53	10.21
920-6055	8325*	3/4	14.57	12.67	11.22
920-8327	8327*	1/4	18.54	16.12	14.28
920-6056	8328*	1 1/4	21.19	18.43	16.32
920-8329	8329*	1 1/2	22.51	19.58	17.34
920-6057	8341°	1/4	9.27	8.06	7.14
920-6058	8342°	3/8	10.58	9.20	8.15
920-8343	8343°	1/2	11.90	10.35	9.17
920-6059	8344°	5/8	13.25	11.53	10.21
920-8345	8345°	3/4	14.57	12.67	11.22
920-8347	8347°	1	18.54	16.12	14.28
920-6060	8348°	1 1/4	21.82	18.98	16.81
920-8349	8349°	1 1/2	23.17	20.15	17.85
920-6061	8350°	1 3/4	24.52	21.33	18.89
920-8351	8351°	2	25.87	22.50	19.93
920-6062	8353°	3	49.11	42.71	37.83
920-6063	8362†	3/8	10.58	9.20	8.15
920-6165	8368†	1/2	11.90	10.35	9.17
920-6064	8365†	3/4	13.24	11.53	10.21
920-6065	8367†	1	18.54	16.12	14.28
920-6066	8369†	1 1/2	23.17	20.15	17.85
920-6067	8371†	2	25.87	22.50	19.93

*#4-40; °#6-32; †#8-32.

Aluminum Hex Standoffs



1/4" (920-6092, 920-6093, 920-6094: 5/16") OD. Thread: #4-40; See Thread Depth Chart #1.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6068	8401	1/4	10.58	9.20	8.15
920-6069	8402	3/8	11.90	10.35	9.17
920-6070	8403	1/2	13.25	11.53	10.21
920-6071	8404	5/8	14.57	12.67	11.22
920-6072	8405	3/4	15.89	13.82	12.24
920-6073	8406	7/8	17.21	14.97	13.26
920-6074	8407	1	19.04	16.56	14.67
920-6075	8409	1 1/2	40.48	35.21	31.19
920-6076	8421*	1/4	10.58	9.20	8.15
920-6077	8422*	3/8	11.90	10.35	9.17
920-6078	8423*	1/2	13.25	11.53	10.21
920-6079	8424*	5/8	14.57	12.67	11.22
920-6080	8425*	3/4	15.89	13.82	12.24
920-6081	8426*	7/8	17.21	14.97	13.26
920-6082	8427*	1	18.54	16.12	14.28
920-6083	8429*	1 1/2	40.86	35.54	31.48
920-6084	8431*	2	44.98	39.12	34.65
920-6085	8433*	3	50.16	43.63	38.64
920-6086	8434*	3 1/2	58.63	50.99	45.16
920-6166	8441°	1/4	10.58	9.20	8.15
920-6087	8442°	3/8	11.90	10.35	9.17
920-6088	8443°	1/2	13.25	11.53	10.21
920-6089	8444°	5/8	14.57	12.67	11.22
920-6090	8445°	3/4	15.89	13.82	12.24
920-6091	8447°	1	18.54	16.12	14.28
920-6092	8463†	1/2	17.21	14.97	13.26
920-6093	8465†	3/4	20.99	18.26	16.16
920-6094	8467†	1	23.24	20.21	17.90

*#6-32; °#8-32; †#10-32.

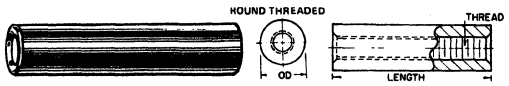
Nylon Round Spacers

1/4"OD. #4 ID.

Stock No.	Mfr.'s Type	Length (In.)	PER PK./100		
			1-4	5-9	10-49
920-6103	4000	1/8	4.45	3.87	3.43
920-6104	4006	1/4	5.27	4.58	4.06
920-6105	5018	1/2	7.99	6.95	6.15
920-6106	4001*	1/8	4.45	3.87	3.43
920-6107	4007*	1/4	5.27	4.58	4.06
920-6108	4019*	1/2	7.99	6.95	6.15
920-6109	4002°	1/8	4.45	3.87	4.43
920-6110	4008°	1/4	5.27	4.58	4.06
920-6111	4020°	1/2	7.99	6.95	6.15

*#6 ID. °#8 ID.

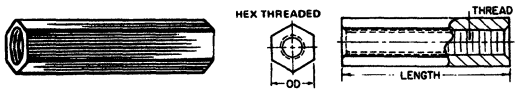
Nylon Round Threaded Standoff



1/4" O.D. 1/4" O.D.

Stock No.	Mfr.'s Type	Thread Size	Length	PER PK./100		
				1-4	5-9	10-49
920-6112	4056	4-40	1/2"	22.16	19.28	17.06
920-6113	4059	4-40	3/4"	23.26	20.24	17.91
920-6114	4062	4-40	1"	26.60	23.14	20.48
920-6115	4051	6-32	1/4"	17.48	15.21	13.46
920-6116	4054	6-32	3/8"	19.94	17.35	15.35
920-6117	4057	6-32	1/2"	22.16	19.28	17.06
920-6118	4060	6-32	3/4"	23.26	20.24	17.91
920-6119	4063	6-32	1"	26.60	23.14	20.48

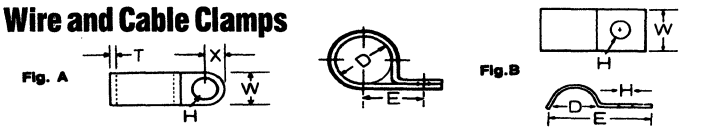
Nylon Hex Threaded Standoffs



1/4" O.D. 1/4" O.D.

Stock No.	Mfr.'s Type	Thread Size	Length	PER PK./100		
				1-4	5-9	10-49
920-6120	4300	4-40	1/4"	19.01	16.54	14.64
920-6121	4306	4-40	1/2"	20.23	17.60	15.58
920-6122	4309	4-40	3/4"	24.28	21.12	18.70
920-6123	4301	6-32	1/4"	19.01	16.54	14.64
920-6124	4307	6-32	1/2"	20.23	17.60	15.58
920-6125	4310	6-32	3/4"	24.28	21.12	18.70
920-6126	4316	6-32	1"	26.25	22.84	20.21

Wire and Cable Clamps

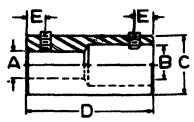


Mounting Hole: 13/64.

Stock No.	Mfr.'s Type	Material	Fig.	Dimensions (In)			PER PK./100		
				E	T	W	1-4	5-9	10-49
920-6141	8910	P	A	.360	.060	1/2	3.10	2.85	2.48
920-1471	1471	S	B	.625	—	3/8	7.69	6.59	5.49
920-8940	8940	N	A	.360	.050	1/2	4.46	4.11	3.58
920-6142	8955	N	A	.325	.050	3/8	3.70	3.41	2.96
920-8941	8941	N	A	.423	.050	1/2	4.69	4.32	3.76
920-6143	8956	N	A	.378	.050	3/8	3.87	3.56	3.09
920-6144	8912*	P	A	.457	.060	1/2	3.70	3.41	2.96
920-1470	1470	S	B	.750	—	3/8	6.41	6.00	5.13
920-8942	8942	N	A	.457	.050	1/2	4.88	4.49	3.91
920-6145	8957	N	A	.409	.050	3/8	4.14	3.81	3.31
920-8943	8943	N	A	.495	.050	1/2	4.88	4.49	3.91
920-8944	8944	N	A	.529	.050	1/2	5.28	4.86	4.23
920-6146	8959	N	A	.471	.050	3/8	4.46	4.11	3.58
920-8945	8945	N	A	.560	.050	1/2	5.46	5.02	4.37
920-8916	8916	P	A	.592	.060	1/2	4.46	4.11	3.58
920-8946	8946	N	A	.592	. 50	1/2	5.42	4.99	4.34

Note: N = Nylon; Black. S = Steel; Cad. finish. P = Polypropylene; Natural * Mounting Hole #8

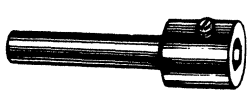
Shaft Couplers



Brass Coupler — Nickel-Plated

Stock No.	Mfr.'s Type	A I.D.	B I.D.	C O.D.	D Length	No. of Screws	E Screw Loc.	PER PK./ 5		
								1-9	10-24	25-99
920-0121	120	1/4	1/4	7/16	3/4	2	3/16	6.25	5.32	4.71
920-0139	138	1/4	1/4	7/16	3/4	4	3/16	10.03	8.56	7.59

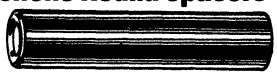
Flexible Shafts



Material: Phosphor bronze; non-rusting, non-magnetic shaft. Brass, nickel-plated hubs and couplers. **Fittings:** Hub end fits onto knob or coupler; coupler end attaches with set screws to shaft. Bearing types have coupler at shaft end; bearing and shaft at panel end. 1/4" hubs. **Application:** For remote operation of variable capacitors, potentiometers, and other controls. Turns freely at shaft; bends to 90° without backlash.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-24	25-99
920-0151	151	3"	4.44	3.79	3.34
920-0152	152	6"	5.04	4.30	3.80

Phenolic Round Spacers

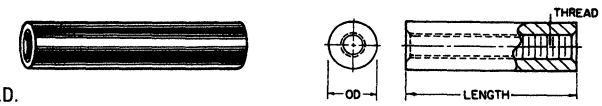


1/4" O.D.

Stock No.	Mfr.'s Type	Length	Screw Size	PER PK./100		
				1-4	5-9	10-49
920-8140	8140	1/8"	4	6.30	5.48	4.85
920-8146	8146	1/4"	4	7.28	6.33	5.61
920-8152	8152	3/8"	4	9.00	7.83	6.93
920-8158	8158	1/2"	4	10.86	9.45	8.36
920-8170	8170	3/4"	4	14.47	12.59	11.14
920-8182	8182	1"	4	18.82	16.37	14.49
920-8141	8141	1/8"	6	6.30	5.48	4.85
920-8147	8147	1/4"	6	7.28	6.33	5.61
920-8153	8153	3/8"	6	9.00	7.83	6.93
920-8159	8159	1/2"	6	10.86	9.45	8.36
920-8171	8171	3/4"	6	14.47	12.59	11.14
920-8183	8183	1"	6	18.82	16.37	14.49
920-6127	8042C*	1/4"	8	28.35	25.06	21.94
920-6128	8042G*	1/2"	8	45.15	39.91	34.95
920-6129	8042L*	3/4"	8	50.40	44.55	39.01
920-6130	8042Q*	1"	8	64.05	56.62	49.57

* 5/16" O.D.

Phenolic Round Thread Standoffs



1/4" O.D.

Stock No.	Mfr.'s Type	Thread Size	Length	PER PK./100		
				1-4	5-9	10-49
920-6131	8660	4-40	1/4"	13.53	11.77	10.42
920-6132	8672	4-40	1/2"	13.53	11.77	10.42
920-6133	8661	6-32	1/4"	13.53	11.77	10.42
920-6134	8673	6-32	1/2"	18.47	16.07	14.22
920-6135	8685	6-32	3/4"	23.40	20.36	18.02
920-6136	8697	6-32	1"	28.34	24.66	21.82
920-6137	8659V	6-32	1 5/8"	102.20	90.34	79.10
920-6138	8659Y	6-32	2"	116.41	102.91	90.10
920-6167	8046C*	8-32	1/4"	58.80	51.98	45.51
920-6168	8046G*	8-32	1/2"	69.30	61.26	53.64
920-6139	8046L*	8-32	3/4"	71.40	63.12	55.26
920-6140	8046Q*	8-32	1"	82.95	73.33	64.20

* 5/16" O.D.

Fahnestock Clips

Nickel-Plated Spring Brass. **Mounting Hole:** #6

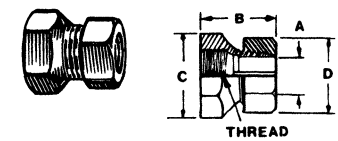
Stock No.	Mfr.'s Type	Fig.	Width	Length	PER PK./100		
					1-4	5-9	10-49
920-5330	533	A	5/16"	25/32"	7.98	6.99	5.99
920-5340	534	A	3/8"	1"	14.96	12.83	10.69
920-6147	535	B	15/16"	1 45/32"	47.28	41.65	34.89

Shaft Extenders

For slotted screws, size 6-32. **Material:** Brass. **Shaft Diameter:** 1/4". **Body Diameter:** 1/2". **Body Length:** 1/2".

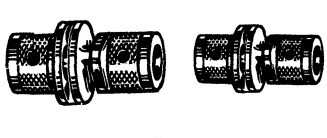
Stock No.	Mfr.'s Type	Shaft Length	EACH		
			1-9	10-24	25-99
920-0160	160	5/8"	1.54	1.31	1.16
920-0150	150	1 1/4"	2.01	1.71	1.52

Shaft Locks



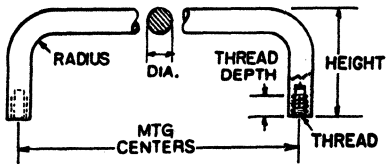
Brass, nickel-plated. Brushing mount. For shaft size 1/4. **Thread Size:** 3/8-32
920-1810. Type 181.
1-9 ..... **EACH 1.55**
10-24 ..... **EACH 1.32**
25-99 ..... **EACH 1.16**
A = .253, B = 1/2, C = 1/2, D = 7/16.

Flexible Shaft Coupling



Molded hi-temp nylon, molded-in brass bushings. With 2 socket-head set screws. Couples two 1/4" shafts.
920-6169. Type 164. **1-9** ..... **EACH 5.34**
10-24 ..... **EACH 4.55**
25-99 ..... **EACH 4.02**

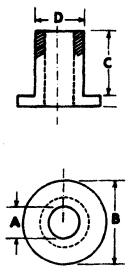
Instrument Handles



Internal thread; 1/4" diameter, 1 1/2" height, 1/4" radius: 1620,1624 (chrome plated); 1618 (round aluminum, satin finish); 1619,1627 (round aluminum, black anodized). Internal thread; 5/16" diameter, 1 1/2" height, 5/16" radius: 2057 (chrome plated). 5/8" diameter, 1 3/4" height, 1/2" radius: 1654 (oval aluminum, black anodized).

Stock No.	Mfr.'s Type	Mtg. Ctr.	Thread and Depth	EACH 1-9	10-24	25-99
920-6153	1620	3	8-32 x 9/16	4.59	4.10	3.28
920-6154	1624	4	8-32 x 9/16	5.10	4.56	3.65
920-6155	1618	2	8-32 x 9/16	2.80	2.50	1.99
920-6156	1619	2	8-32 x 9/16	3.05	2.72	2.17
920-6157	1627	4	8-32 x 9/16	4.07	3.63	2.91
920-6158	1654	6 7/16	10-32 x 9/16	11.50	10.27	8.21
920-0179	2057	3	10-32 x 9/16	4.97	4.44	3.55

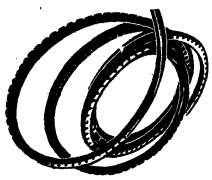
Nylon Spacer Bushings

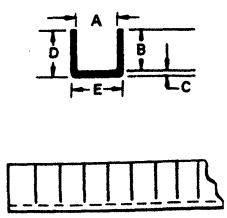


Tough spacer bushings are molded of corrosion-resistant nylon. Non-conductive; ideal for use where insulation of electronic components is essential. Meet MIL-P-20683A specifications. Can be used for mounting variable capacitors above the chassis, for mounting sub-panels, etc. **Av. shpg. wt.:** 8 oz.

Stock No.	Mfr.'s Type	I.D. (A)	B In.	C In.	D In.	E In.	PER PK./100 1-4	5-9	10-49
920-2534	2534	#4(.125)	.235	3/64	1/4	.140	3.54	3.08	2.73
920-2535	2535	#6(.140)	.290	3/64	1/4	.172	4.40	3.83	3.39
920-2536	2536	#8(.171)	.344	1/16	3/8	.203	4.90	4.26	3.77
920-2537	2537	#10(.203)	.399	1/16	3/8	.266	5.02	4.37	3.87
920-2538	2538	1/4(.250)	.513	1/16	3/8	.312	6.48	5.64	4.99

Extruded "Caterpillar" Grommets





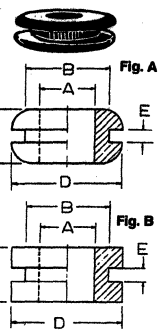
Dimensions

No.	A	B	C	D	E
2692	.052	.150	.040	.190	.125
2693	.085	.155	.045	.200	.162
2694	.125	.175	.045	.220	.206

Shape your own grommets to fit any size or shape opening. Made of non-conductive Black Nylon, Type 6/6, fungus resistant to conform to MIL-M-20693A, Type 1. Available in 25 Ft. rolls for panel thickness .052 to .125 STD. PKG. 1

Stock No.	Mfr.'s Type	EACH 1-9	10-24	25-99	100-499
920-2692	2692	18.78	15.65	14.56	13.15
920-2693	2693	21.60	17.99	16.74	15.12
920-2694	2694	22.54	18.78	17.47	15.78

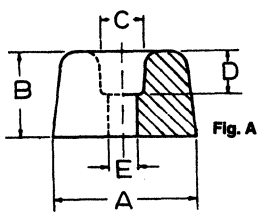
Grommets

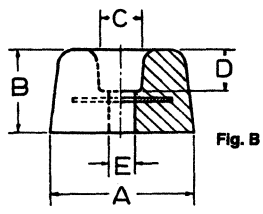


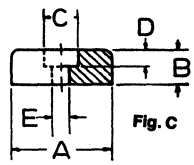
Materials: Rubber (Black Buna-S synthetic rubber (SBR), approximately 60 durometer); Vinyl (Polyvinyl chloride (PVC), black).

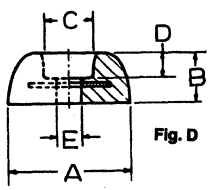
Stock No.	Mfr.'s Type	Fig.	Inside Dia. "A"	Mtg. Hole "B"	Chassis Thkns. "C"	Outside Dia. "D"	Thickness "E"	PER PK./100 1-4	5-9	10-49
920-2185	2185	A	1/8	3/16	1/16	5/16	3/16	5.34	4.75	3.96
920-6148	91114	A	1/8	1/4	1/16	11/32	3/16	3.56	3.17	2.64
920-2172	2172	A	3/16	1/4	1/16	7/16	3/16	4.98	4.43	3.69
920-2170	2170	A	1/4	3/8	1/16	5/8	1/4	5.79	5.15	4.29
920-6149	91122	A	1/4	11/32	1/32	1/2	5/32	6.96	6.19	5.16
920-6150	91102	A	9/32	13/32	5/32	5/8	3/8	10.70	9.51	7.93
920-6151	91123	A	9/32	1/2	1/4	11/16	7/16	17.87	15.88	13.23
920-9014	91116	B	5/16	1/2	1/8	3/4	3/8	14.99	13.32	11.10
920-2174	2174	A	5/16	7/16	1/16	5/8	1/4	5.34	4.75	3.96
920-6152	91117	A	5/16	7/16	1/8	19/32	3/8	14.28	12.69	10.58
920-2175	2175	A	3/8	1/2	1/16	21/32	1/4	5.79	5.15	4.29
920-2177	2177	A	7/16	9/16	1/16	3/4	1/4	5.79	5.15	4.29
920-2186	2186	A	1/2	3/4	1/16	1 1/16	5/16	13.22	11.75	9.79
920-2187	2187	A	5/8	7/8	1/16	1 1/8	5/16	14.09	12.53	10.44

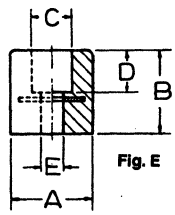
Recessed Bumpers With Clearance Hole

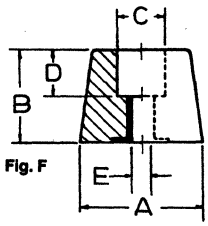










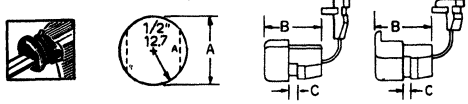


Materials: Rubber (Black Buna-S synthetic rubber (SBR), approximately 60 durometer); Vinyl (Polyvinyl chloride (PVC), black).
Accessories: Molded-in metal washers are steel. Vinyl chassis feet have brass eyelets in hole.

Stock No.	Mfr.'s Type	Fig.	Material and Accessories	O.D. "A"	Height "B"	Recess Dia. "C"	Recess Depth "D"	Screw Clr. I.D. "E"	PER PK./100 1-4	5-9	10-49
920-2192	2192	A	Rubber	1/2	1/4	1/4	1/8	1/8	6.24	5.54	4.62
920-6159	2462	B	Rubber-Washer	17/32	1/4	1/4	5/32	1/8	14.99	13.32	11.10
920-2193	2193	C	Rubber	5/8	5/16	1/4	3/16	1/8	14.28	12.69	10.58
920-2194	2194	C	Rubber	3/4	3/8	9/32	3/16	1/8	13.12	11.66	9.71
920-9026	2182	F	Vinyl-Eyelet	3/4	7/16	1/4	1/4	5/32	21.16	18.80	15.67
920-6160	2465	E	Rubber-Washer	3/4	9/16	3/8	5/16	3/16	27.19	24.16	20.13
920-2135	2135	D	Rubber-Washer	15/16	3/8	3/8	3/16	3/16	18.75	16.67	13.89
920-9028	2183	F	Vinyl-Eyelet	15/16	5/8	3/8	5/16	3/16	20.07	17.84	14.86

Nylon Strain Reliefs

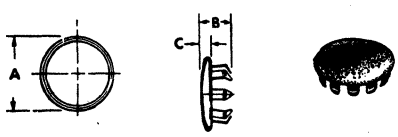
Straight thru style nylon strain reliefs. Rugged one-piece construction absorbs pull and twist. Wire full anchored and insulated at chassis entrance.



A = Chassis Hole
B = Length
C = Max. Chassis Thickness

Stock No.	Mfr.'s Type	Wire Type	Approx Wire Size	A	B	C	PER PK./100 1-4	5-9	10-49
920-0938	938	SPT-1	.12 x .22	.437"	.410"	.062"	8.70	7.62	6.53
920-0939	939	SV,SVT,HPD	.250 – .290	.500"	.438"	.100"	8.70	7.62	6.53
920-0822	822	SPT-2,HPN	.15 x .40	.500"	.406"	.062"	12.19	11.08	8.86
920-0823	823	SJ,SJT,SJO	.330 – .360	.625"	.580"	.062"	19.57	17.40	14.14

Snap Button Hole Plugs



Metal plugs for covering punched or drilled holes. Spring action prongs are nickel plated steel; give a firm grip. **Av. shpg. wt.:** 8 oz.

Stock No.	Mfr.'s Type	Hole In.	A In.	B In.	C In.	PER PK./100 1-4	5-9	10-49
920-0650	650	1/4	13/32	15/64	1/16	12.66	11.51	9.21
920-0651	651	5/16	7/16	1/4	1/16	12.66	11.51	9.21
920-0652	652	3/8	1/2	15/64	1/16	12.66	11.51	9.21
920-0653	653	1/2	21/32	9/32	5/64	15.25	13.07	10.89
920-0654	654	5/8	13/16	19/64	5/64	16.62	14.40	12.19
920-0655	655	3/4	59/64	19/64	5/64	16.62	14.40	12.19
920-0608	608	7/8	1 1/16	19/64	1/16	19.26	17.12	13.91
920-0612	612	1	19/64	21/64	3/32	24.31	21.01	17.68
920-0656	656*	1	15/32	19/64	5/64	121.41	107.89	89.91

*Type 656 is vented.

All GC Aerosols, except as noted, contain no ecology-damaging fluorocarbons.

Static-Free Chemicals

Contains a new generation of high purity chemicals that feature Zero Electrostatic Properties.

Static-Free Airjet

Static-free pressurized cleaner for blowing away dust accumulations. Not a solvent.
796-4200. 10-7055. 14 Avdp Oz. ..... **EACH 5.30**
796-4205. 10-7059. 22 Avdp Oz. ..... **EACH 6.12**

Static-Free Component Freeze

Static-Free Freeze — leaves no residue — safe for use in most circuits. Cools — 60.°
796-4210. 10-7007. 14 Avdp Oz. ..... **EACH 4.14**
796-4215. 10-7011. 22 Avdp Oz. ..... **EACH 5.72**

Static-Free Static Null

Neutralizes and prevents static electricity from reforming. May be used on circuit boards, printers, paper, carpeting, clothing etc. Non-greasy, non-flammable and non-toxic.
796-4220. 10-7180. 14 Avdp Oz. ..... **EACH 5.32**
796-4225. 10-7187. 22 Avdp Oz. ..... **EACH 7.70**

Static-Free Spra-Kleen

Static-free cleaner and lubricant. Dissolves contaminants and prevents oxidation.
796-4230. 10-7666. 12 Avdp Oz. ..... **EACH 3.50**
796-4235. 10-7669. 18 Avdp Oz. ..... **EACH 4.80**

Static-Free Contact Kleen (w/Anti-Oxidant)

Static-free cleaner with special blend of two synthetic anti-oxidants to clean and protect contacts. Will not cause drifting of R.F. signals.
796-4240. 10-7021. 12 Avdp Oz. ..... **EACH 4.10**
796-4245. 10-7027. 18 Avdp Oz. ..... **EACH 4.70**

Static-Free Contact Kleen NRF

Static-free high purity solvents attack contaminants quickly — will not harm plastics — leave no residue.
796-4250. 10-7031. 14 Avdp Oz. ..... **EACH 4.14**
796-4255. 10-7037. 22 Avdp Oz. ..... **EACH 4.80**

Static-Free Freon TF Cleaner

Static-free fast-drying solvent, removes lubricants, dirt and oil deposits. Leaves no residue, safe on plastics.
796-4260. 10-7100. 14 Avdp Oz. ..... **EACH 4.34**
796-4265. 10-7107. 22 Avdp Oz. ..... **EACH 6.18**

Static-Free Flux Remover

Static-free defluxers for use in production or repairs.
Moderate Strength Flux Remover
796-4270. 10-7507. 14 Avdp Oz. ..... **EACH 5.04**
796-4275. 10-7511. 22 Avdp Oz. ..... **EACH 6.64**

High Strength Flux Remover

796-4280. 10-7517. 12 Avdp Oz. ..... **EACH 4.18**
796-4285. 10-7521. 18 Avdp Oz. ..... **EACH 5.86**

Cements

Service Cement

Quick drying and waterproof clear cement. Use on porous or semi-porous materials such as metals, plastics, etc.
796-4320. 10-302. Btl. 2 Fl. Oz. ..... **EACH 2.07**
796-4325. 10-304. Btl. 4 Fl. Oz. ..... **EACH 2.85**

Rubber to Metal Cement

Bonds synthetic rubber, metal, wood, and plastic. Drys quickly and produces a lasting bond.
796-4330. 10-352. 2 Fl. Oz. ..... **EACH 2.20**

GC Bond

Thermoplastic cement. Produces a waterproof, resilient, and long-lasting flexible bond on metals and glass. Dries 15 to 30 minutes.
796-3640. 10-4302. 2 FL. Oz. ..... **EACH 2.58**

Type 10-347 Epoxy Glue. Specified by N.A.S.A. for use in its space program. Super grip, fast set. A drop holds tons. 2 oz. (57gms.) tubes of resin and hardener.
796-2098 ..... **EACH 8.50**

Type 10-4002 Acrylic Cement. Specially formulated to mend acrylic materials such as lucite and plexiglass. Forms an inseparable, usually invisible joint. 2 oz. (57gms.) bottle.
796-2060 ..... **EACH 2.02**

Adhesives

5-Minute Epoxy Cement

Clear, fast-curing two-part Epoxy. Handle in 8-12 minutes.
796-4290. 10-114. 2 Fl. Oz. Tubes. ..... **EACH 3.00**

Permabond 910

Methyl Cyanoacrylate. Bonds in seconds, metals, porcelain, plastics, glass, rubber, hardwood and other non-porous materials.
796-4295. 10-128. 1 Fl. Oz. ..... **EACH 12.80**

Gelweld

Gel Cyanoacrylate Adhesive
Alpha Cyanoacrylate super strength adhesive in a "gel" form-will not drip or run. Fills gaps well.
796-4217. 10-117. .101 Fl. Oz. Tube ..... **EACH 2.57**

GR-R-RIP

World famous alpha cyanoacrylate rapid bonding adhesive. Bond strength not affected by temperatures from -112°F to +212°F (-80°C to +100°C).
796-4219. 10-115. .075 Fl. Oz. Tube ..... **EACH 2.57**

Silicone Rubber Adhesive Sealant

Excellent elastomer cures to a tough rubbery solid. Resists weathering, vibration and exposure to oil, moisture, ozone and temperatures from sub-zero to 450°F. Cures in 20 minutes.
796-4305. 10-150. 3 Fl. Oz. Tube Clear ..... **EACH 4.22**

Permabond

Up to two tons holding power in seconds. Ready to use — no mixing, no clamping, no mess.
796-2010. Type 10-120. .105 oz. (3 gms.) tube ..... **EACH 2.57**
796-2012. Type 10-122. 1/3 oz. (9.4 gms.) ..... **EACH 6.20**
796-2013. Type 10-123. 1 oz. (28 gms.) ..... **EACH 11.32**

Type 10-324 Plastic Cement. Perfect for all plastics; acetates, butyrates, vinyls, phenolics. 2 oz. (57 gms.).
796-3630 ..... **EACH 2.20**

Type 10-140 Perma-Loc Wicking Adhesive. For controlled bonding of metal parts. Prevents loosening of screws, nuts, and bolts. Wicks down into assembled parts. Easy to use, no mixing, no mess. Sets in seconds. 1/5 oz.
796-2014 ..... **EACH 3.23**

Coatings

Q-Dope

Polystyrene, fast-drying. Leaves a clear protective coating.
796-4335. 10-3702. 2 Fl. Oz. Btl. ..... **EACH 2.02**
796-4340. 10-3704. 4 Fl. Oz. Btl. ..... **EACH 2.38**

Corona Dope

Quick-drying black lacquer of cellulosic resin. Excellent dielectric, arc and corona resisting properties and protects against moisture, atmospheric effects.
796-4345. 10-4702. 2 Fl. Oz. Btl. ..... **EACH 2.58**

Red X Corona Dope

Thixotropic polyester base red enamel. Excellent adhesion. Is oil and waterproof. Insulation of high voltage components especially in high humidity areas.
796-2068. 10-5002. 2 Fl. Oz. ..... **EACH 2.48**
796-3645. 10-5012. 12 3/4 Avdp Oz. ..... **EACH 5.66**

Red Glpt. Insulating Varnish

Alkyd based resistant to environmental extremes, including oils, water, acids and alkalis. Retains high dielectric strength even if wet.
796-3670. 10-9002. 2 Fl. Oz. ..... **EACH 2.72**

Printed Circuit Soldering Chemicals.

Type 22-201 Silver Print. Draw or repair printed circuits. Made of pure silver. Air drying. 1/2 troy oz. bottle.
796-2035 ..... **EACH 24.50**

Type 10-8665 Koloid-Clear Acrylic Plastic. Acrylic, ester resin base. 15 oz. (422gms.) aerosol.
796-8665 ..... **EACH 4.22**

All GC Aerosols, except as noted, contains no ecology-damaging Fluorocarbons.

Contact/Tuner Cleaners

Jif Action

General purpose silicone contact cleaner. Will not oxidize. Long lasting. Safe on any material including plastics. AEROSOL.
796-8670. 10-634. 6 Avdp Oz.....**EACH 2.18**

Spra-Kleen

Blend of solvents to eliminate noise caused by deposits of dust, dirt and corrosion. Cleans and lubricates. AEROSOL.
796-8666. 10-8666. 6 Avdp Oz.....**EACH 2.60**
796-8676. 10-8666-16 16 Avdp Oz.....**EACH 4.90**

Tuner Bath

A non-residue cleaner/degreaser. Eliminates dust, grime and foreign matter from tuners. Safe for all materials including plastics. Will not detune. AEROSOL.
796-4350. 10-901. 16 Avdp Oz.....**EACH 5.60**
796-4355. 10-903. 24 Avdp Oz.....**EACH 6.70**

Dry-Kleen

Excellent degreaser and solvent. For grease, dirt, ink and other contaminants.
796-8669. 10-8669. 16 Avdp Oz.....**EACH 4.50**

7

Type 10-8682 Relay-Kleen. Cleans relays, contacts, and other electronic devices. Excellent degreaser, general solvent for gummy deposits on all electrical gear. 6 oz. (170gms). AEROSOL.
796-8682.....**EACH 3.42**
796-8683. 10-8682-16. 16 oz.(450gms.). AEROSOL .**EACH 5.60**

Lubricants

Type 10-2302 Lubriplate. Grease type super lubricant reduces friction loss, prevents rust and corrosion. 1¾ oz. (50gms) tube.
796-2040.....**EACH 2.37**

Type 10-700 Formula 70. Formulated to penetrate rust and "free" frozen parts. Hundreds of applications. 16 oz. (450gms.). AEROSOL.
796-3605.....**EACH 3.30**

Thinners

Polystyrene Q-Dope Thinner. Thins polystyrene base dopes and cements.
796-4360. 10-4104. 4 Fl. Oz. Btl.....**EACH 2.07**

Cooling Sprays

Zero Mist Ckt Cooler

Longer cooling time (20-30 seconds) for use on heavy insulation penetration. Cools to -40°C(-40°F). AEROSOL.
796-8667. 10-8667. 16 Avdp Oz.....**EACH 3.90**

Extra Dry Super Freeze Mist

Extended cool time (20-30 seconds). For heavy insulation components. Non-toxic, odor free. Leaves no residue. Cools -60°C(76°F). Formulation 100% refrigerant 12. With 3-way flow valve. AEROSOL.
796-3610. 10-702. 15 Avdp Oz.....**EACH 3.90**

Type 10-8668 Super Freeze Mist. Cools circuits instantly. Pinpoints bad capacitors, transistors, oxidized joints. Non-toxic, non-flammable. Leaves no liquid residue. 6 oz. (170gms.). AEROSOL.
796-8668.....**EACH 2.44**

Cleaning Compounds

Chloro-Kleen

Dry cleaner. Leaves no residue. Harmless to all metals and most plastics. Also acts as a degreaser.
796-3680. 10-2136. 16 Fl. Oz.....**EACH 4.33**
796-4365. 10-2139. 1 Gal.....**EACH 19.22**

Clean Sweep

Compressed air. Removes dirt, dust, and grit that normally cannot be reached. Non-toxic, odor-free, leaves no residue. With 3-way flow valve. AEROSOL.
796-4370. 10-165. 15 Avdp Oz.....**EACH 5.50**

Freon TF Solvent

Fast-drying pure solvent. Removes dirt and oxide in seconds even when equipment is operating. Cleans plastics, elastomers film without damage. Excellent dielectric properties and resistance to electrical currents. AEROSOL.
796-3600. 10-620. 16 Avdp Oz.....**EACH 6.18**

Special Chemicals

EMI-RFI Shield

An extremely conductive graphite coating. Adheres to glass, plastics for protecting circuitry from external interference or containing low level signals.
796-4375. 10-4807. 12 Avdp Oz.....**EACH 5.10**

Silicone Heat Sink Compound

Zinc oxide filled silicone grease with heat transfer properties. Does not soften under elevated temperatures. Will not dry and harden.
796-8109. 10-8109. 1 Fl. Oz. Tube .....**EACH 5.62**

Silicone Compound

Soft inert Silicone Grease with excellent dielectric properties. Also lubricant for rubber and plastics.
796-8101. 10-8101. 1 Fl. Oz. Tube .....**EACH 5.80**

Type 44 Heat Sink Compound

Non-contaminating Synthetic-Ester based, capable of moving 46% more heat than other compounds. Passed Western Electric Std. KS-21343 and exceeds MIL performance Spec. MIL-C-47009.
796-4390. 10-8118. ½ Fl. Oz.....**EACH 5.62**
796-4395. 10-8120. 1 Fl. Oz.....**EACH 9.25**
796-4400. 10-8126. 1 Pound Jar.....**EACH 45.28**

Strip X

Enamel stripping compound. Removes enamel Formar, Formex and similiar wire insulations. Bottle.
796-3620. 10-2602. 2 FL. Oz. .....**EACH 5.62**

Type 22-270 Solder Flux Remover and Cleaner. Convenient, fast and easy to use. Removes all types of organic flux. Use within one hour of soldering. Simply spray and wash from top to bottom. 16 Avdp oz.(453.5gms.). AEROSOL.
796-2037.....**EACH 5.60**

Type 10-1207 Soldering Paste. Fast acting fluxing base for PC work. Non-corrosive. 1½ oz.(42gms.) can.
796-1207.....**EACH 2.20**

Non-Aerosol Cleaner

Isopropyl Alcohol (Annhydrous)

This extremely pure alcohol is frequently the recommended cleaner by manufacturers of tape heads, disc drives, etc. Does an excellent job of dissolving and removing oxides from recording heads, also an excellent degreaser. This pure alcohol contains no water, usually a problem with alcohols, and leaves no residue. This is not an aerosol, but an aerosol-style can with a snap top. Suggested for use with swabs, clean cloth, or by immersion.
796-1507. 10-1507. One Pint (16 fl. oz.) .....**EACH 2.95**

1,1,1 Trichloroethane

This is one of the more powerful cleaners/de-greasers available. Much stronger than CFCs. Removes most greases, even tar and waxes.
A good cleaner for controls, switch contacts, motors, etc. Dries quickly. Leaves no residue. A good PCB cleaner, too.
This cleaner will attack some plastics (specifically polystyrene, polycarbonate and acrylics) and will craze, even warp, them. 1,1,1, trichlorethane is non-flammable and is not a contributor to problems with the earth's ozone layer.
796-1517. 10-1517. 16 fl. oz. can. (NON AEROSOL)..**EACH 4.00**
796-0624. 10-0624. 22 oz. (AEROSOL).....**EACH 5.70**

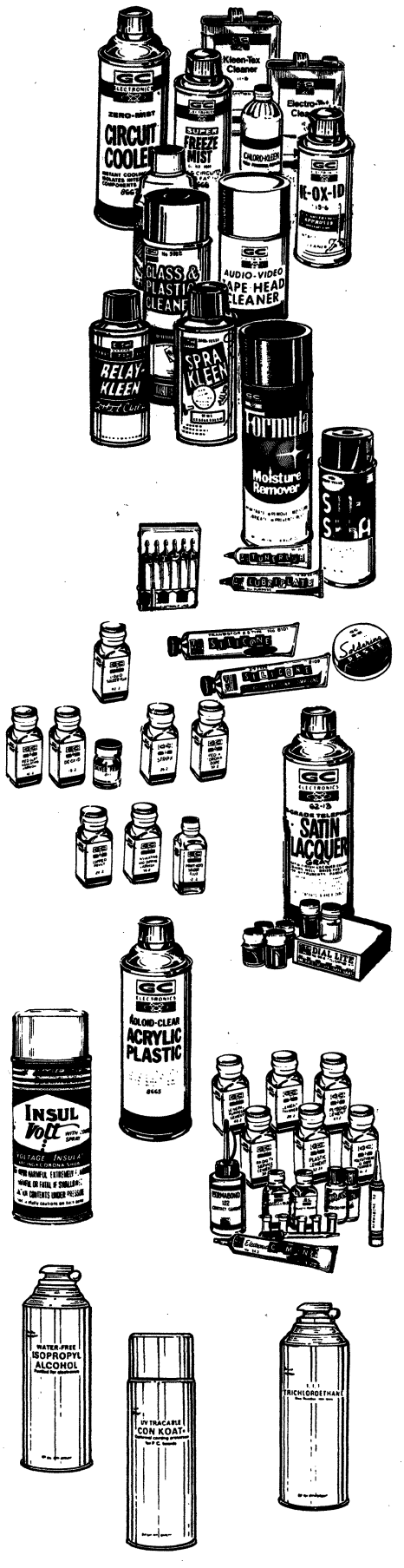
Conkoat® - Conformal Coating

UV Traceable

This is a tough, clear coating for the protection of PC boards and components; prevents exposure to moisture, contaminents in air, etc. UV Tracer permits easy visual inspection; any non-coated area will not fluoresce under UV light and strands out very noticeably.

Features
- **Superior moisture resistance.**
- **Meets the rigid MIL-I-46058C specification.**
- **Excellent adhesion, even to Teflon.**
- **Transparent.**
- **Silicon resin base, excellent dielectric properties.**
- **Tack free 2-3 hours, full cure - 24 hours (may be heated to accelerate: 20-30 min. at 125 C. degrees).**

796-8657. 10-8657 .....**EACH 13.14**



Anti-Static Products

Zero Charge Guardian Static Dissipative Treatment

Durable static-dissipative treatment for any surface. No carbon or metal fillers, non-sluffing, non-corrosive, ammonia-free. Will not fade, yellow, or shrivel paper or corrugated fiber. Use on cardboard storage or shipping boxes, paper, carpet, draperies, foam, clothing, smocks, packing material, plastic, glass, and metal.
Formula 1734: Spray, wipe, or dip on porous surfaces.
Formula 1736: Wipe or dip on hard surfaces for effective coverage.

Guardian I
907-1734. 1734-1Q. 1 Qt.—Ready to use .....EACH 10.28
907-2734. 1734C-1Q. 1 Qt.—Concentrate .....EACH 76.50
907Q3734. 1734C-1G. 1 Gal.—Concentrate.....EACH 244.80

Guardian II
907-1736. 1736-1Q. 1 Qt.—Ready to use .....EACH 17.69
907-2736. 1736-1G. 1 Gal.—Ready to use.....EACH 53.90

1686 Zero Charge Anti-Stat

Zero Charge Anti-Stat is a Chloride-Free Industrial Grade topical Anti-Stat with no free amines. The extremely low surface tension provides excellent wetting to eliminate hot spots or voids. Safe on plastics. Will not attract dust or particulate contamination. Designed for use on any area or material where static buildup causes problems. **Meets or exceeds:** MIL-B-81705B and NFPA 56A.

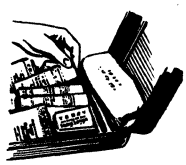
907-1686. 1686-1Q.* 1 Qt. W/Sprayer .....EACH 8.98
907-2686. 1686-1G.* 1 Gal.....EACH 24.31
*Ready to use

1687 Zero Charge Anti Static Screen and Keyboard Cleaner

For optical clarity and distortion free reading. Removes grease, dust, salts, grime, inks, finger prints, nicotine, syrups, soot and carbon paper residue. Safe on ceramics, plastic, glass, metal and elastomers. Use with Zero Charge Anti Static Techclean Swabs to clean hard to reach areas.

907-1687. 1687-1Q. 1 Qt.....EACH 6.24
907-2687. 1687-P. 100 Packet Box.....EACH 14.46

1708 Techclean Computer Care Kit



A selection of Tech Spray Computer Care Products in sizes suitable for the home computer or small office. Products included for removal of grease, finger prints, soot, carbon paper residue, nicotine, syrups, inks, salts, dust, printer debris, grime, disk oxide deposits. Also products included for control of static charge on equipment, personnel, flooring and peripheral areas. Packaged in handy form-fit carrying case that fits easily into a desk drawer.

907-1708. 1708. Kit.....EACH 29.35

1653 ETC

An anti-static cleaner for computer enclosures, plastic, glass and metal. Effectively removes dirt, nicotine, grease, oil, inks, dust, finger prints and grime. Non-Streaking, Non-Abrasive, Non-Flammable, Non-Scratching.

907-1653. 1653-16S. 14 oz. Aerosol .....EACH 5.41

1733 Zero Charge Anti-Static Mat and Table Top Cleaner

Anti-static, non-abrasive cleaner for general use in all areas. Leaves no film, non-streaking, non-flammable and non-scratching. Contains no alkali or ammonia. Will not leave a soap scum or hard water buildup that can cause an insulation barrier on static-sensitive areas. Can be used in conjunction with Techclean Wipers (No. 1705) or standard paper towels.

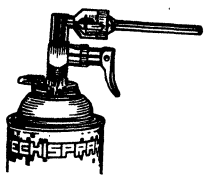
907-1733. 1733-1Q. 1 Qt.....EACH 7.06
907-2733. 1733-1G. 1 Gal.....EACH 21.16

1702 Zero Charge Anti-Static Hand Lotion

Specifically formulated to dissipate static charge from operators' hands and helps to eliminate electrostatic discharge on electronic components and equipment. Formulated with Aloe Vera for a deep, penetrating, soothing action. Contains no silicone or lanolin. Non-greasy, non-sticky odorless and fast absorbing.

907-1702. 1702-1G. 1 Gal.....EACH 33.20
907-2702. 1702-8L. 8 Fl. oz. .....EACH 2.93

1924 Filtered Chrome Trigger Valve



Reusable precision trigger valve easily and safely attached to Tech Spray Precision Duster II(1668R-12S) or any Tech Spray aerosol solvent/cleaner. Does not puncture can — removable without losing contents of can. Contains inexpensive, easily replaceable 1.2 micron filter.

907-1924. 1924. Valve.....EACH 14.93
907-1923. 1923. 10 Repl. Filters.....EACH 5.31
907-1926. 1926. 6 Repl. Adaptors .....EACH 3.28
907-1927. 1927. 1 Repl. Ret. Ring .....EACH 1.60

1685 Zero Charge Anti Static Swabs

Zero charge anti static industrial grade swabs, 100% lint free, non abrasive, highly absorbent, highly resistant to chemicals and non-contaminating. May be used with or without solvents in order to remove dirt, grime, oxide deposits, dust and other soft debris. Especially useful for hard to reach areas like computer keyboards.

907-1685. 1685-50. 50 Swabs .....EACH 8.77

Solvents/Cleaners (Ozone Friendly)

1732 Flux Stripper WB

A synthetic water based cleaner which when added to water makes a non-foaming solution that easily removes flux residue. Contains no inorganic bases or phosphates and is non-aggressive toward copper. Biodegradable. In diluted form can be used with reactive metals. Contains a non-silicone anti-foam agent which is effective on the rosin soap produced in deionized water.

907-1732. 1732-1G. 1 Gal. .....EACH 16.83

1688 Flux Stripper W

Removes water soluble fluxes without removing protective coatings. Safe on most plastics.

Stock No.	Mfr.'s Type	Unit	EACH
907-0080	1688-16S	16 oz.	7.96
907-0085	1688-24S	24 oz.	10.14
907-0090	1688-1G	1 Gal.	48.26
907Q0095	1688-5G	5 Gal.	227.12

1644 Flux Stripper S

Removes solvent soluble fluxes and some conformal coatings. Not for water soluble fluxes. Excellent wetting characteristics.

Stock No.	Mfr.'s Type	Unit	EACH
907-0060	1644-16S	16 oz.	7.34
907-0065	1644-24S	24 oz.	10.41
907-0070	1644-1G	1 Gal.	47.85
907Q0075	1644-5G	5 Gal.	222.93

1604 Kleen-All

Heavy duty contact and relay cleaner. 100% 1,1,1 trichloroethane. Dissolves oil, grease, wax, fat, and resin without harming many plastics, coatings, varnishes, sealants, or maskings. Complies with Military and NASA specifications. USDA approved. Non-corrosive; non-conductive; non-flammable. Leaves no film. Contains no oil or carbon-tet.

Stock No.	Mfr.'s Type	Unit	EACH
907-0100	1604-16S*	16 oz.	4.73
907-0105	1604-24S*	24 oz.	6.05
907-0110	1604-1G	1 Gal.	23.97
907Q0015	1604-5G	5 Gal.	319.71

*Aerosol.

1657 Blue Shower

Cleaner and degreaser for all electronic components and circuitry. Safe on most plastics. No residue; non-flammable;non-conductive.

Stock No.	Mfr.'s Type	Unit	EACH
907-0005	1657-24S*	24 oz.	10.23
907-0010	1657-1G	1 Gal.	70.68
907Q0115	1657-5G	5 Gal.	95.92

*Aerosol.

1638 FD Zero Residue Cleaner

Inert cleaner. 100% TF solvent. Low surface tension of solvent allows thorough cleaning of even minute openings. Complies with Military, NASA, and Bell Lab specifications. USDA approved. Non-conductive; non-flammable. Safe on plastics.

Stock No.	Mfr.'s Type	Unit	EACH
907-0040	1638-16S*	16 oz.	8.34
907-0045	1638-24S*	24 oz.	10.63
907-0050	1638-1G	1 Gal.	72.84
907Q0055	1638-5G	5 Gal.	317.04

*Aerosol.

1684 and 1683 VTR/VCR Kit/Cleaner

A complete maintenance kit to keep your VTR/VCR operating at the peak of efficiency. Contains six Techclean Swabs and one 6-dram bottle of VTR/VCR cleaner. An excellent cleaner for magnetic tape heads, video tape heads, video cassette recorder and computer tape heads. Safe on plastics, tape and rubber. Non-Flammable; Non-Conductive, Leaves no residue. Removes dirt — nicotine — film and oxides. Leaves no Newton Rings. Complies with Bell Lab Spec. KS-20406-L1, NASA MSFS-237 and Mil Spec MIL-C-813026.

907-1684. 1684-K. Kit.....EACH 4.34
907-1683. 1683-2. 2 oz. Btl. Cleaner.....EACH 4.22
907-2683. 1683-6S. 6 oz. Aerosol Cleaner.....EACH 4.91
907-3683. 1683-16S. 16 oz. Aerosol Cleaner.....EACH 8.34

1668 Techclean Precision Duster

Inert dusting gas. Adjustable sprayhead. No residue; moisture-free; non-flammable; non-abrasive.

Stock No.	Mfr.'s Type	Unit	EACH
907-0030	1668-28S	28 oz. Aerosol	13.19
907-0035	1668-15S	14 oz. Aerosol	7.95
907-0036	1668-12OF	12 oz. Aerosol	6.51
907-0026	1696-12OF	12 oz. Aerosol	5.53

1669 Minus 62

For tracking down thermal intermittants. Adjustable sprayhead. Protects heat sensitive transistors and leads when soldering prevents cold shoulder joints, helps to mate or disassemble tight-fitting metal parts and find cracks in PC boards. Safe for plastics and PC boards.

907-0020. 1669-15S. 28 oz. Aerosol.....EACH 6.78
907-0025. 1669-30S. 28 oz. Aerosol.....EACH 12.26

Wondermasks (Liquid Temp. Solder Mask)

1715 Wondermask™ P

Peelable temp. solder mask for any wave solder system. Non-contaminating. Excellent resistance to polar and non-polar solvent systems. Can be used as a spot mask, mask prior to conformal coating, or as a protective storage or shipping shield. Self-leveling; quick film formation. Non-ammoniated.

1697 Wondermask W

A temporary protective water soluble masking agent. Easily and completely removed in normal hot water washing cycle. Leaves NO residue. Non Flammable — Non Corrosive — Non Contaminating — Non Dripping.

1694 Wondermask S

A temporary protective solvent soluble masking agent. For masking isolated or connected holes. Resists etch plating during gold finger fabrication and protects gold fingers after final testing prior to shipping. Formulated with OPTI/SCAN™ Easily removed by Freon® /alcohol, 1-1-1 Trichloroethane or during normal defluxing.

Stock No.	Mfr.'s Type	Unit	EACH
907-0165	1715-8L	8 oz. Squeeze Bottle	5.29
907-0170	1715-1G	1 Gal.	47.52
907-1697	1697-8L	8 oz. Squeeze Bottle	4.82
907-2697	1697-1G	1 Gal.	41.60
907-1694	1694-1G	1 Gal.	57.60

Wondermask S and W also available in tape and dots.

1703 Silicone Free Heat Sink Compound

Features exceptionally low bleed and evaporation characteristics. Will not harden, dry out, or melt; will not contaminate wave solder baths. Meets or exceeds KS 21343 and MIL-C-47113. Use with both metal and plastic.

907-0190. 1703-2. 2 oz. tube ..... **EACH 6.22**

1714 Fine-L-Kote Remover

For quick, easy removal of cured solder masks and conformal coatings. Removes acrylic, urethane, silicone, enamel, and lacquer resins, and some epoxy coatings. Contains an corrosion inhibitor. Self-leveling, skins easily. Non-corrosive; non-flammable; non-caustic; non-acidic. Biodegradable.

Stock No.	Mfr.'s Type	Unit	EACH
907-0195	1714-16L	16 oz. Can	7.94
907Q0200	1714-5G	5 Gal.	35.61

1709 Fine-L-Kote SR

Tough flexible silicone conformal coating for PC boards, components, and electrical equipment. Protects against corrosive atmosphere, salt, water, dilute acids, and alkali solutions. Prevents formation of conducting films or moisture. Formulated with OPTI/SCAN, an ultraviolet material for conformity checks under a black light.

Stock No.	Mfr.'s Type	Unit	EACH
907-0120	1709-Q	1 Qt.	55.25
907-0125	1709-1G	1 Gal.	185.20
907-0135	1709-16S	14 oz. Aerosol	12.13

Adhesives

1602 Plyobond Cement

All purpose cement. Bonds anything to anything. When cemented, joint is tough, waterproof, and resistant to most chemicals. **Cements:** steel, glass, plastics, and rubber. Thin with Acetone. Brush in Bottle.
907-1602. 1602-2. 2 Fl. oz. Bottle ..... **EACH 2.86**

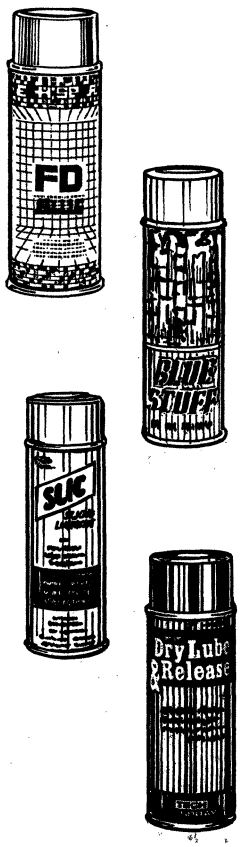
1601 Service Cement

Repairs speaker cones. Won't shrink and remains flexible. Cements plastics, cloth, metal, and wood. Thin with Acetone. Brush in bottle.
907-1601. 1601-2. 2 FL. oz. Bottle .... **EACH 2.86**

900 Tech Hold

General purpose cyanoacrylate adhesive. Bonds metals, rubber, ceramic, plastic, glass, wood, fabric, vinyl, cardboard, leather, Delrin® High strength, fast bonding.
907-0900. 900-3. 3 Gms. Bottle ..... **EACH 1.35**

Lubricants/Penetrants



1637 FD Plus

This blend of fluorinated solvents and electronic grade silicone cleans efficiently and deposits a thin molecular film that will not evaporate. Protects against moisture and corrosion. Meets or exceeds MIL-C-83360 USAF Cleaning and Lubricating Compound. Electrical Contact Cleaning Type 1. Non-flammable; safe on all plastics. Neutral, inert and safe for use in all environments and altitudes.
907-0175. 1637-16S. 14 oz. Aerosol... **EACH 8.21**

1639 Blue Stuff®

The finest tuner care product available. Its unique formula makes it the superior long-term protective material for tuner contacts. Cleans — Polishes — Lubricates if other portions or the tuner are dirty, flush with Blue Shower before applying Blue Stuff. It continues to clean and polish for months after it is applied.
907-1639. 1639-8S. 8 oz. Aerosol..... **EACH 8.21**

1646 Slic™

Excellent general purpose electronic grade silicone lubricant specifically formulated to Lubricate, Protect, and Waterproof rubber parts and electrical connections. Non-Sticky — Non-Flammable. USDA Accepted Product.
907-1646. 1646-8S. 8 oz. Aerosol..... **EACH 5.50**
907-2646. 1646-16S. 16 oz. Aerosol... **EACH 8.49**

1671 Dry Lube and Mold Release

Chemically inert universal dry lubricant and release agent, providing superior lubrication on all types of surfaces metal-glass-fabrics-rubber-plastics-wood-paper. Effective from −50°F to +500°F. Non-staining, non-corrosive, non-flammable, colorless, non-oily, non-contaminating, repels water, oil, and dirt. Meets or exceeds: MIL-L-60326 (MU)
907-1671. 1671-16S. 14 oz. Aerosol... **EACH 9.41**

1661 Zap It Light

Protects and lubricates metals, inhibits rust, stops corrosion and penetrates and loosens frozen parts. Harmless to rubber, paint, plastics, and fabrics. Resistant to salt spray, acid fumes, sulphur dioxide, and hydrogen chloride. Lubricates without attracting dust. Remove with any solvent or degreaser.
907-1661. 1661-7S. 7 oz. Aerosol ..... **EACH 4.23**
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1662 Zap It Heavy

Protects and lubricates metals, inhibits and displaces water. Harmless to rubber, paint, plastics, and fabrics. Provides two-year protection against salt spray, acid fumes, suphur dioxide, and hydrogen chloride. Remove with any solvent or degreaser.
907-1662. 1662-16S. 16 oz. Aerosol ..... **EACH 6.25**

Chicago Miniature Brand

Wide variety of miniature and subminiature incandescent lamps for such applications as aircraft, annunciators, appliances, automotive, bicycles, coin machines, flashlights, marine, medical equipment, indicators, signs and house numbers, radio and TV, telephone, toys and novelties. These lamps offer extra-long life, reliability, low cost, high light output for the amount of current consumed. Low operating cost.

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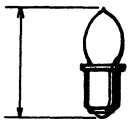
B-3½

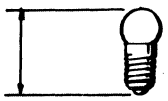
Single contact miniature flange. Approximately 7/16″ (11.1 mm) diameter.



Stock No.	Mfr.'s Type	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
						1-9	10-49
749-8402	PR2	2.38	.50	.80	15	5.86	5.17
749-8403	PR3	3.57	.50	1.50	15	6.12	5.40
749-8404	PR4	2.33	.27	.40	10	6.66	5.84
749-8406	PR6	2.47	.30	.45	30	6.05	5.34
749-8407	PR7	3.70	.30	.90	30	7.39	6.52
749-8412	PR12	5.95	.50	3.10	15	6.62	5.84
749-8413	PR13	4.75	.50	2.20	15	6.05	5.34

*Mean Spherical Candle Power

G-2

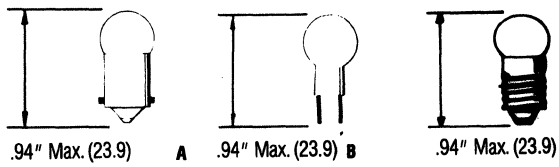


Miniature screw. Approximately 1/4″ (6.4 mm) diameter.

Stock No.	Mfr.'s Type	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
						1-9	10-49
749-9162	162	7	.063	.085	3000	14.74	13.01
749-9163	163	14	.065	.066	3000	14.74	13.01
749-9333	333	28	.040	.320	1000	18.59	16.41

*Mean Spherical Candle Power

G-3½

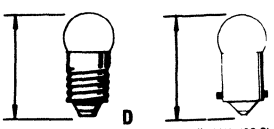


Miniature bayonet two-pin and miniature screw. Approximately 7/16″ (14.3 mm) diameter.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-9014	14	C	2.47	.300	.500	15	6.76	5.97
749-9013	13	C	3.70	.300	1.980	15	6.76	5.97
749-9050	50	C	7.50	.220	1.000	1000	5.79	5.10
749-9130	130	A	6.30	.150	.380	5000	5.05	4.46
749-9219	219	A	6.30	.250	.500	5000	16.85	14.87
749-9445	1445	A	14.40	.135	.700	2000	5.07	4.47
749-9450	1450	A	24.00	.035	.230	3000	12.32	10.87
749-9010	10	B	2.50	.500	.500	3000	11.47	10.12
749-9012	12	B	6.30	.150	.350	3000	8.49	7.50
749-9019	19	B	14.40	.100	.900	1000	12.07	10.65
749-9052	51	A	7.50	.220	1.000	1000	5.22	4.61
749-9054	53	A	14.40	.120	1.000	1000	5.41	4.77
749-9356	356	A	28.00	.170	3.500	500	16.01	14.13

*Mean Spherical Candle Power

G-4½



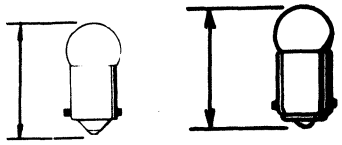
Miniature screw and bayonet. Approximately 9/16″ (14.3 mm) diameter.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-9027	27	D	4.90	.300	1.400	30	9.18	8.10
749-9502	502	D	5.10	.150	.600	100	6.50	5.73
749-9429	428	D	12.50	.250	2.300	250	12.79	11.29
749-9055	55	E	7.00	.410	2.000	500	6.83	6.03
749-9057	57	E	14.00	.240	2.000	500	4.68	4.13
749-8895	1895	E	14.00	.270	2.000	1500	5.05	4.46

*Mean Spherical Candle Power

G-6

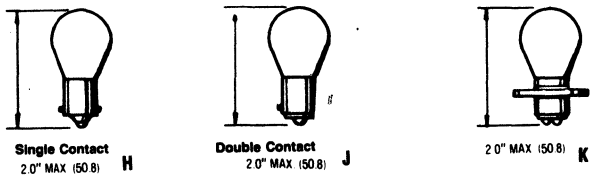
S.C. and D.C. bayonet. Approximately 3/4″ (19.1 mm) diameter.



Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-9067	67	F	13.50	.590	4.0	3000	5.48	4.84
749-9251	1251	F	28.00	.230	3.0	2000	21.66	19.11
749-9303	303	F	28.00	.300	6.0	500	16.55	14.61
749-9082	82	G	6.50	1.050	6.0	500	6.99	6.17
749-9090	90	G	13.00	.580	6.0	750	8.94	7.89

*Mean Spherical Candle Power

S-8

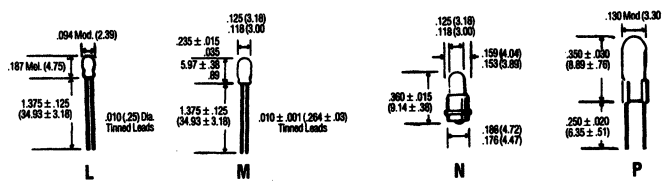


S.C./D.C. bayonet and D.C. prefocus.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-9093	93	H	12.80	1.040	15.0	500	9.44	8.34
749-9173	1073	H	12.80	1.800	32.0	200	10.32	9.10
749-9156	1156	H	12.80	2.100	32.0	600	9.93	8.76
749-9305	305	H	28.00	.510	15.0	300	18.49	16.31
749-9307	307	H	28.00	.660	21.0	300	17.10	15.09
749-9527	1493	J	6.50	2.750	23.0	500	37.83	33.38
749-9094	94	J	12.80	1.040	15.0	500	11.70	10.32
749-9142	1142	J	12.80	1.440	21.0	500	12.65	11.16
749-9895	8-95	J	40.00	.530	14.0	3800	57.50	50.80
749-9535	1630	K	6.50	2.750	23.0	100	49.39	43.57

*Mean Spherical Candle Power

T-1



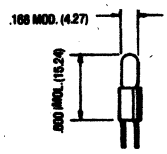
Standard Wire, Submidgit Flange and Bi-Pin

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-6833	6833	L	5.00	.060	.050	25K	14.46	12.76
749-8666	8666	L	5.00	.080	.150	15K	27.03	23.85
749-7153	7153	L	5.00	.115	.150	40K	14.39	12.75
749-9680	680	M	5.00	.060	.030	60K	10.65	9.39
749-9407	683	M	5.00	.060	.050	100K	9.86	8.70
749-9425	713	M	5.00	.075	.090	25K	10.40	9.18
749-9715	715	M	5.00	.115	.150	40K	10.40	9.18
749-7219	7219	M	12.00	.060	.150	16K	15.70	13.85
749-6838	6838	M	28.00	.024	.150	16K	12.94	11.42
749-9409	685	N	5.00	.060	.050	100K	16.78	14.81
749-8921	718	N	5.00	.115	.150	40K	17.88	15.78
749-9032	32	N	12.00	.060	.150	16K	19.07	16.83
749-7241	7241	N	18.00	.026	.150	16K	21.08	18.60
749-9746	6839	N	28.00	.024	.130	16k	17.63	15.56
749-7680	7680	P	5.00	.060	.030	60K	18.10	15.97
749-7683	7683	P	5.00	.060	.050	40K	18.10	15.97
749-7265	7265	P	5.00	.060	.150	5K	18.98	16.74
749-7714	7714	P	5.00	.075	.090	25K	18.10	15.97
749-7715	7715	P	5.00	.115	.150	40K	18.10	15.97
749-7839	7839	P	28.00	.024	.150	16K	22.09	19.95

*Mean Spherical Candle Power

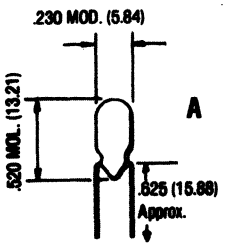
T-1 1/4

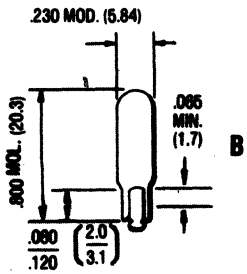
Subminiature. Bi-pin base. Approximately 5/32" (4 mm) diameter.

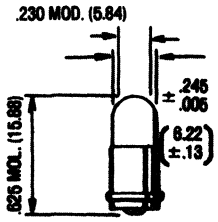


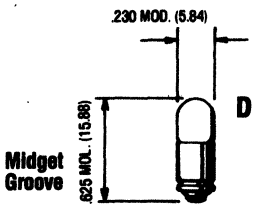
Stock No.	Mfr.'s Type	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
						1-9	10-49
749-7646	7646	14.0	.080	.500	1000	23.77	20.97
749-2826	7632	28.0	.040	.320	1000	21.98	19.40

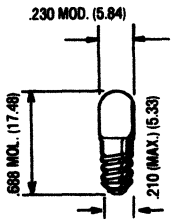
*Mean Spherical Candle Power

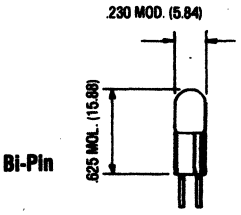












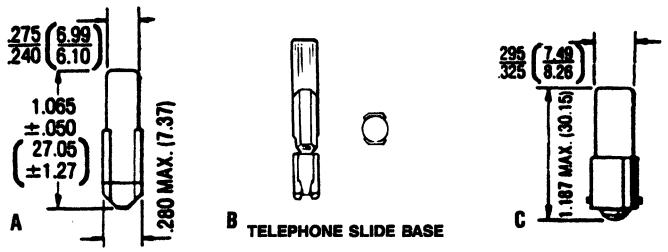
T-1 3/4

Subminiature. Approximately 7/32" (6 mm) diameter.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-2182	2182	A	14.0	.080	.30	15K	5.31	4.68
749-9545	1705	A	14.0	.080	.30	15K	6.00	5.29
749-9725	2187	A	28.0	.040	.30	10K	5.41	4.78
749-9560	1764	A	28.0	.040	.34	400	6.37	5.63
749-9084	84	B	6.3	.040	.02	20K	6.83	6.03
749-9086	86	B	6.3	.200	.40	20K	6.83	6.03
749-9073	73	B	14.0	.080	.30	15K	5.41	4.77
749-9037	37	B	14.0	.100	.50	100K	6.95	6.13
749-9074	74	B	14.0	.100	.70	5K	5.65	4.98
749-9085	85	B	28.0	.040	.30	10K	5.41	4.77
749-9338	338	C	2.7	.060	.04	6K	8.44	7.45
749-7333	7333	C	5.0	.060	.05	25K	8.21	7.25
749-3150	3150	C	5.0	.060	.15	5K	9.51	8.39
749-7335	7335	C	5.0	.110	.15	40K	8.89	7.84
749-9265	345	C	6.0	.040	.03	10K	8.82	7.79
749-9210	328	C	6.0	.200	.60	1000	6.80	6.01
749-9309	380	C	6.3	.040	.02	50K	7.80	6.89
749-9310	381	C	6.3	.200	.40	50K	7.16	6.32
749-9349	349	C	6.3	.200	.55	3000	7.80	6.89
749-9344	344	C	10.0	.014	.002	10K	8.45	7.46
749-9280	367	C	10.0	.040	.08	5000	8.77	7.74
749-9394	394	C	13.0	.040	.12	10K	9.83	7.88
749-9315	382	C	14.0	.080	.30	50K	7.12	6.29
749-9215	330	C	14.0	.080	.50	750	7.02	6.20
749-8918	8918	C	14.0	.100	.50	10K	10.54	9.30
749-7341	7341	C	28.0	.065	.65	5K	8.89	7.84
749-9301	370	C	18.0	.040	.15	10K	8.77	7.74
749-9320	385	C	28.0	.040	.20	50K	7.12	6.29
749-9322	387	C	28.0	.040	.30	25K	6.80	6.01
749-9195	327	C	28.0	.040	.34	7000	6.63	5.85
749-9205	376	C	28.0	.060	.34	25K	7.23	6.89
749-9379	379	D	6.3	.200	.40	20K	11.50	10.20
749-9398	398	D	6.3	.200	.55	3K	11.10	8.90
749-9321	386	D	14.0	.080	.30	50K	10.27	9.06
749-9240	336	D	14.0	.080	.50	750	10.08	8.90
749-9323	388	D	28.0	.040	.30	25K	10.08	8.90
749-9225	334	D	28.0	.040	.34	7000	8.99	7.94
749-1769	1769	E	2.5	.200	.22	500	10.50	9.30
749-9563	1768	E	6.0	.200	.60	1000	11.71	10.34
749-8362	8362	E	14.0	.080	.30	50K	9.74	8.60
749-9373	373	E	14.0	.080	.50	1500	9.40	8.20
749-9332	399	E	28.0	.040	.30	25K	9.74	8.60
749-9235	335	E	28.0	.040	.34	7000	8.99	7.94
749-7361	7361	F	5.0	.060	.05	25K	10.90	9.60
749-7362	7362	F	5.0	.115	.15	40K	10.40	9.20
749-2791	7328	F	6.0	.200	.60	1000	8.74	7.71
749-2814	7377	F	6.3	.075	.22	500	9.37	8.27
749-2816	7381	F	6.3	.200	.40	50K	9.55	8.43
749-2794	7349	F	6.3	.200	.55	3000	9.55	8.43
749-7367	7367	F	10.0	.040	.08	5000	10.13	8.94
749-7371	7371	F	12.0	.040	.12	10K	10.13	8.94
749-2817	7382	F	14.0	.080	.30	50K	9.55	8.43
749-7330	7330	F	14.0	.080	.50	1500	9.70	8.60
749-9751	7373	F	14.0	.100	.50	10K	10.34	9.12
749-7370	7370	F	18.0	.040	.15	10K	10.90	9.60
749-7374	7374	F	28.0	.040	—	50K	11.50	10.10
749-2818	7387	F	28.0	.040	.30	25K	7.62	6.72
749-2790	7327	F	28.0	.040	.34	7000	7.58	6.69
749-7876	7876	F	28.0	.060	.34	25K	10.60	9.30
749-7376	7376	F	28.0	.065	.65	5K	13.00	11.50

*Mean Spherical Candle Power

T-2 Miniature

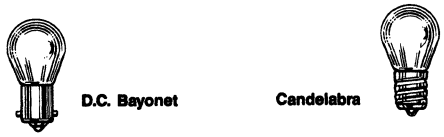


Approximately 1/4" (6.4 mm) diameter. Slide Base.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-4105	6 PSB 5	A	6.00	.140	.120	20.0K	12.70	11.20
749-4110	12 PSB 5	A	12.00	.170	.480	12.0K	11.50	10.20
749-4115	24 PSB 5	A	24.00	.073	.850	10.0K	9.00	8.00
749-3995	28 PSB 5	A	28.00	.040	.170	5.0K	10.96	9.67
749-4120	48 PSB 5	A	48.00	.053	.520	10.0K	12.00	10.60
749-4125	60 PSB 5	A	60.00	.050	.670	7.5K	11.90	10.50
749-5080	120 PSB 5	A	120.00	.025	.360	5.0K	11.76	10.38
749-9024	24E3	B	24.00	.035	600	8000.0	10.91	9.63
749-9025	25X2	B	24.00	.035	600	8000.0	10.91	9.63
749-4135	24 MB	C	24.00	.073	.850	10.0K	13.70	12.10
749-4140	28 MB	C	28.00	.040	.170	5.0K	13.70	12.10
749-4150	60 MB	C	60.00	.050	.670	7.5K	14.20	12.50
749-5070	120 MB	C	120.00	.025	.360	5.0K	12.91	11.39
749-3068	8-967	—	120.00	.025	.360	5.0K	25.91	22.86

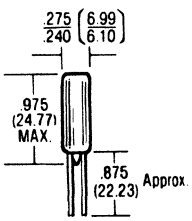
*Mean Spherical Candle Power

Standard Voltage Lamps



Stock No.	Mfr.'s Type	Volts	Bulb Style	Base Style	Watts	PER PKG./10	
						1-9	10-49
749-8703	3S6/5	120-125	S6	Cand.	3	23.94	21.13
749-8715	6S6/30V	30	S6	Cand.	6	26.28	23.19
749-8720	6S6/115-125V	115-125	S6	Cand.	6	10.09	8.90
749-8719	6S6/130V	130	S6	Cand.	6	13.26	11.70
749-8721	6S6/145V	145	S6	Cand.	6	23.54	20.76
749-8722	6S6DC/120V	120	S6	D.C.	6	16.61	14.67
749-8724	6S6DC/130V	130	S6	D.C.	6	21.61	19.07
749-8725	6T4 1/2	115-125	T-4 1/2	Cand.	6	31.14	27.48
749-8730	7C7	115-125	C-7	Cand.	7	7.57	6.68
749-8735	10C7	115-125	C-7	Cand.	10	12.43	10.97
749-8738	10C7DC	115-125	C-7	D.C.	10	16.37	14.45
749-8740	10S6C(230V)	230	S6	Cand.	10	25.93	22.88
749-8745	10S6C(250V)	250	S6	Cand.	10	25.93	22.88

Neon Glow Lamps



All Wire Terminal Bases
G.I. "All wire terminal base" neon glow lamps have T-2 base and bulb style, and operate at 105-125 VAC.

Stock No.	Mfr.'s Type	Watts	Avg. Life (Hrs.)	Apprx. Lead L (In.)	Ohms	PER PKG./10	
						1-9	10-49
749-2100	A1A(NE-2)	1/17	25K	1	150K	3.60	3.18
749-2115	A9A(NE-2E)	1/15	100K	2	100K	4.18	3.69
749-2155	C2A(NE-2H)	1/4	30K	2	30K	4.00	3.53

T-3 1/4 Miniature

Approximately 13/32" (10 mm) diameter.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps ±10%	M.S.C.P.*	Avg. Life (Hrs.)	PER PKG./10	
							1-9	10-49
749-9159	159	D	6.3	.15	.38	20K	7.57	6.68
749-9161	161	D	14.0	.19	1.00	4000	6.12	5.40
749-9656	656	D	28.0	.06	.64	5000	5.93	5.24
749-9048	48	E	2.0	.06	.040	1000	8.80	7.80
749-9041	41	E	2.5	.50	.500	3000	6.60	5.80
749-9040	40	E	6.3	.15	.52	3000	5.03	4.44
749-1821	1821	E	28.0	.17	3.00	1500	19.55	17.25
749-9616	1823	E	48.0	.10	3.30	1000	17.10	15.09
749-9049	49	F	2.0	.06	.04	1000	8.65	7.64
749-9043	43	F	2.5	.50	.50	3000	7.57	6.68
749-9045	45	F	3.2	.35	.50	3000	11.50	10.20
749-1850	1850	F	5.0	.09	.25	1500	13.00	11.50
749-9440	755	F	6.3	.15	.33	50K	7.92	6.99
749-9635	1847	F	6.3	.15	.38	20K	4.32	3.81
749-9047	47	F	6.3	.15	.52	3000	3.40	3.00
749-9645	1866	F	6.3	.25	.65	20K	6.83	6.03
749-9044	44	F	6.3	.25	.90	3000	3.40	3.00
749-1888	1888	F	7.0	.50	2.0	1500	4.40	3.90
749-1816	1816	F	13.0	.33	3.0	1000	7.90	7.00
749-9442	756	F	14.0	.08	.31	50K	9.54	8.42
749-9595	1815	F	14.0	.20	1.40	3000	8.99	7.94
749-9671	1891	F	14.0	.24	2.00	500	5.76	5.09
749-9673	1893	F	14.0	.33	2.00	3000	5.93	5.24
749-1813	1813	F	14.4	.10	.86	1000	6.60	5.80
749-1892	1892	F	14.4	.12	.75	1000	8.10	7.20
749-1818	1818	F	24.0	.17	3.30	250	19.79	17.46
749-9605	1819	F	28.0	.04	.34	1000	7.19	6.35
749-9625	1829	F	28.0	.07	1.00	1000	6.66	5.88
749-9444	757	F	28.0	.08	.62	15K	8.45	7.46
749-9610	1820	F	28.0	.10	1.60	1000	7.19	6.35
749-9643	1864	F	28.0	.17	3.00	1500	7.92	6.99
749-9180	313	F	28.0	.17	3.50	500	7.92	6.99
749-9615	1822	F	36.0	.10	2.50	1000	8.57	7.56
749-9620	1828	F	37.5	.05	.65	3000	15.49	13.67
749-9630	1835	F	55.0	.05	1.10	5000	15.86	14.00
749-9739	8-3995	F	120.0	.02	2.00	5000	33.86	29.88

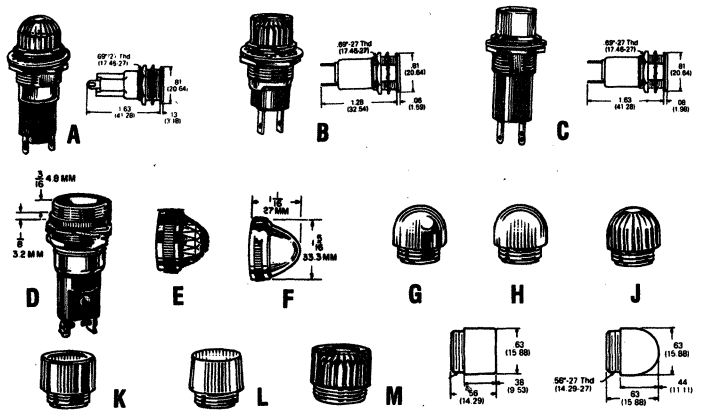
*Mean Spherical Candle Power

Based Neon Glow Lamps

Stock No.	Mfr.'s Type	Watts	VAC	Fig.	PER PKG./10	
					1-9	10-49
749-2160	C7A(NE2D)	1/15	105-125	G	20.81	18.36
749-2165	C9A(NE2J)	1/5	105-125	G	19.14	16.19
749-2120	B1A(NE51)	1/25	105-125	H	7.63	6.74
749-2125	#B2A(NE-51H)	1/4	105-125	H	7.63	6.74

8

Indicators



U.L. and CSA recognized. Five choices of lenses. **5200-222** and **5100-822** accept T-2½ to T-3¼ miniature bayonet lamps from 2V to 120V. **5200-232** and **5100-832** contain a 22K resistor and use a B2A lamp for ¼W, 125V operation. **5200-242** and **5100-842** contain a 100K resistor and use a B1A lamp for ¼W, 125V or a B2A lamp for 250V operation. **5201-492** uses a T-2 short slide base pilot lamp for 6V-120V operation. Lamps not included. Lens figures K, L, N, Q, R, and S are transparent and are available in amber, clear, green and red. Figures M and N are translucent and are available in yellow, green, red and white. Green lenses are not recommended for use with neon lamps. **Series 5200** indicators mount in a .688″ hole.

8

Deluxe Indicators — 5200 Series

Stock No.	Mfr.'s Type	Fig.	Volts	Description	Min. Centers	Max. Panel Thickness	EACH 1-99	EACH 100-499	EACH 500-999
616-0565†	5200-222	A	2-120	Incandescent	.969″	.406″	5.20	4.60	3.85
616-0575†	5200-232	A	125	Neon	.969″	.406″	6.90	5.11	4.79
616-0585†	5200-242*	A	125/250	Neon	.969″	.406″	6.90	5.11	4.79
616-0596†	5201-492**	B	6-120	Incandescent Slide	.969″	.360″	4.71	3.69	3.46

Standard Indicators — 5100 Series

616-0599†	5100-822	C	28	Incandescent	.969″	.406″	2.52	2.22	1.92
616-0598‡	5100-824	C	28	Incandescent	.969″	.406″	2.52	2.22	1.92
616-0597†	5100-832*	C	125	Neon	.969″	.406″	4.23	3.74	3.24
616-0590‡	5100-834*	C	125	Neon	.969″	.406″	4.23	3.74	3.24
616-0595†	5100-842**	C	125/250	Neon	.969″	.406″	4.23	3.74	3.24

†Solder lugs. ‡0.250″ Quick-Connect lugs. *Uses B2A lamp. **Uses B2A or B1A lamp.

Tite Lite Indicators

Watertight phenolic housing features large 1.00″ diameter lens. **Mtg. hole:** 1.00″ diameter for .375″ max. panel thickness. **Voltage:** up to 125V. **Wattage:** 75W max. Nickel plated brass body. Polycarbonate lens with chrome-plated bezel. Two neoprene gaskets. Brass terminals with brass screws. **Lens Color:** Replace the X in the stock number with the following color code: 1 — amber; 3 — clear; 4 — green; 5 — red. Uses S6 screw base lamp.

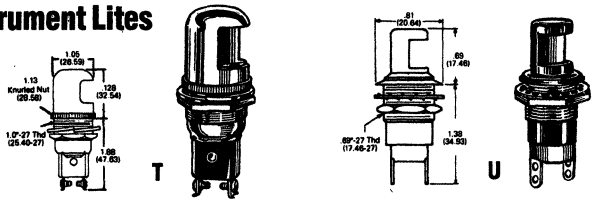
Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-99	EACH 100-499	EACH 500-999
616-0495	5796-523	D	Incandescent	10.34	7.36	6.90
616-032N	78A-416	E	Beehive Faceted Transparent	4.48	3.56	3.20
616-033N	78A-435	F	Beehive Signal — Lined/Diffused Back	4.48	3.56	3.20

* Volts: 30-125, Min. Centers: 1.00″, Max. Panel Thickness: .375″.

Lens Chart For 5200 And 5100 Series

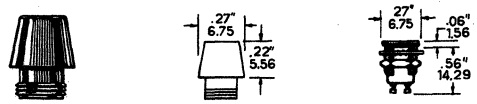
616-020N	25P-306	G	Transparent Dome	0.96	0.80	0.70
616-004N	25P-307	H	Translucent Dome	0.96	0.80	0.70
616-006N	25P-326	J	Fluted Dome (Transparent)	0.96	0.80	0.70
616-007N	25P-606	K	Transparent Cylindrical	0.96	0.80	0.70
616-008N	25P-607	L	Translucent Cylindrical	0.96	0.80	0.70
616-601N	25P-626	M	Fluted Cylindrical (Transparent)	0.96	0.80	0.70

Instrument Lites



Type 900-006. Fig T. Mounts in 1.00″ dia. hole in panels with .500″ max. thickness. Rotatable hood of chrome-plated brass. Brass terminals with brass screws. **Max. Rating:** 250V, 1A, 75W. Lamp not included. Order 7C7-120V or 6S6-115V.
616-3970. 1-99 .....**EACH 12.20** **100-499**.....**EACH 9.66**
Type 900-200. Fig U. Mounts in .688″ dia. hole in panels with .406″ max. thickness. Fixed hood of black aluminum. Brass terminals. **Max. Rating:** 120V, 3W. Lamp not included. Order T-3¼ miniature bayonet lamps, types 43 (2.5V), 1847 (6.3V), 1891 (14.0V), 1864 (28.0V), 8-3995 (120V) or others.
616-3975. 1-99 .....**EACH 9.11** **100-499**.....**EACH 7.56**

Gemlites



T-1 Sub-Midget Flange

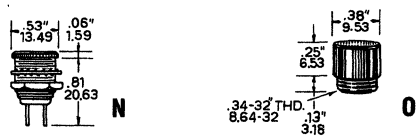
For Lens Color, insert 1 — Yellow/Amber, 3 — Clear, 4 — Green, 5 — Red, or 6 — White where "N" appears in stock number. Except for "Tiny Lites" lenses, bulbs and lampholders are sold separately.

These high quality, reliable indicators are favored in commercial and military applications where minimal size and ease of lamp replacement are prime considerations. **Mounting hole:** .313″ (7.95 mm) dia., Double "D" hole. .288″ (7.82 mm) across flats. Uses T-1 Sub-Midget flanged base lamps from 5V to 28V (not included). **Translucent lens colors:** Yellow, Green, Red and White.

Stock No.	Mfr.'s Type	Description	EACH 1-99	EACH 100-499	EACH 500-999
616-0560*	5160-458	Incandescent	6.59	5.22	4.60
616-019N	160A-604	Translucent Cylindrical Lens	1.25	1.00	0.88

* Volts: 0-30, Min. Centers: .469″, Max. Panel Thickness: .218″.

"TinyLites" Midget Screw Base



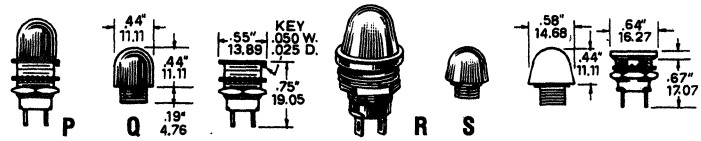
G-2 Midget Screw Lamps

Economical, small indicators supplied with the replaceable G-2 lamp installed. Lenses are translucent and are available in yellow, green, red and white. Mount in a .438″ hole. Rated 30V max., 0.5A max., 1.12W max.

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-99	EACH 100-499	EACH 500-999
616-512N*	5127-022-604	N, O	Incandescent	5.26	4.17	3.67
616-522N†	5128-022-604	N, O	Incandescent	5.26	4.17	3.67
616-010N	121A-604	O	Translucent Cylindrical(Lens only)	0.45	0.42	0.39

* Volts: 14, Min. Centers: .720″, Max. Panel Thickness: .250″. † Volts: 28, Min. Centers: .720″, Max. Panel Thickness: .250″.

Midget Flange Indicator Lights



Military and Commercial. T-1¾ Midget Flange Lamp.

Commercial Indicators. Mount from the front panel in a .484″ hole. **Type 303** is transparent and is available in clear, amber, green, and red. **Type 304** is translucent and is available in yellow, green, red and white. Accepts T-1¾ midget flange base lamps (not included) up to 28 volts. Rated 30V, 0.5A max., 1.26W max.

Stock No.	Mfr.'s Type	Fig.	Description	EACH 1-99	EACH 100-499	EACH 500-999
616-0520*	5131-038	P	Incandescent	3.77	2.96	2.77
616-011N	131A-303	Q	Transparent Dome Lens	1.13	0.92	0.86
616-012N	131A-304	Q	Translucent Dome Lens	1.13	0.92	0.86

* Volts: 0-30, Min. Centers: .750″, Max. Panel Thickness: .188″.

Military

Waterproof Lampholder. Conforms to MIL-L-3661B. Military Catalog number LH89/1. Translucent lenses are catalog number LC35 (color) T2 and available in yellow, green, red, and white. **Type 404** — translucent. Accepts T-1¾ midget flange base lamps (not included), up to 28 volts. **Mounting hole:** .484″. Rated 30V, 0.5A max., 1.26W max.

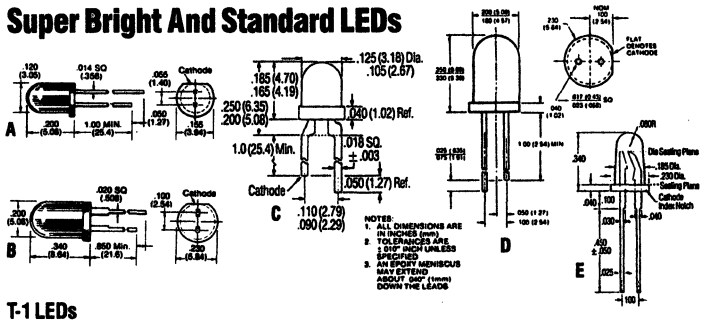
616-0545†	5139-038	R	Incandescent	5.59	4.56	4.27
616-015N	139A-404	S	Translucent Dome Lens	1.78	1.46	1.29

† Volts: 0-30, Min. Centers: .750″, Max. Panel Thickness: .265″.

Allied Incandescent And Solid-State Indicator Light Kit

75 piece assortment of light holders, lens caps, LED cartridge lamps, and solid-state indicators. Includes many popular callouts such as General Instrument 5100-822, 5139-038, 5796-523. May also include Dialco 507-3918 and 507-3917 plus assorted hardware. Comes in a 24-drawer steel frame cabinet. **A 95.00 Value.**
616-0004.....**EACH 50.95**

Super Bright And Standard LEDs



T-1 LEDs

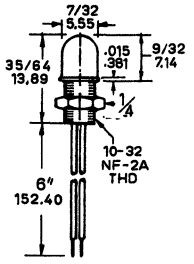
Features low power consumption and long operating life. Leads are silver plated to eliminate solderability problems.

Stock No.	Mfr.'s Type	Fig.	Color		Lum. Int. @20 mA	View Angle	EACH		
			Light	Lens			1-99	100-499	500-Up
649-0490	CMD5760†	C	Red	Water clear T	12.00*	60°	.18	.16	.15
649-0495	HLMP-1340†	C	Red	Water clear T	60.00	40°	.33	.30	.28
649-0500	CMD5777C†	A	Red	Tint D	3.00	180°	.31	.29	.27
649-0610	CMD5774C†	A	Red	Tint D	3.00	90°	.36	.33	.31
649-0608	CMD57640†	C	Red	Tint D	2.00	90°	.24	.22	.20
649-0605	CMD57641†	C	Red	Tint D	2.50	90°	.27	.23	.20
649-0505	CMD5077C	B	Red	Tint D	1.75	110°	.25	.23	.21
649-0443	CMD5075C	A	Red	Tint D	1.60	90°	.24	.22	.19
649-0510	CMD5074C	A	Red	Tint D	2.50	70°	.22	.20	.18
649-0515	CMD5360	C	Yellow	Water clear T	12.00*	60°	.18	.16	.14
649-0530	HLMP1440	C	Yellow	Water clear T	60.00	40°	.38	.36	.33
649-0525	CMD5377C	A	Yellow	Yellow tint D	3.00	180°	.36	.33	.31
649-0710	CMD5374C	A	Yellow	Yellow tint D	4.00	90°	.36	.33	.31
649-0535	CMD53640	C	Yellow	Yellow tint D	2.00	90°	.24	.21	.19
649-0540	CMD5460	C	Green	Water clear T	12.00	60°	.22	.20	.19
649-0545	HLMP-1540	C	Green	Water clear T	60.00	40°	.38	.36	.33
649-0550	CMD5477C	A	Green	Tint D	2.50	180°	.36	.33	.31
649-0640	CMD5474C	A	Green	Tint D	4.00	90°	.36	.33	.31
649-0555	CMD54643	C	Green	Tint D	5.00	90°	.26	.24	.22
649-0428	CM4-7B	Mounting Clip					.15	.13	.11

T-1¾ LEDs

649-0560	CMD3750†	D	Red	Water clear T	150.00	24°	.41	.38	.36
649-0680	CMD5152†	D	Red	Amber tint T	40.00	28°	.43	.41	.36
649-0620	CMD5752†	D	Red	Tinted T	40.00	28°	.34	.32	.30
649-0565	CMD5052	D	Red	Tinted T	2.00	72°	.29	.27	.25
649-0690	CMD5153†	D	Red	Amber tint D	6.00	65°	.40	.38	.33
649-0630	CMD5753†	D	Red	Tinted D	9.00	65°	.24	.22	.20
649-0609	CMD5754A†	D	Red	Tinted D	20.00	24°	.26	.24	.22
649-0520	CMD5053	D	Red	Tinted D	1.60	80°	.27	.24	.20
649-0483	CMD5054A1†	D	Red	Tinted D	2.00	40°	.21	.19	.18
649-0570	CMD3350	D	Yellow	Water clear T	150.00	24°	.41	.38	.36
649-0720	CMD5352	D	Yellow	Tinted T	40.00	28°	.34	.32	.30
649-0730	CMD5353	D	Yellow	Tinted D	6.00	65°	.26	.24	.22
649-0709	CMD5354A	D	Yellow	Tinted D	20.00	24°	.28	.26	.24
649-0575	CMD3450†	D	Green	Water clear T	150.00	24°	.41	.38	.36
649-0650	CMD5452†	D	Green	Tinted T	25.00	35°	.34	.32	.30
649-0580	CMD64521†	D	Green	Tinted T	60.00	35°	.41	.38	.36
649-0660	CMD5453	D	Green	Tinted D	6.00	85°	.26	.24	.22
649-0585	CMD5454A	D	Green	Tinted D	20.00	24°	.24	.22	.19
649-0427	CMP52	Mounting Clip For CMD 5 × 2 ×					.10	.09	.08
649-0426	CMP22	Mounting Clip For CMD 5 × 5 ×					.10	.09	.08
649-3100	CMD5021	E	Red-D	White	1.60	90°	.64	.56	.49
649-3105	CMD5022	E	Red-N	Red	1.60	90°	.64	.56	.49
649-3110	CMD5023	E	Red-D	Red	1.60	90°	.64	.56	.49
649-3115	CMD5024	E	Red-D	Red	3.00	60°	.64	.56	.49
649-3120	CMD5025	E	Red-D	Red	0.40	180°	.64	.56	.49
649-3125	CMD5026	E	Red-D	Red	0.60	90°	.64	.56	.49
649-3130	CMD5054A-1	D	Red-D	Red	2.00	40°	.25	.22	.20
649-3135	CMD5154A†	D	Red-D	Red	20.00	24°	.42	.37	.32
649-3140	CMD5055	D	Red-D	Red	0.10	150°	.60	.53	.46
649-3145	CMD64531†	D	Grn-D	Green	14.00	75°	.31	.27	.24

† High efficiency * @10 mA

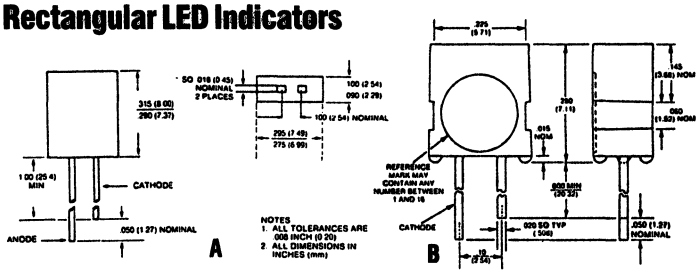


Solid State "Astrolites"

Mounts in .193" diameter hole. .344" max. panel thickness. Chrome-plated bezel, nickel-plated nut. **Maximum DC current:** 50 mA. **Forward Voltage at 20 mA:** 1.7 VDC, red: 2.3 VDC, green and yellow. **Reverse Voltage:** 3.0 V, red; 5.0 V, green and yellow. Two 6" wire leads of #26 AWG insulated stranded copper, stripped and tinned. .250".

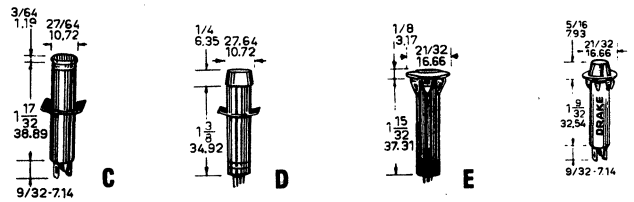
Stock No.	Mfr.'s Type	Color	EACH		
			1-99	100-499	500-Up
649-2750	6039-004-304G	Green	4.03	3.20	2.82
649-2754	6039-004-304R	Red	4.03	3.20	2.82
649-2758	6039-004-304Y	Yellow	4.03	3.20	2.82

Rectangular LED Indicators



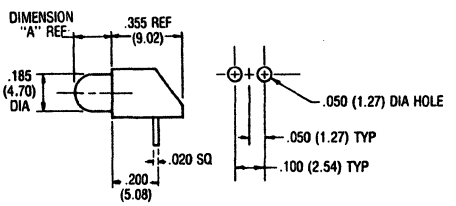
Stock No.	Mfr.'s Type	Color	Fig.	Peak Wave Length	EACH		
					1-99	100-499	500-Up
649-3150	HLMP0300	Red	A	635 mm	0.29	0.26	0.22
649-3155	HLMP0503	Green	A	565 mm	0.29	0.26	0.22
649-0615	CMD57124	Red	B	635 mm	0.41	0.38	0.36
649-0715	CMD53124	Yellow	B	585 mm	0.41	0.38	0.36
649-0645	CMD54124	Green	B	565 mm	0.41	0.38	0.36
649-0617	CMD57173	Red	B	635 mm	2.07	1.52	1.34
649-0420	CMP65	Clip for .220 × .125			0.14	0.13	0.11
649-0425	CMP73	Clip for .500 × .250			0.16	0.14	0.12

Neon "Glo-Lites"



"Glo-Lites." One-piece nylon body with built-in lens, high-brightness C2A neon lamp and resistor. Type 6063 mounts in .375" hole; type 6073 mounts in .500" hole. Two black, #22 AWG, 10" leads. Translucent nylon lens. **Lens Color:** red, white or yellow.

Stock No.	Mfr.'s Type	Fig.	Volts AC	Resistor Value	Min. Ctrs.	Max. Panel Thick.	EACH		
							1-99	100-499	500-Up
616-3155	6063-001-534R	C	125	30k, 1/4W	.500"	1.250"	2.19	1.90	1.65
616-3165	6063-001-634R	D	125	30k, 1/4W	.500"	1.250"	2.19	1.90	1.65
616-3355	6073-001-534R	E	125	30k, 1/4W	.688"	0.078"	2.97	2.35	2.07
616-3362	6073-001-634A	F	125	30k, 1/4W	.688"	0.078"	2.97	2.35	2.07
616-3365	6073-001-634R	F	125	30k, 1/4W	.688"	0.078"	2.97	2.35	2.07
616-3366	6073-001-634W	F	125	30k, 1/4W	.688"	0.078"	2.97	2.35	2.07



550 Series Circuit Board Indicators

- **►T-1¾, right angle LEDs are set in black plastic housings for consistent PC board spacing and high contrast background.**
- **► Standard LED colors include Hi brite red, yellow, green, and Standard red, yellow, and green.**
- **► 80° viewing angle.**
- **► Long life.**
- **► Solid state reliability.**
- **► Direct replacement for Dialight 550 series.**

Stock No.	Mfr.'s Type	Forward Voltage V_f			Min. V_r I_r = 100 µA	Max. I_f (mA)	Luminous Intensity			Viewing Angle	Lens Color	Protrusion (Dim. A)	Polarity[1]	Efficiency	Special[2] Features	EACH	
		Typ.	Max.	I_f = (mA)			Min.	Typ.	I_f = (mA)							1-99	100-499
649-0206	550-0206	2.3	3.0	20	5.0	50	1.6	3.2	20	80°	Green Diff.	.125	STD	STD	—	0.67	0.50
649-0306	555-0306	2.3	3.0	20	5.0	50	1.6	3.2	20	80°	Yellow Diff.	.125	STD	STD	—	0.67	0.50
649-0406	550-0406	1.7	2.0	20	5.0	50	0.8	2.0	20	80°	Red Diff.	.125	STD	STD	—	0.50	0.42
649-2206	550-2206	2.2	3.0	20	5.0	35	2.2	3.0	20	80°	Green Diff.	.187	STD	HIGH	—	0.82	0.72
649-2306	550-2306	2.2	3.0	10	5.0	35	2.2	3.0	10	80°	Yellow Diff.	.187	STD	HIGH	—	0.79	0.69
649-2406	550-2406	2.2	3.0	10	5.0	35	3.0	4.0	10	80°	Red Diff.	.187	STD	HIGH	—	0.79	0.69
649-3006	550-3006	2.3	3.0	10	5.0	25	0.6	1.8	10	80°	White Diff.	.187	STD	STD	Bi-color	2.00	1.77

[1] STD — Standard = (+) Anode is on the left side facing the viewer. [2] Bi-color Red-Green

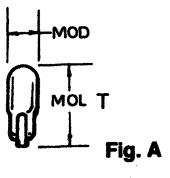


Fig. A

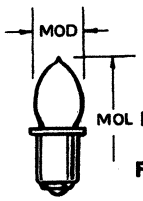


Fig. B

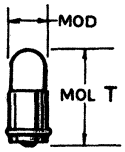


Fig. C

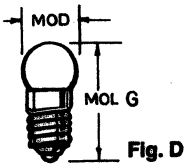


Fig. D

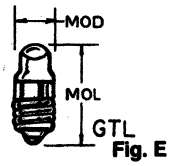


Fig. E

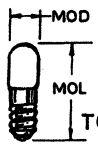


Fig. F

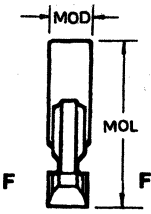


Fig. G

Wedge Base Incandescent Lamps

Sold only in boxes of 10.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Avg. Life Hrs.	Bulb Style	Base Style	Application	Overall Length, Max.		Overall Depth, Max.		PER PKG./10	
										MM	In.	MM	In.	1-9	10-49
639-0138	158	A	14.00	.240	2.00	500.0	T-3¼	Wedge	Auto. Instr.	20.7	.815	10.30	.405	**3.00**	**2.55**
639-0140	159	A	6.30	.150	.38	20.0K	T-3¼	Wedge	Radio	20.7	.815	10.30	.405	**3.00**	**2.55**
639-0142	161	A	14.00	.190	1.00	4.0K	T-3¼	Wedge	Auto. Instr.	20.7	.815	10.30	.405	**3.00**	**2.55**
639-0144	194	A	14.00	.270	2.00	1.5K	T-3¼	Wedge	Auto. Instr.	20.7	.815	10.30	.405	**3.00**	**2.55**
639-0146	259	A	6.30	.250	.65	20.0K	T-3¼	Wedge	Radio	20.7	.815	10.30	.405	**3.75**	**3.28**
639-0148	656	A	28.00	.060	.64	5.0K	T-3¼	Wedge	Indicator	20.7	.815	10.30	.405	**4.40**	**3.75**
639-0150	73	A	14.00	.080	.30	50.0K	T-1¾	Wedge	Auto.	20.3	.800	5.84	.230	**3.30**	**3.10**
639-0152	74	A	14.00	.100	.70	500.0	T-1¾	Wedge	Auto.	20.3	.800	5.84	.230	**3.00**	**2.55**
639-0154	85	A	28.00	.040	.30	25.0K	T-1¾	Wedge	Indicator	20.3	.800	5.84	.230	**3.50**	**3.20**
639-0156	86	A	6.30	.200	.40	50.0K	T-1¾	Wedge	Indicator	20.3	.800	5.84	.230	**3.50**	**3.20**

Flange Base Incandescent Lamps

639-0158	268	C	2.50	.350	.21	10.0K	T-1¾	Mid. Flg.	Auto Instr.	15.9	.625	5.84	.230	**7.00**	**5.95**
639-0160	3150	C	5.00	.060	.15	5.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**6.50**	**5.50**
639-0162	32	C	12.00	.060	.15	16.0K	T-1	Sub. Mid. Flg.	Aircraft	9.2	.360	3.20	.125	**11.20**	**9.50**
639-0164	327	C	28.00	.040	.34	7.0K	T-1¾	Mid. Flg.	Aircraft	15.9	.625	5.84	.230	**4.40**	**3.75**
639-0166	328	C	6.00	.200	.60	1.0K	T-1¾	Mid. Flg.	Aircraft	15.9	.625	5.84	.230	**4.40**	**3.75**
639-0168	330	C	14.00	.080	.50	750.0	T-1¾	Mid. Flg.	Aircraft	15.9	.625	5.84	.230	**5.10**	**4.30**
639-0170	345	C	6.00	.040	.03	10.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.30**	**4.50**
639-0172	370	C	18.00	.040	.15	10.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.50**	**4.65**
639-0174	377	C	6.30	.075	.22	500.0	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.75**	**4.90**
639-0176	380	C	6.30	.040	.02	50.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.95**	**5.05**
639-0178	381	C	6.30	.200	.40	50.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.50**	**4.65**
639-0180	382	C	14.00	.080	.30	50.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.50**	**4.65**
639-0182	385	C	28.00	.040	.20	50.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.95**	**5.05**
639-0184	387	C	28.00	.040	.30	25.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**4.40**	**3.75**
639-0186	394	C	12.00	.040	.12	10.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.75**	**4.90**
639-0188	6839	C	28.00	.024	.15	16.0K	T-1	Sub. Mid. Flg.	Indicator	9.2	.360	3.20	.125	**15.30**	**13.39**
639-0190	718	C	5.00	.115	.15	40.0K	T-1	Sub. Mid. Flg.	Indicator	9.2	.360	3.20	.125	**8.85**	**7.45**
639-0194	7335	C	5.00	.115	.15	40.0K	T-1¾	Mid. Flg.	Indicator	15.9	.625	5.84	.230	**5.75**	**4.90**
639-0196	PR12	B	5.95	.500	3.10	15.0	B-3½	Min. Flg.	Flash 5-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**
639-0198	PR13	B	4.75	.500	2.20	15.0	B-3½	Min. Flg.	Flash 4-F Cell	31.8	1.250	11.10	.437	**2.75**	**2.35**
639-0200	PR18	B	7.20	.550	5.50	5.0	B-3½	Min. Flg.	Flash 6-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**
639-0202	PR2	B	2.38	.500	.80	15.0	B-3½	Min. Flg.	Flash 2-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**
639-0204	PR3	B	3.57	.500	1.50	15.0	B-3½	Min. Flg.	Flash 3-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**
639-0206	PR4	B	2.33	.270	.40	10.0	B-3½	Min. Flg.	Flash 2-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**
639-0208	PR6	B	2.47	.300	.45	30.0	B-3½	Min. Flg.	Flash 2-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**
639-0210	PR7	B	3.70	.300	.90	30.0	B-3½	Min. Flg.	Flash 3-D Cell	31.8	1.250	11.10	.437	**2.90**	**2.45**

Slide Base Incandescent Lamps

639-0212	10ESB	G	10.00	.040	.07	5.0K	T-2	Slide	Telephone	22.3	.875	7.00	.275	**8.20**	**6.95**
639-0214	120PSB	G	120.00	.025	.36	5.0K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**9.95**	**8.66**
639-0218	12ESB	G	12.00	.040	.09	15.0K	T-2	Slide	Telephone	22.3	.875	7.00	.275	**8.20**	**6.95**
639-0220	12PSB	G	12.00	.170	.48	12.0K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**8.20**	**6.95**
639-0222	24CSB	G	24.00	.017	.02	15.0K	T-2	Slide	Telephone	22.3	.875	7.00	.275	**8.20**	**6.95**
639-0224	24E	G	24.00	.035	—	8.0K	T-2	Slide	Telephone	42.8	1.690	7.00	.275	**8.20**	**6.95**
639-0226	24ESB	G	24.00	.040	.12	8.0K	T-2	Slide	Telephone	22.3	.875	7.00	.275	**8.20**	**6.95**
639-0228	24PSB	G	24.00	.073	.85	10.0K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**8.20**	**6.95**
639-0230	24X	G	24.00	.035	—	8.0K	T-2	Slide	Telephone	42.8	1.690	7.00	.275	**8.20**	**6.95**
639-0232	28ESB	G	28.00	.040	.25	6.0K	T-2	Slide	Telephone	22.3	.875	7.00	.275	**8.20**	**6.95**
639-0234	28PSB	G	28.00	.040	.17	5.0K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**8.20**	**6.95**
639-0236	48PSB	G	48.00	.053	.52	10.0K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**9.10**	**7.75**
639-0238	51A	G	10.00	.036	275.00	10.0K	T-2	Slide	Telephone	—	—	—	—	**8.60**	**7.30**
639-0240	55C	G	55.00	.050	1400.00	5.0K	T-2	Slide	Telephone	42.8	1.690	7.00	.275	**10.85**	**9.49**
639-0242	60PSB	G	60.00	.050	.67	7.5K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**10.10**	**8.84**
639-0244	6PSB	G	6.00	.140	.12	20.0K	T-2	Slide	Telephone	27.1	1.060	7.00	.275	**8.20**	**6.95**

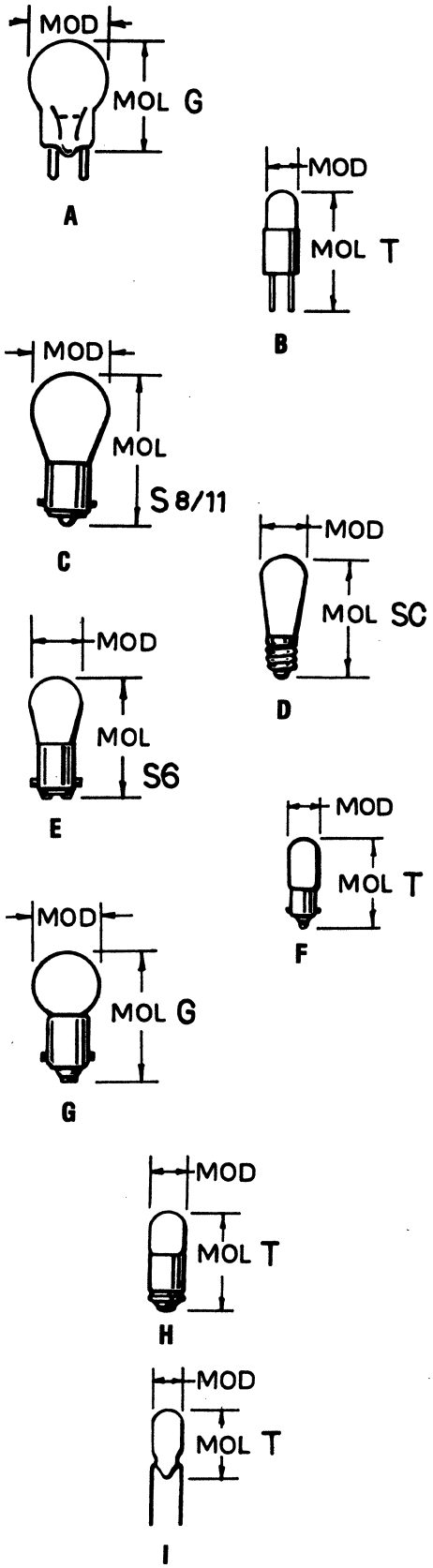
Miniature Screw Base Incandescent Lamps

639-0246	112	E	1.20	.220	—	5.0	GTL-3	Min. Screw	Flash 1-AA Cell	23.4	.921	9.50	.375	**3.52**	**3.00**
639-0248	222	E	2.25	.250	—	5.0	GTL-3	Min. Screw	Flash 2-AA Cell	23.4	.921	9.50	.375	**3.08**	**2.62**
639-0250	333	D	28.00	.040	.32	1.0K	G-2	Min. Screw	Instrument	14.0	.550	6.40	.250	**6.51**	**5.55**
639-0252	335	F	28.00	.040	.34	7.0K	T-1¾	Mid. Screw	Indicator	17.5	.688	5.84	.230	**6.60**	**5.60**
639-0254	342	F	6.00	.040	.03	10.0K	T-1¾	Mid. Screw	Indicator	17.5	.688	5.84	.230	**5.10**	**4.35**
639-0256	425	D	5.00	.500	2.30	15.0	G-4½	Min. Screw	Hand Lantern	26.9	1.060	14.30	.562	**7.05**	**6.00**
639-0258	502	D	5.10	.150	.60	100.0	G-4½	Min. Screw	Lantern 4-F Cell	26.9	1.060	14.30	.562	**4.00**	**3.40**
639-0118	8362	F	14.00	.080	.30	50.0K	T-1¾	Min. Screw	Indicator	15.9	.625	5.84	.230	**6.40**	**5.45**

Neon Glow Lamps

Stock No.	Mfr.'s Type	Volts	Watts	Average Life Hours	Bulb Style	Base Style	PER PKG./10	
							1-9	10-49
639-0286	A1A	105-125	1/17	25K	T-2	1" Wire Term.	**2.86**	**2.43**
639-0288	A1H	105-125	1/7	25K	T-2	Mid. Flg.	**9.70**	**8.25**
639-0290	A9A (NE-2E)	105-125	1/12	25K	T-2	2" Wire Term.	**2.86**	**2.43**
639-0292	B1A (NE-51)	105-125	1/25	25K	T-3¼	Min. Bayo.	**6.65**	**5.82**
639-0294	B2A (NE-51H)	105-125	1/7	25K	T-3¼	Min. Bayo.	**6.65**	**5.82**
639-0296	B7A (NE-45)	105-125	1/4	5K	T-4½	Cand.	**19.80**	**16.85**
639-0298	C2A (NE-2H)	105-125	1/4	25K	T-2	2" Wire Term.	**2.86**	**2.43**
639-0300	C7A (NE-2D)	105-125	1/12	25K	T-2	Mid. Flg.	**11.00**	**9.35**
639-0302	C9A (NE-2J)	105-125	1/4	25K	T-2	Mid. Flg.	**11.00**	**9.35**

The wide selection of miniature incandescent lamps fill the requirements of today's electronic design engineers. The lamps described are designed for applications where space is at a premium and where low power consumption and long life are rigid requirements. Four basic criteria govern the operating characteristics of miniature incandescent lamps. Voltage, Current, Luminous Intensity, and Life. Power consumption in relation to envelope size and environmental consideration are important and data relating to these perimeters are listed for ease in selecting the correct lamp. All lamps are identified by an industry standard number which indicates all physical and electrical characteristics including bulb type, design voltage, current, M.S.C.P., and rated life. Aging and selection for special tolerances and colored lamps are available on "Special Order" only. For additional lamp offerings or data, call your nearest Allied Sales Office at 1-800-433-5700. Sold in boxes of 10 only.



Bi-Pin Base Incandescent Lamps

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Average Life Hrs.	Bulb Style	Base Style	Application	Overall Length, Max.		Overall Depth, Max.		PER PKG./10	
										MM	In.	MM	In.	1-9	10-49
639-0002	10	A	2.5	.500	—	3K	G-3½	Bi-Pin	Indicator	23.9	.940	11.1	.437	9.20	6.43
639-0004	12	A	6.3	.150	.35	5K	G-3½	Bi-Pin	Radio	23.9	.940	11.1	.437	7.35	6.43
639-0006	7327	B	28.0	.040	.34	7K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	6.60	5.78
639-0008	7328	B	6.0	.200	.60	1K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	6.60	5.78
639-0012	7362	B	5.0	.115	.15	40K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	7.00	5.95
639-0014	7370	B	18.0	.040	.15	10K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	8.80	7.70
639-0016	7371	B	12.0	.040	.12	10K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	7.00	5.95
639-0018	7374	B	28.0	.040	.20	50K	T-1¾	Bi-Pin	Indicator	15.9	.625	5.84	.230	7.00	5.95
639-0020	7376	B	28.0	.065	.65	5K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	9.00	7.65
639-0022	7377	B	6.3	.075	.22	500	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	6.60	5.78
639-0024	7382	B	14.0	.080	.30	50K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	6.60	5.78
639-0026	7387	B	28.0	.040	.30	25K	T-1¾	Bi-Pin	PC Boards	15.9	.625	5.84	.230	6.60	5.78
639-0028	7683	B	5.0	.060	.05	5K	T-1	Bi-Pin	PC Boards	8.9	.350	3.20	.125	9.40	8.20

Candelabra Base Incandescent Lamps

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Average Life Hrs.	Bulb Style	Base Style	Application	Overall Length, Max.		Overall Depth, Max.		PER PKG./10	
										MM.	In.	MM	In.	1-9	10-49
639-0030	10S6SB	D	125	10W	10L	1.5K	S-6	Cand.	Line Voltage	47.6	1.88	19.7	.775	14.66	13.50
639-0032	3S6SB	D	120	3W	—	—	S-6	Cand.	Line Voltage	47.6	1.88	19.7	.775	12.40	10.90
639-0034	6S6SB	D	120	6W	39L	1.5K	S-6	Cand.	Line Voltage	47.6	1.88	19.7	.775	9.00	8.10
639-0036	6S6SB	D	145	6W	37L	1.5K	S-6	Cand.	Line Voltage	47.6	1.88	19.7	.775	13.80	12.20

Bayonet Base Incandescent Lamps

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Average Life Hrs.	Bulb Style	Base Style	Application	Overall Length, Max.		Overall Depth, Max.		PER PKG./10	
										MM	In.	MM	In.	1-9	10-49
639-0038	1156	C	12.8	2.100	32.00	600.0	S-8	SC Bayo.	Auto.	50.8	2.00	25.4	1.000	5.00	4.25
639-0040	1157	C	12.8	2.100	32.00	600.0	S-8	DC Bayo. Index	Auto., Tail, Sig.	50.8	2.00	25.4	1.000	4.00	3.40
639-0042	120MB	F	120.0	.025	0.36	5.0K	T-2	Min. Bayo	Telephone	30.1	1.18	7.5	0.295	11.20	10.65
639-0044	1251	G	28.0	.230	3.00	3.0K	G-6	SC Bayo.	Auto.	36.6	1.44	19.1	0.750	6.60	5.60
639-0046	130	G	6.3	.150	0.38	3.0K	G-3½	Min. Bayo.	Radio	23.9	0.94	11.1	0.437	4.07	3.56
639-0048	1630	C	6.5	2.750	23.00	100.0	S-8	DC Bayo. Pref.	Instrument	50.8	2.00	25.4	1.000	44.00	38.50
639-0050	1813	F	14.4	.100	0.86	1.0K	T-3¼	Min. Bayo.	Radio	30.2	1.19	10.3	0.405	5.30	4.64
639-0052	1815	F	14.0	.200	1.40	3.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	5.30	4.64
639-0054	1816	F	13.0	.330	3.00	1.0K	T-3¼	Min. Bayo.	Aircraft	30.2	1.19	10.3	0.405	5.00	4.25
639-0056	1818	F	24.0	.170	3.30	250.0	T-3¼	Min. Bayo.	Aircraft	30.2	1.19	10.3	0.405	6.80	5.78
639-0058	1819	F	28.0	.040	0.34	1.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	5.30	4.64
639-0060	1820	F	28.0	.100	1.60	1.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	5.60	4.76
639-0062	1826	F	28.0	.150	1.80	250.0	T-3¼	Min. Bayo.	Radio	30.2	1.19	10.3	0.405	6.00	5.10
639-0064	1829	F	28.0	.070	1.00	1.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	4.50	3.90
639-0066	1835	F	55.0	.050	1.10	5.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	9.50	8.15
639-0068	1850	F	5.0	.090	0.25	1.5K	T-3¼	Min. Bayo.	Auto. Sig.	30.2	1.19	10.3	0.405	6.00	5.10
639-0070	1864	F	28.0	.170	3.00	1.5K	T-3¼	Min. Bayo.	Auto Instr.	30.2	1.19	10.3	0.405	5.00	4.25
639-0072	1866	F	6.3	.250	0.65	5.0K	T-3¼	Min. Bayo.	Radio	30.2	1.19	10.3	0.405	5.25	4.45
639-0074	1891	F	14.0	.240	2.00	500.0	T-3¼	Min. Bayo.	Auto.	30.2	1.19	10.3	0.405	3.50	2.95
639-0076	1892	F	14.4	.120	0.75	1.0K	T-3¼	Min. Bayo.	Auto.	30.2	1.19	10.3	0.405	3.50	2.95
639-0082	311	C	28.0	1.290	50.00	300.0	S-11	SC Bayo.	Aircraft	60.5	2.38	34.9	1.380	9.50	8.10
639-0084	313	F	28.0	.170	3.50	500.0	T-3¼	Min. Bayo.	Aircraft	30.2	1.19	10.3	0.405	4.50	3.80
639-0086	3995	F	120.0	.020	—	—	T-3¼	Min. Bayo.	—	30.2	1.19	10.3	0.405	26.60	23.28
639-0088	44	F	6.3	.250	0.90	3.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	2.95	2.58
639-0090	47	F	6.3	.150	0.52	3.0K	T-3¼	Min. Bayo.	Radio	30.2	1.19	10.3	0.405	2.95	2.58
639-0092	51	G	7.5	.220	1.00	1.0K	G-3½	Min. Bayo.	Indicator	23.9	0.94	11.1	0.437	3.30	2.80
639-0094	53	G	14.4	.120	1.00	1.0K	G-3½	Min. Bayo.	Auto.	23.9	0.94	11.1	0.437	3.30	2.80
639-0096	55	G	7.0	.410	2.00	500.0	G-4½	Min. Bayo.	Auto. Instr.	26.9	1.06	14.3	0.562	3.30	2.80
639-0098	57	G	14.0	.240	2.00	500.0	G-4½	Min. Bayo.	Auto. Instr.	26.9	1.06	14.3	0.562	3.30	2.80
639-0100	6S6	E	145.0	6W	—	1.5K	S-6	DC Bayo.	Line Voltage	46.0	1.81	19.7	0.775	13.90	12.16
639-0102	6S6	E	120.0	6W	39.00	1.5K	S-6	DC Bayo.	Line Voltage	46.0	1.81	19.7	0.775	13.90	12.16
639-0104	755	F	6.3	.150	0.33	50.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	5.50	4.75
639-0106	756	F	14.0	.080	0.31	50.0K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	5.50	4.75
639-0108	757	F	28.0	.080	0.62	7.5K	T-3¼	Min. Bayo.	Indicator	30.2	1.19	10.3	0.405	5.50	4.75
639-0110	93	C	12.8	1.040	15.00	500.0	S-8	SC Bayo.	Auto.	50.8	2.00	25.4	1.000	5.50	4.75

Miniature Groove Base Incandescent Lamps

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Average Life Hrs.	Bulb Style	Base Style	Application	Overall Length, Max.		Overall Depth, Max.		PER PKG./10	
										MM	In.	MM	In.	1-9	10-49
639-0112	334	H	28	.04	.34	7K	T-1¾	Mid. Groove	Aircraft	15.9	.625	5.84	.230	6.20	5.25
639-0114	386	H	14	.08	.30	50K	T-1¾	Mid. Groove	Indicator	15.9	.625	5.84	.230	5.50	4.65
639-0116	388	H	28	.04	.30	25K	T-1¾	Mid. Groove	Indicator	15.9	.625	5.84	.230	5.50	4.65

Wire Terminal Incandescent Lamps

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	MSCP	Average Life Hrs.	Bulb Style	Base Style	Application	Overall Length, Max.		Overall Depth, Max.		PER PKG./10	
										MM	In.	MM	In.	1-9	10-49
639-0120	1764	I	28	.040	.34	4K	T-1¾	5/8" Wire Term.	Indicator	13.2	.520	5.84	.230	3.75	3.20
639-0122	1784	I	6	.200	.60	1K	T-1¾	5/8" Wire Term.	Indicator	13.2	.520	5.84	.230	3.30	2.80
639-0124	680	I	5	.060	.03	60K	T-1	1 3/8" Wire Term.	Aircraft	5.9	.235	3.20	.125	4.60	3.90
639-0126	683	I	5	.060	.05	25K	T-1	1 3/8" Wire Term.	Aircraft	5.9	.235	3.20	.125	4.20	3.55
639-0128	6833	I	5	.060	.05	25K	T-3/4	1 3/8" Wire Term.	Indicator	4.75	.188	2.40	.093	9.45	8.10
639-0130	713	I	5	.075	.09	25K	T-1	1 3/8" Wire Term.	Aircraft	5.9	.235	3.20	.360	5.05	4.30
639-0132	715	I	5	.115	.15	40K	T-1	1 3/8" Wire Term.	Aircraft	5.9	.235	3.20	.360	4.20	3.55
639-0134	7219	I	12	.060	.15	10K	T-1	1 3/8" Wire Term.	Indicator	5.9	.235	3.20	.125	10.70	9.10
639-0136	8640	I	14	.080	.50	1K	T-1¼	½" Wire Term.	Indicator	11.7	.460	4.27	.168	4.62	3.92

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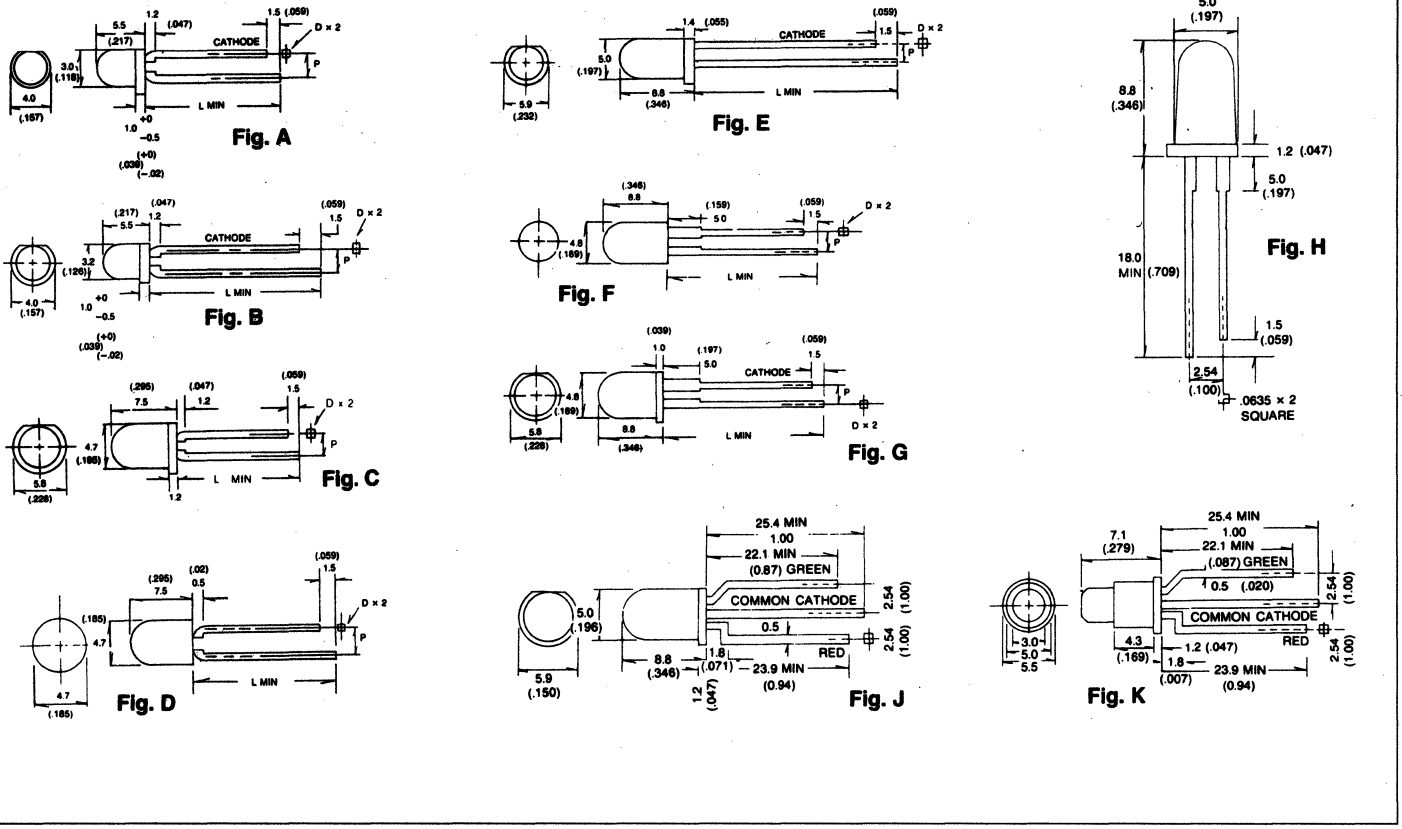

The low cost, variety and quality makes this device suitable for many applications such as indicators, panel illumination, logic status, binary data display and more. Colors are available in red, hi-red, green, yellow, orange, and multi-color. Styles in shapes of dome (low, high and medium profile), rectangular, square, cylindrical, pin point, convex and arrays. Call your nearest Allied facility for additional availability and data.

Stock No.	Mfr.'s Type	Fig.	Style	Color	Lens	Lead Pin Style	IV (mcd) Typ IF = 20 mA	VF Typ. IF = 20 mA	IR (μA) Max. VR = 5 V	EACH 1-24	25-99	100-249	250-499
639-0800	ML900-1101	A	T-1	Hi-Red	Red D	L-1	2.0	2.15	100	**0.26**	**0.24**	**0.21**	**0.18**
639-0802	ML900-2201	A	T-1	Green	Green D	L-1	2.5	2.15	100	**0.34**	**0.30**	**0.27**	**0.24**
639-0804	ML900-3301	A	T-1	Yellow	Yellow D	L-1	2.5	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0806	ML900-4401	A	T-1	Orange	Orange D	L-1	4.0	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0814	ML940-1101	C	T-1¾	Hi-Red	Red D	L-1	2.0	2.15	100	**0.26**	**0.24**	**0.21**	**0.18**
639-0816	ML940-2201	C	T-1¾	Green	Green D	L-1	2.5	2.15	100	**0.34**	**0.30**	**0.27**	**0.24**
639-0818	ML940-3301	C	T-1¾	Yellow	Yellow D	L-1	2.5	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0820	ML941-1101	D	T-1¾	Hi-Red	Red D	L-1	2.0	2.15	100	**0.26**	**0.24**	**0.21**	**0.18**
639-0822	ML941-2201	D	T-1¾	Green	Green D	L-1	2.5	2.15	100	**0.34**	**0.30**	**0.27**	**0.24**
639-0824	ML941-3301	D	T-1¾	Yellow	Yellow D	L-1	2.5	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0826	ML950-1102	E	T-1¾	Hi-Red	Red D	L-2	2.0	2.15	100	**0.26**	**0.24**	**0.21**	**0.18**
639-0828	ML950-2202	E	T-1¾	Green	Green D	L-2	2.5	2.15	100	**0.34**	**0.30**	**0.27**	**0.24**
639-0830	ML950-3302	E	T-1¾	Yellow	Yellow D	L-2	2.5	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0838	ML961-1103	G	T-1¾	Hi-Red	Red D	L-3	4.0	2.15	100	**0.30**	**0.27**	**0.24**	**0.21**
639-0840	ML961-2203	G	T-1¾	Green	Green D	L-3	4.0	2.15	100	**0.34**	**0.30**	**0.27**	**0.24**
639-0842	ML961-3303	G	T-1¾	Yellow	Yellow D	L-3	4.0	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0844	ML961-4403	G	T-1¾	Orange	Orange D	L-3	6.0	2.15	100	**0.38**	**0.34**	**0.30**	**0.26**
639-0846	ML600-5502	H	T-1¾	Red/Green	White D	L-2	1.5/0.5	1.7/2.2	N/A	**0.68**	**0.61**	**0.54**	**0.47**
639-0848	ML601-5504	J	T-1¾	R/G/Y	White D	2.54mm*	1.5/1.5	2.2	100	**0.83**	**0.74**	**0.66**	**0.58**
639-0850	ML602-5504	K	T-1¾	R/G/Y	White D	2.54mm*	1.5/1.5	2.2	100	**0.83**	**0.74**	**0.66**	**0.58**
639-0852	ML401-1111U	G	—	Red	Trans.	L-3	500.0	1.8	100	**1.32**	**1.19**	**1.06**	**0.93**
639-0854	ML402-1111U	G	—	Red	Trans.	L-3	1000.0	1.8	100	**2.25**	**2.03**	**1.80**	**1.58**
639-0856	ML403-1111U	G	—	Red	Trans.	L-3	2000.0	1.8	100	**3.38**	**3.04**	**2.70**	**2.36**

* Anode to Cathode ** Other LEDs not shown also available

Lead Pin Style	L	P	D Square
L-1	.591	.090	.020

Lead Pin Style	L	P	D Square
L-2	.709	.100	.025

Lead Pin Style	L	P	D Square
L-3	1.00	.100	.020

Flashlight Replacement Lamps

Fig. 1

Fig. 2

Stock No.	Mfr.'s Type	Base	Volts	Amps	MSCD	Average Hours	Fig. No.	Battery Cells	PER PKG./10		
									1-9	10-49	50-Up
937-7222	222	Min. Screw	2.25	.25	—	5	2	(1-AA)	12.30	8.20	7.00
937-7002	PR-2	SC Midget Flanged	2.38	.50	0.80	15	1	(2-D)	10.50	7.00	5.90
937-7006	PR-6	SC Midget Flanged	2.47	.30	0.45	30	1	(2-D)	10.80	7.20	6.10
937-7007	PR-7	SC Midget Flanged	3.70	.30	0.90	30	1	(3-D)	12.30	8.20	7.00
937-7013	PR-13	SC Midget Flanged	4.75	.50	2.00	15	1	(4-F)	10.80	7.20	6.10

T-1 3/4 Subminiature Lamps

Wedge

SC Midget Flange

Midget Groove

BI Pin

Stock No.	Mfr.'s Type	Base	Volts	Amps	MSCD	Average Hours	Application	PER PKG./10		
								1-9	10-49	50-Up
937-7010	56	Wedge	5.0	.115	.150	20.0K	Indicator	8.00	7.00	6.00
937-7005	86	Wedge	6.3	.200	.400	20.0K	Indicator	9.20	8.20	7.20
937-7025	73	Wedge	14.0	.080	.300	15.0K	Indicator	7.30	6.30	5.50
937-7030	37	Wedge	14.0	.090	.500	2.5K	Indicator	8.10	7.20	6.30
937-7035	74	Wedge	14.0	.100	.700	0.5K	Indicator	7.10	6.10	5.40
937-7170	85	Wedge	28.0	.040	.300	10.0K	Indicator	7.30	6.30	5.50
937-7275	328	SC Midget Flanged	6.0	.200	.340	1.0K	Indicator	7.40	6.40	5.60
937-7280	330	SC Midget Flanged	14.0	.080	.500	1.5K	Indicator	7.90	7.00	6.10
937-7300	382	SC Midget Flanged	14.0	.080	.300	15.0K	Indicator	9.40	8.40	7.30

Stock No.	Mfr.'s Type	Base	Volts	Amps	MSCD	Average Hours	Application	PER PKG./10		
								1-9	10-49	50-Up
937-7305	387	SC Midget Flanged	28.0	.040	.300	7.0K	Indicator	6.00	5.00	4.40
937-7295	376	SC Midget Flanged	28.0	.060	.340	25.0K	Indicator	9.10	8.10	7.20
937-7270	327	SC Midget Flanged	28.0	.040	.340	4.0K	Indicator	6.00	5.00	4.40
937-7310	388	Midget Groove	28.0	.040	.300	7.0K	Aircraft	12.80	11.80	10.30
937-7015	7328	Bi Pin	6.0	.200	.600	1.0K	PC Board	11.50	10.70	9.40
937-7020	7344	Bi Pin	10.0	.014	.004	50.0K	PC Board	11.70	10.90	9.60
937-7080	7327	Bi Pin	28.0	.040	.340	4.0K	PC Board	10.40	9.40	8.20
937-7085	7387	Bi Pin	28.0	.040	.300	7.0K	PC Board	10.40	9.40	8.20
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T-2 Telephone Slide Base Lamps

Stock No.	Mfr.'s Type	Base	Volts	Amps	MSCD	Average Hours	Application	PER PKG./10		
								1-9	10-49	50-Up
937-7120	51A	SLI No.6	10.0	.036	275	10.0K	Indicator	10.79	9.47	8.15
937-7125	24E	SLI No. 3	24.0	.035	600	7.0K	Indicator	13.16	11.51	9.87
937-7130	48C	SLI No.3	48.0	.035	400	7.0K	Indicator	15.20	13.29	11.39
937-7135	55C	SLI No. 3	55.0	.050	1400	5.0K	Indicator	15.31	13.40	11.50

* Light measured in end foot candles

51A

Slide Base
24E 48C 55C

T-3 1/4 Miniature Lamps

Wedge

Miniature Bayonet

Stock No.	Mfr.'s Type	Base	Volts	Amps	MSCD	Average Hours	Application	PER PKG./10		
								1-9	10-49	50-Up
937-7230	259	Wedge	6.3	.250	0.65	5.0K	Radio	6.30	5.30	4.60
937-7605	194	Wedge	14.0	.270	2.00	5.0K	Radio	6.30	5.30	4.60
937-7290	657	Wedge	28.0	.080	0.62	7.5K	Radio	8.20	7.10	6.20
937-7105	47	Min Bay	6.3	.150	0.50	3.0K	Radio	4.70	3.60	3.20
937-7355	755	Min Bay	6.3	.150	0.33	20.0K	Radio	10.50	9.50	8.30
937-7090	44	Min Bay	6.3	.250	0.90	3.0K	Radio	4.60	3.60	3.20
937-7435	1866	Min Bay	6.3	.250	0.65	5.0K	Radio	9.70	8.70	7.60

* Light measured in mean spherical candela

Stock No.	Mfr.'s Type	Base	Volts	Amps	MSCD	Average Hours	Application	PER PKG./10		
								1-9	10-49	50-Up
937-7440	1816	Min Bay	13.0	.330	3.00	1.0K	Radio	9.60	8.60	7.60
937-7445	1819	Min Bay	28.0	.040	0.34	2.5K	Radio	9.60	8.60	7.60
937-7455	1829	Min Bay	28.0	.070	1.00	1.0K	Radio	9.00	8.00	7.00
937-7450	1820	Min Bay	28.0	.100	1.60	1.0K	Radio	9.60	8.60	7.60
937-7460	1828	Min Bay	37.5	.050	0.65	3.0K	Radio	26.40	24.40	21.40
937-7405	1835	Min Bay	55.0	.050	1.10	5.0K	Radio	29.80	27.80	24.40
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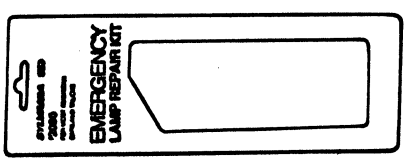


Emergency Lamp Kit

This kit contains 10 of the most commonly used light bulbs in domestic cars. It includes park & turn, dome lamp, instrument, etc. Buy one today!

937-2000. Type 2000 Emergency Kit **1-9** ..... EACH 6.20
10-49 ..... EACH 5.25
50-Up ..... EACH 4.20

Neon Glow Lamps

Stock No.	Mfr.'s Type	Volts	Nominal Current (mA)	Average Hours	EACH			
					1-9	10-99	100-499	500-Up
937-7045	NE-2	105-125	0.7	25K	0.52	0.42	0.37	0.32
937-7050	NE-2A	105-125	0.3	25K	0.52	0.42	0.37	0.32
937-7055	NE-2V	105-125	0.7	25K	0.52	0.42	0.37	0.32
937-7060	NE-2E	105-125	0.7	25K	0.52	0.42	0.37	0.32
937-7065	NE-45	105-125	2.0	5K	5.41	5.21	4.56	3.91
937-7070	NE-51	105-125	0.3	10K	0.99	0.89	0.78	0.67
937-7075	NE-51H	105-125	1.2	20K	0.99	0.89	0.78	0.67
937-7095	NE-2H	105-125	1.9	25K	0.52	0.42	0.37	0.32
937-7110	NE-2D	105-125	0.7	25K	2.63	2.43	2.13	1.83

NE-2

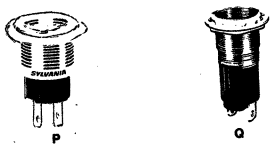
NE-45

NE-51

NE-2D

GTE/Sylvania lamp assemblies utilize common lenses for more versatility. Select the desired socket, lens, and appropriate lamp from the listings shown.

T-2 Slide and T-2 1/2/T-3 1/4 Miniature Bayonet Sockets



Dimensions. Lenses: Diameter 0.63″; Height — 0.38″. **Socket:** Front of panel to end of terminals — 0.91″. **Mounting Hole:** 11/16″ diameter.

Stock No.	Mfr.'s Type*	Lamp Type	Fig. No.	EACH 1-9
937-6098	30099	T-2 Slide Base Pilot	P	3.08
937-6154	31099	Miniature Bayonet	Q	3.73

* Uses lenses Fig. A through E

T-2 Indicator Sockets

Dimensions. Round Lens: 0.70″ dia. × 0.48″ high. **Square Lens:** 0.70″ × 0.48″ high. **Sockets:** 1.14″ M.O.L; **Mounting Hole:** .050″ diameter. **Material:** Zytol #101.

Stock No.	Mfr.'s Type*	Lamp Type	EACH 1-9
937-6260	30151	T-2 Indicator	0.85
937-6153	30153	T-2 Indicator	0.85

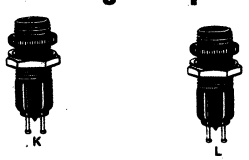
* Uses lenses Fig. F, G, or D and Uses T-2 Slide Base Lamps.

T-2 Slide Base Pilot Lamp Sockets

Dimensions. Round Lens: 0.70″ dia. × 0.48″ high. **Square Lens:** 0.70″ × 0.70″ × 0.48″ high. **Socket:** 1.31″ M.O.L.; **Mounting Hole:** 0.50″ diameter.

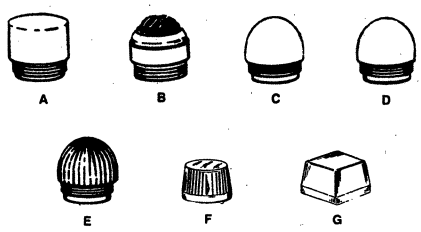
Stock No.	Mfr.'s Type	Lamp Type	EACH 1-9
937-6152	30152	T-2 Slide Base Pilot	1.23

Sockets for T-2 Indicator Cartridge Lamps



Stock No.	Mfr.'s Type	Base	Fig. No.	EACH 1-9
937-3600	SM1	Turret	K	5.43
937-3605	SM1A	Solder	L	5.43
937-3620	SM2	Turret	K	5.43
937-3625	SM2A	Solder	L	5.43

Lenses



Stock No.*	Description	Fig. No.	EACH 1-9
937-620X	Flat Top Translucent	A	1.17
937-621X	Jeweled	B	1.34
937-622X	Dome Transparent	C	0.79
937-623X	Dome Translucent	D	0.67
937-624X	Dome Fluted	E	0.67
937-626X	Round Lens	F	0.65
937-627X	Square Lens	G	0.65

* Select lens style from table and pictures above. Complete Stock Number for lens color by inserting number of color desired for "X". Use 1-Amber; 2-Blue;3-Clear;4-Green; 5-Red; 6-White; 7-Yellow.

End Caps for T-2 Slide Base Pilot Lamps

Stock No.	Mfr.'s Type*	Color	Fig. No.	EACH 1-9
937-6255	38001	Red	J	0.54
937-6257	38002	Yellow	J	0.54
937-6256	38003	White	J	0.54
937-6254	38004	Green	J	0.54
937-6258	38005	Blue	J	0.54
937-6259	38007	Orange	J	0.54

* Polycarbonate end caps are press fit to lamp; cannot be used with lamps rated over 1.1 watts.

Lenses for T-2 Indicator Cartridge Lamps

Stock No.	Mfr.'s Type		Color	EACH 1-9
	Transparent	Translucent		
937-6281	30140	—	Amber	1.17
937-6283	30141	—	Clear	1.17
937-6X85*	30142	30147	Red	1.17
937-6X82*	30143	30148	Blue	1.17
937-6X84*	30144	30149	Green	1.17
937-6187	—	30145	Yellow	1.17
937-6186	—	30146	White	1.17

* Selections type by placing two for transparent or one for translucent in place of X in part number.

T-2 1/2 Miniature Bayonet Lamps

Stock No.	Mfr.'s Type	Volts	Amps	MSCD	PER PKG./10 1-9
937-7175	6MB	6.0	.140	.120	15.60
937-5125	12MB	12.0	.170	.350	15.60
937-5130	24MB	24.0	.070	.500	15.60
937-5135	28MB	28.0	.040	.290	15.60
937-5140	60MB	60.0	.050	.730	16.20
937-5145	90MB	90.0	.030	.370	16.90
937-5150	120MB	120.0	.025	.360	14.61
937-7180	120MB/6	120.0	.052	1.430	16.20

T-2 Slide Base Pilot Lamps

Stock No.	Mfr.'s Type	Volts	Amps	MSCD	PER PKG./10 1-9
937-3735	6PSB	6	.140	.12	14.50
937-3970	24PSB	24	.073	.50	12.30
937-3975	28PSB	28	.040	.29	12.42
937-4060	48PSB	48	.053	.70	13.71
937-5000	60PSB	60	.050	.73	13.54
937-5120	120PSB	120	.025	.36	13.36

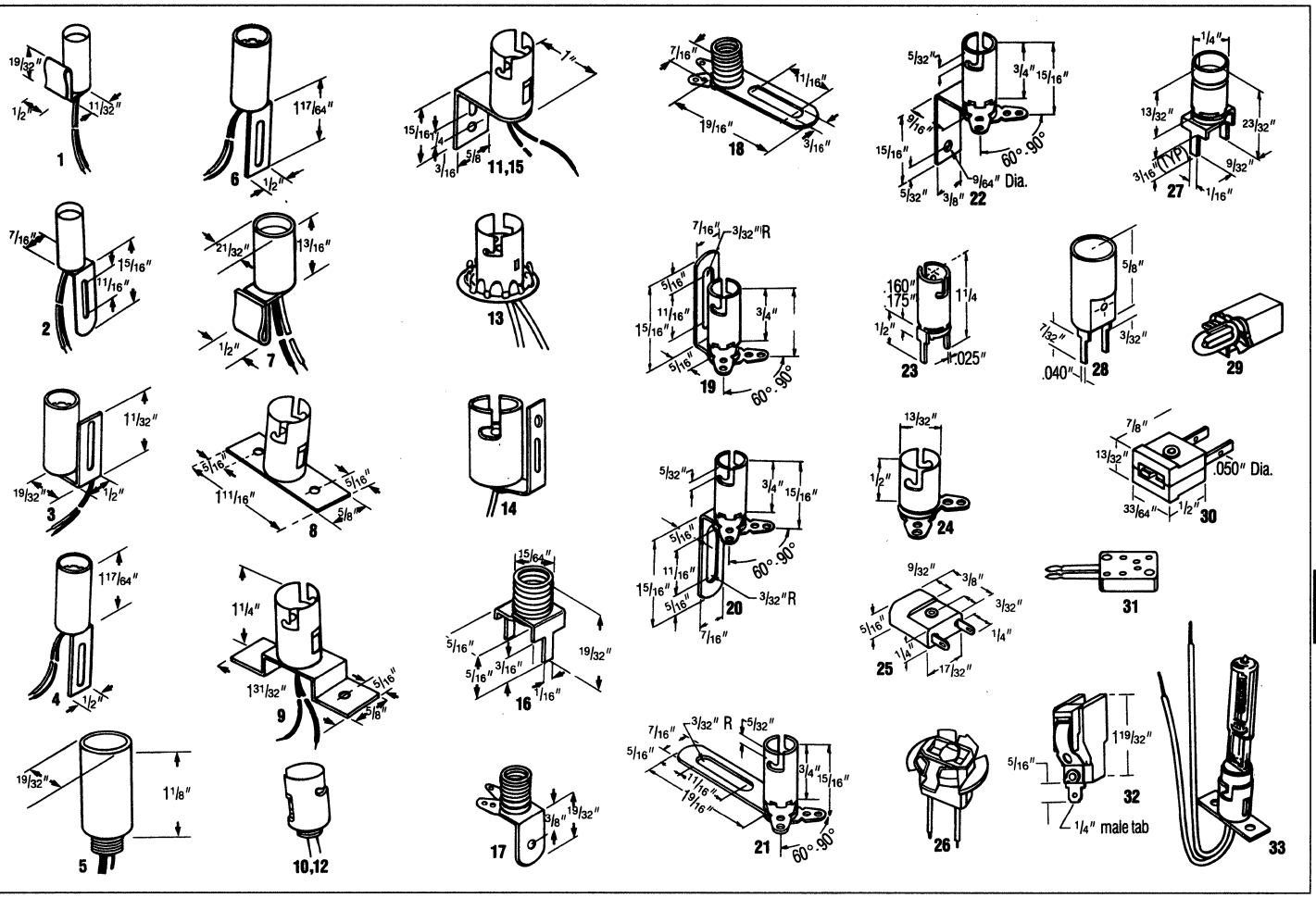
T-2 Slide Base Indicator Lamps

Stock No.	Mfr.'s Type	Volts	Amps	MSCD	PER PKG./10 1-9
937-3725	6ESB	6.0	.040	.025	13.05
937-7120	51A	10.0	.036	275.000	10.79
937-3775	10ESB	10.0	.040	.070	10.66
937-3810	12ESB	12.0	.040	.090	13.82
937-3820	12PSB	12.0	.017	.350	13.16
937-3910	16ESB	16.0	.040	.170	13.60
937-3915	18ESB	18.0	.040	.140	14.48
937-3945	24CSB	24.0	.017	.020	15.31
937-7125	24E	24.0	.035	600.000	13.16
937-3960	24ESB	24.0	.040	.120	14.28
937-3985	28ESB	28.0	.040	.250	13.60
937-7130	48C	48.0	.035	400.000	15.20
937-4040	48ESB	48.0	.040	.440	15.25
937-7135	55C	55.0	.050	1400.000	15.31

T-2 Pilot Cartridge Lamp and Sockets

Stock No.	Mfr.'s Type	Fig. No.	Volts	Amps	Average Hours	EACH 1-9
937-4000	6PC	R	6.0	.800	20.0K	2.42
937-4010	12PC	R	12.0	2.000	12.0K	2.42
937-4070	24PC	R	24.0	1.700	10.0K	2.42
937-4080	28PC	R	28.0	1.100	5.0K	2.42
937-5030	60PC	R	60.0	3.000	7.5K	1.88
937-5060	120PC	R	120.0	3.000	7.5K	2.46
937-7115	901IC	S	4.0	.040	10.0K	2.98
937-5905	905IC	S	5.0	.040	8.0K	2.98
937-5909	909IC	S	6.0	.040	10.0K	2.98
937-7140	913IC	S	10.0	.010	50.0K	2.98

Stock No.	Mfr.'s Type	Fig. No.	Volts	Amps	Average Hours	EACH 1-9
937-7145	914IC	S	10.0	.017	20.0K	2.98
937-5915	915IC	S	10.0	.040	10.0K	2.98
937-5918	918IC	S	12.0	.040	10.0K	2.98
937-7150	925IC	S	16.0	.017	15.0K	2.98
937-7155	926IC	S	16.0	.040	7.5K	2.98
937-7160	930IC	S	18.0	.040	5.0K	2.98
937-5933	933IC	S	24.0	.017	15.0K	2.98
937-7165	934IC	S	24.0	.040	8.0K	2.98
937-5938	938IC	S	28.0	.040	6.0K	2.98
937-5941	941IC	S	48.0	.040	5.0K	2.98



Series 200 Miniature Bayonet
Sockets with insulated sleeves. .025 to .032″ steel brackets; zinc-plated. Built-in 6″ long #22 (7 × 30) leads. UL rated at 80°C, PVC insulated. Use T-3¼, G-3½ or G-4½ bulb. **Shipping Weight:** 1 oz.

Stock No.	Mfr.'s Type	Fig.	EACH		
			1-24	25-99	100-Up
931-1400	2-01	1	**4.35**	**3.16**	**2.04**
931-1402	2-06	2	**4.35**	**3.16**	**2.04**

Series 300 Miniature Bayonet
Bakelite. Wire leads. 3-30N with nut. UL, CSA listed. for T-3¼, G-3½, G-4½, NE-51 lamps. **Average Weight:** 1 oz.

931-2102	3-05	3	**5.27**	**3.83**	**2.92**
931-2103	3-06	4	**5.27**	**3.83**	**2.92**
931-2105	3-30N	5	**6.83**	**4.97**	**3.89**

Series 400 Candelabra Screw
Candelabra screw sockets in molded bakelite. #18 black wire leads 6″ long with ends stripped ½″. Type 4-40 snaps into 15/16″ hole. Type 4-30N with nut. For both incandescent and neon-glow lamps. Use NE-45, S6 or 10C7 lamps. **Average Shipping Weight:** 1 oz.

931-2302	4-06	6	**5.06**	**3.68**	**3.15**
931-2303	4-08	7	**5.06**	**3.68**	**3.15**

Series 500 Miniature Screw
Solder terminals tinned. for low-voltage incandescent lamp applications. Zinc-plated steel brackets resist corrosion. For t-3¼, TL-3, or G-3½ lamps. **Average Weight:** 1 oz.

931-2408	5-08	17	**5.10**	**3.71**	**2.43**
931-2413	5-13	18	**5.10**	**3.71**	**2.43**

Series 700 Miniature Bayonet
Insulated brackets. Terminals tinned for easy soldering. For low-voltage incandescent lamps as T-3¼, G-3½, and G-4½. **Shipping Weight:** 1 oz.

931-3103	7-05	19	**4.07**	**3.96**	**2.05**
931-3104	7-06	20	**4.07**	**3.96**	**2.05**
931-3108	7-13	21	**4.07**	**3.96**	**2.05**
931-3110	7-20	22	**4.07**	**3.96**	**2.05**
931-3111	7-35	23	**4.52**	**3.29**	**2.61**
931-3112	7-02	24	**4.07**	**2.96**	**2.05**
931-3113	7-35J	*	**4.79**	**3.48**	**2.80**

*7-35 with ½ barrel length.

Series 1600 Midget Screws
Solder terminals, tinned for easy connections. For P-2½, T-1¾ lamps. **Weight:** 1 oz.

Stock No.	Mfr.'s Type	Fig.	EACH		
			1-24	25-99	100-Up
931-3900	16-35	16	**7.21**	**5.24**	**3.72**

Series 11-200 Candelabra Bayonet
Single-contact socket. Has one 6″ #18 (16 × 30) lead, with 1/32″ wall of PVC insulation. UL and CSA rated at 80°C. Has .035 to .042″ thick steel brackets, cadmium-plated to fight corrosion. For T-4½ bulb. **Shipping Weight:** 1 oz.

931-3301	11-272	11	**4.69**	**3.41**	**2.67**
931-3302	11-225	8	**4.69**	**3.41**	**2.67**
931-3303	11-227	9	**4.69**	**3.41**	**2.67**
931-3304	11-230BN	10	**6.66**	**4.85**	**3.71**

Series 12-200 Candelabra Bayonet
Double-contact with wire leads. Contacts in insulating bakelite disc, separated by small coils. Disc, spring-loaded. #18-gauge (16 × 30) leads rated at 80°C. Rated 75 watts, 125 volts. Type 12-240 snaps into 15/16″ hole. For incandescent and neon glow lamps as G6, S6, 10C7 and NE-48. UL, CSA. **Weight:** 1 oz.

931-3625	12-225	8	**4.89**	**3.56**	**3.42**
931-3627	12-227	9	**4.89**	**3.56**	**3.42**
931-3630	12-230BN	12	**6.97**	**5.07**	**3.96**
931-3640	12-240	13	**5.13**	**3.73**	**3.57**
931-3671	12-271	14	**4.89**	**3.56**	**3.42**
931-3672	12-272	15	**4.89**	**3.56**	**3.42**

Series 23-00 Miniature Wedge
Features molded housings with heavily plated mounting brackets and provides quick, easy lamp insertion with simple push-in action. For T-3¼ and T-5 lamps.

931-2307	23-07	25	**2.95**	**2.15**	**1.57**
931-2335	23-35	*	**2.95**	**2.15**	**1.57**
931-2340	23-40PL	26	**3.06**	**2.22**	**1.71**

Series 25-00 Midget Grooved
For midget-grooved base incandescent lamps, TL-1¾ and T-1¾ lens-end amps. 2 terminals. Built-in ejection. **Weight:** 1 oz.

931-2535	25-35	27	**5.22**	**3.72**	**3.47**

Series 53-00 Wedge Base
The molded housing provides positive insulation and resists extremes of temperature and humidity. For T-1¾ lamps.

Stock No.	Mfr.'s Type	Fig.	EACH		
			1-24	25-99	100-Up
931-5335	53-35	28	**2.00**	**1.46**	**1.06**

Series 69-00 Wedge Base
Designed for rear mount, PC board application. No soldering required. No. 69-23 will accommodate T-3¼ and T-5 lamps. No. 69-35 will accommodate T-1¾ bulbs.

931-6933	69-33	29	**1.26**	**.92**	**.65**
931-6935	69-35	29	**1.26**	**.92**	**.65**

Halogen Cycle 2-Pin Base
Fit halogen cycle 2-pin base lamps. **27-07, 28-07** fit size G-4 halogen lamps; **QLB-6** fits size G-5.3 halogen lamps. **27-07** has ceramic housing, 0.110″ tab terminals. **28-07** designed for surface mount, with lower profile, and ceramic/mica housing. Also has hi-temp contacts and .187″ male tab terminals. **QLB-6 and QLB-12** has ceramic housing and mica cover plate, dual stainless steel contacts, 6″ wire 18 AMC silicone rubber with glass braid, 200°C. **Maximum Ratings:** 300 volts, 12 amps, 750 watts, 200°C.

931-7001	27-07	30	**3.91**	**2.84**	**2.40**
931-7002	28-07	30	**4.38**	**3.19**	**2.69**
931-7003	QLB-6	31	**2.53**	**1.84**	**1.47**
931-7004	QLB-12	31	**2.85**	**2.07**	**1.66**

Halogen Sockets
22-00 series. Candelabra bayonet halogen cycle double contact unit has #18 AWG, 16 strands of #30 AWG tinned copper with silicone rubber insulation UL style 3135, rated 600 V, 200°C. UL recognized, CSA certified 500 watts, 125 volts. **22-25** straight bracket. **22-27** step bracket. **26-00** series halogen cycle double ended single contact. UL recognized, CSA certified 2000 watts, 600 volts. **26-07 has ¼″ male tab. 26-007** has 4″ silicone insulated #18 AWG 16 strands of #30 tinned copper wire.

931-8001	22-25	33	**6.53**	**4.75**	**4.14**
931-8002	22-27	—	**6.53**	**4.75**	**4.14**
931-8003	26-07	32	**7.05**	**5.13**	**4.08**
931-8004	26-207	—	**8.42**	**6.12**	**4.88**
931-8005	22-30BN	—	**8.39**	**6.10**	**4.75**

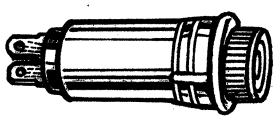
32 Series

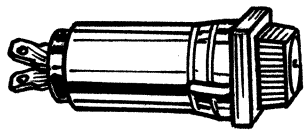
Specifications and Features

The 32 Series Snaplite indicator features a wide variety of lens shapes, colors and bezel variations. A white nylon housing is standard. Other colors are available on special order. The unit quickly snap fits into a .500″ (12.70 - 12.95mm) mounting hole. Adapter for .514″ - .519″ (13.05 - 13.18mm) mounting hole is available.

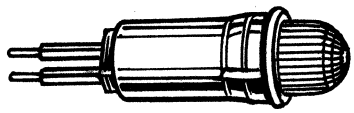
Snaplites are supplied with or without chrome bezels. Square lenses are always supplied with bezels.

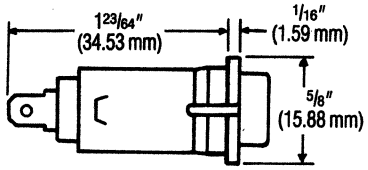
The series is supplied with wire leads or .187″ (4.76mm) brass tab terminals. Dropping resistors for 125-250 volt neon and special incandescent lamps are built in. Standard wires 6″ long, stripped 1/2″.





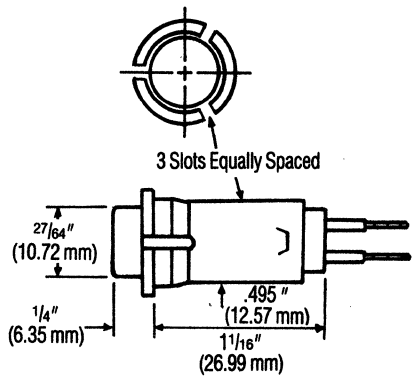
1/2W, 125 V
1/3W, 250 V

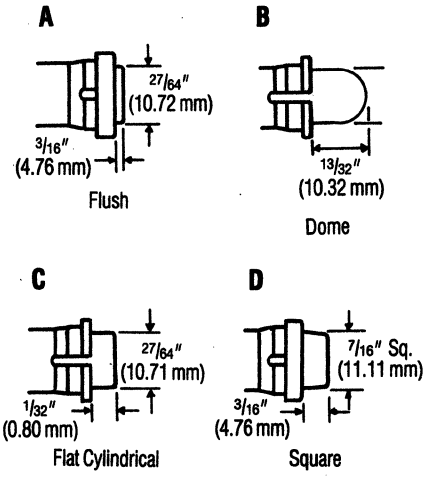


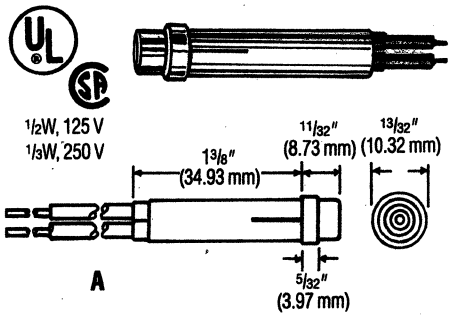


Stock No.	Mfr.'s Type*	Fig.	Lens Color	Volts	EACH	
					1-24	25-99
931-4005	32RG1-2111	C	Red	6V	**6.55**	**4.76**
931-4010	32RG1-2112	C	Green	6V	**6.55**	**4.76**
931-4015	32RG1-2113	C	Amber	6V	**6.55**	**4.76**
931-4020	32RG3-2111	C	Red	14V	**6.94**	**5.04**
931-4025	32RG3-2112	C	Green	14V	**6.94**	**5.04**
931-4030	32RG3-2113	C	Amber	14V	**6.94**	**5.04**
931-4035	32RG18-2111	C	Red	28V	**6.72**	**4.88**
931-4040	32RG18-2112	C	Green	28V	**6.72**	**4.88**
931-4045	32RG18-2113	C	Amber	28V	**6.72**	**4.88**
931-4100	32-2311	A	Red	125	**4.64**	**3.38**
931-4105	32-2311T	A	Red	125	**4.90**	**3.56**
931-4110	32-2313	A	Amber	125	**4.64**	**3.38**
931-4115	32-2313T	A	Amber	125	**4.90**	**3.56**
931-4120	32-2317	A	Clear	125	**4.64**	**3.38**
931-4125	32-2317T	A	Clear	125	**4.90**	**3.56**
931-4130	32-2211	B	Red	125	**4.64**	**3.38**
931-4135	32-2211T	B	Red	125	**4.90**	**3.56**
931-4140	32-2213	B	Amber	125	**4.64**	**3.38**
931-4145	32-2213T	B	Amber	125	**4.90**	**3.56**
931-4150	32-2217	B	Clear	125	**4.64**	**3.38**
931-4155	32-2217T	B	Clear	125	**4.90**	**3.56**
931-4160	32R-2111	C	Red	125	**5.05**	**3.67**
931-4165	32R-2111T	C	Red	125	**5.18**	**3.77**
931-4170	32R-2113	C	Amber	125	**5.05**	**3.67**
931-4175	32R-2113T	C	Amber	125	**5.18**	**3.77**
931-4180	32R-2117	C	Clear	125	**5.05**	**3.67**
931-4185	32R-2117T	C	Clear	125	**5.18**	**3.77**
931-4050	32RG1-2911	D	Red	6V	**6.55**	**4.76**
931-4055	32RG1-2912	D	Green	6V	**6.55**	**4.76**
931-4060	32RG1-2913	D	Amber	6V	**6.55**	**4.76**
931-4065	32RG3-2911	D	Red	14V	**6.94**	**5.04**
931-4070	32RG3-2912	D	Green	14V	**6.94**	**5.04**
931-4075	32RG3-2913	D	Amber	14V	**6.94**	**5.04**
931-4200	32R-2211	B	Red	125	**5.05**	**3.67**
931-4205	32R-2211T	B	Red	125	**5.18**	**3.77**
931-4210	32R-2911	D	Red	125	**5.05**	**3.67**
931-4215	32R-2911T	D	Red	125	**5.18**	**3.77**
931-4220	32R-2913	D	Amber	125	**5.05**	**3.67**
931-5225	32R-2913T	D	Amber	125	**5.18**	**3.77**
931-4230	35R-2111	C	Red	250	**5.05**	**3.67**
931-4235	35R-2111T	C	Red	250	**5.18**	**3.77**
931-4240	35R-2112	C	Green	250	**6.08**	**4.42**
931-4245	35R-2117	C	Clear	250	**5.05**	**3.67**
931-4250	35R-2117T	C	Clear	250	**5.18**	**3.77**

*T in part number indicates wire lead. R indicates with bezel.







36 Series

With Built-In Resistor

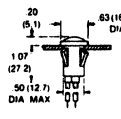
The 36 Series is the Industry standard Tineon indicator designed for front in a 5/16″ (7.93 mm) mounting hole. It is supplied with a built-in resistor. A speed nut is supplied.

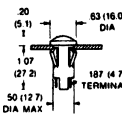
Stock No.	Mfr.'s Type	Fig.	Lens Color	Volts	EACH	
					1-24	25-99
931-4300	36EN-2111	A	Red	125	**5.32**	**3.86**
931-4305	36EN-2113	A	Amber	125	**5.32**	**3.86**
931-4310	36EN-2311	*	Red	125	**5.32**	**3.86**
931-4315	36EN-2313	*	Amber	125	**5.32**	**3.86**
931-4320	36N-2311	*†	Red	125	**4.48**	**3.26**
931-4325	36N-2313	*†	Amber	125	**4.48**	**3.26**

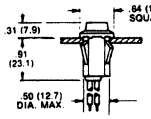
*Flush lens. †Bezel not supplied.

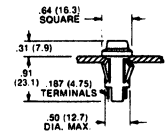
Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

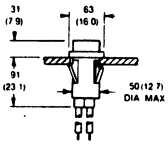
Omni-Glow Series 1000 Neon Lamps

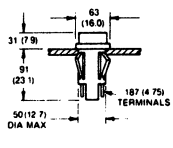

Series 1030D

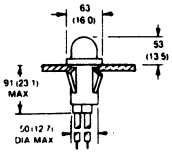

Series 1030QD

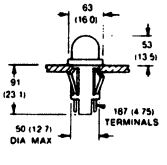

Series 1050N


Series 1050QN


Series 1050C


Series 1050QC


Series 1050A


Series 1050QA

UL File No. E20325, CSA File No. 13346. White nylon housing will snap-fit; into a .500/.505″ diameter hole in panels .020/.100″ thick. Green lenses incorporate G2B lamp and resistor.

Pilot Lamps with Low-Profile Lenses

Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-24	25-99	100-249
679-5050	1030D1†	Red	120	1.47	1.32	1.18
679-5060	1030D3†	Amber	120	1.47	1.32	1.18
679-5070	1030D4†	White	120	1.47	1.32	1.18
679-5080	1032D5†	Green	120	2.03	1.83	1.62
679-5055	1030QD1‡	Red	120	1.60	1.44	1.28
679-5065	1030QD3‡	Amber	120	1.60	1.44	1.28
679-5075	1030QD4‡	White	120	1.60	1.44	1.28
679-5085	1032QN5‡	Green	120	2.16	1.94	1.73

Pilot Lights with Square Lenses

679-6060	1050N1†	Red	120	1.60	1.44	1.28
679-6070	1050N3†	Amber	120	1.60	1.44	1.28
679-6080	1050N4†	White	120	1.60	1.44	1.28
679-6090	1052N5†	Green	120	2.16	1.94	1.73
679-6065	1050QN1‡	Red	120	1.72	1.55	1.38
679-6075	1050QN3‡	Amber	120	1.72	1.55	1.38
679-6084	1050QN4‡	White	120	1.72	1.55	1.38
679-6095	1052QN5‡	Green	120	2.28	2.05	1.85

†With wire leads 4.4/4.8″ long, stripped .43/.57″. ‡With .187″ long tinned brass terminals.

Pilot Lamps with High-Hat Lenses

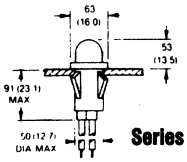
Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-24	25-99	100-249
679-5100	1050C1†	Red	120	1.47	1.32	1.18
679-5130	1050C2†	Clear	120	1.47	1.32	1.18
679-5110	1050C3†	Amber	120	1.47	1.32	1.18
679-5120	1050C4†	White	120	1.47	1.32	1.18
679-5140	1052C5†	Green	120	2.03	1.83	1.62
679-5105	1050QC1‡	Red	120	1.60	1.44	1.28
679-5135	1050QC2‡	Clear	120	1.60	1.44	1.28
679-5115	1050QC3‡	Amber	120	1.60	1.44	1.28
679-5125	1050QC4‡	White	120	1.60	1.44	1.28
679-5145	1052QC5‡	Green	120	2.01	1.81	1.61

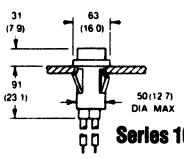
Pilot Lights with Dome Lenses

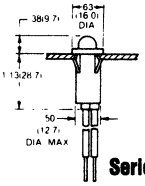
679-5150	1050A1†	Red	120	1.47	1.32	1.18
679-5160	1050A3†	Amber	120	1.47	1.32	1.18
679-5170	1050A4†	White	120	1.47	1.32	1.18
679-5190	1052A5†	Green	120	2.03	1.83	1.62
679-5155	1050QA1‡	Red	120	1.60	1.44	1.28
679-5185	1050QA2‡	Clear	120	1.60	1.44	1.28
679-5165	1050QA3‡	Amber	120	1.60	1.44	1.28
679-5195	1052QA5‡	Green	120	2.01	1.81	1.61

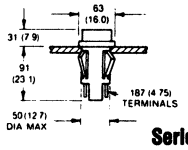
8

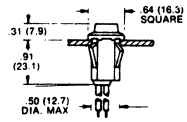
Incandescent and Solid State Indicators


Series 1090A


Series 1090C


Series 1091M


Series 1090QC


Series 1090N

Series 1090 is identical to Series 1050 above except these indicators are incandescent and are available in 6, 12, or 28 volt types. Series 1090M is solid state, complete with built-in current limiting resistor and rectifier diode. For lens color, insert 1-Red, 2-Green, 3-Yellow, 4-White where N appears in the stock number.

Indicators with Dome Lenses

Stock No.	Mfr.'s Type	Volts	EACH		
			1-24	25-99	100-249
679-614N	1090A	12	1.89	1.70	1.51
679-615N	1090A	28	1.89	1.70	1.51
679-624N	1090QA	12	2.01	1.81	1.61
679-625N	1090QA	28	2.01	1.81	1.61

Solid State Indicators*

679-708N	1091M	12	2.31	2.08	1.85
679-709N	1091M	28	2.31	2.08	1.85

*White lens not available.

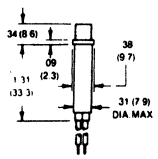
Indicators with High-Hat Lenses

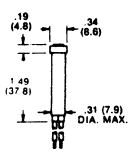
Stock No.	Mfr.'s Type	Volts	EACH		
			1-24	25-99	100-249
679-611N	1090C	12	1.89	1.70	1.51
679-612N	1090C	28	1.89	1.70	1.51
679-621N	1090QC	12	2.01	1.81	1.61
679-622N	1090QC	28	2.01	1.81	1.61

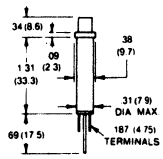
Indicators with Square Lenses

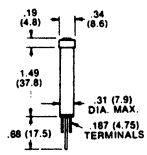
679-617N	1090N	12	2.01	1.81	1.61
679-618N	1090N	28	2.01	1.81	1.61

Glo-Dot Miniature Neon Pilot Lights Series 2150, 2110


Series 2150A


Series 2110A


Series 2150QA


Series 2110QA

These miniature neon pilot lights are engineered for long service reliability. Rugged, unaffected by shock and vibration. Two lens shapes, flush and high-hat which are available in five colors: red, amber, white, clear and green. Green indicator incorporated G2B lamp and resistor. Mounting hole is .31″ minimum diameter. 4.4″/4.8″ wire leads, stripped 1/2″. **Average Operating Life:** 10,000 hours. UL recognized and CSA approved. 120 VAC. Supplied with push-on speed nut (SN1287). .187″ long tinned brass terminals.

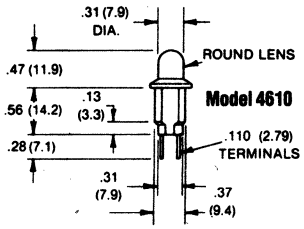
Stock No.	Mfr.'s Type	Lens Color	VAC	EACH		
				1-24	25-99	100-249
679R6400	2150A1*	Red	120	1.56	1.40	1.25
679-6405	2150A3*	Amber	120	1.56	1.40	1.25
679-6410	2150A4*	White	120	1.56	1.40	1.25
679-6415	2150A2*	Clear	120	1.56	1.40	1.25
679-6420	2152A5*	Green	120	2.64	2.38	2.11
679R6611	2110A1†	Red	120	1.46	1.31	1.16
679-6613	2110A3†	Amber	120	1.46	1.31	1.16
679-6615	2110A4†	White	120	1.54	1.39	1.23
679-6617	2110A2†	Clear	120	1.46	1.31	1.16
679-6620	2112A5†	Green	120	2.01	1.81	1.61

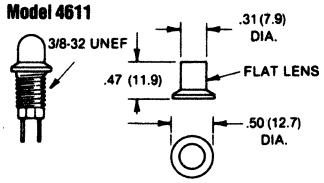
*High-hat style. †Flush lens.

679-6500	2150QA1*	Red	120	1.68	1.51	1.34
679-6505	2150QA3*	Amber	120	1.68	1.51	1.34
679-6510	2150QA4*	White	120	1.78	1.49	1.42
679-6520	2152QA5*	Green	120	2.24	2.01	1.79
679-6700	2110QA1†	Red	120	1.58	1.42	1.26
679-6705	2110QA3†	Amber	120	1.58	1.42	1.26
679-6710	2110QA4†	White	120	1.58	1.42	1.26
679-6715	2110QA2†	Clear	120	1.58	1.42	1.26
679-6720	2112QA5†	Green	120	2.14	1.93	1.71
—	—	—	—	—	—	—

Tiny-Mite Indicator Light Assemblies

Ordering Information: The complete assembly consists of socket plus lens plus lamp. All sold separately. **Mounting:** Model 4610 (without thread) supplied with push-on speednut — can be keyed to prevent rotation. **Lens:** Polycarbonate. **Bezel:** Polished stainless steel. **Socket:** Black nylon. Model 4611 (threaded) supplied with zinc finish hex nut and internal tooth lock washer.





Sockets

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-99	100-249	250-499
679-4610	4610	Unthreaded	0.45	0.38	0.36	0.33
679-4611	4611	Threaded	0.77	0.65	0.61	0.56

Sub-Miniature Wedge-Base Lamps

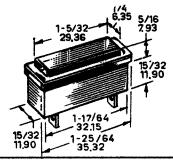
Stock No.	Mfr.'s Type	Design Volt.	Amps	Candle Power (Approx)	Rated Life Hrs.	EACH			
						1-24	25-99	100-249	250-499
679-4556	56	5.0	.115	.15	20,000	1.09	0.98	0.87	0.80
679-4584	84	6.3	.040	.03	20,000	0.71	0.63	0.56	0.52
679-4586	86	6.3	.200	.40	20,000	0.68	0.61	0.54	0.50
679-4518	18	14.0	.040	.13	5,000	1.04	0.94	0.84	0.77
679-4573	73	14.0	.080	.30	15,000	0.68	0.61	0.54	0.50
679-4585	85	28.0	.040	.30	7,000	0.68	0.61	0.54	0.50
679-4517	17	28.0	.060	.65	5,000	0.93	0.83	0.74	0.68

Lenses

Stock No.	Round Lens No.	Stock No.	Flat Lens No.	Color	EACH			
					1-24	25-99	100-249	250-499
679-4621	4621	679-4631	4631	Red	0.43	0.39	0.34	0.31
679-4623	4623	679-4633	4633	Amber	0.43	0.39	0.34	0.31
679-4625	4625	679-4635	4635	Green	0.43	0.39	0.34	0.31
679-4626	4626	679-4636	4636	Blue	0.43	0.39	0.34	0.31
679-4627	4627	679-4637	4637	Yellow	0.43	0.39	0.34	0.31

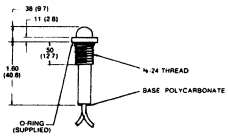
Rectangular Neon Pilot Lights

Series 2300 will snap-fit into .032/.100″ thick panels without speednut and into other thicknesses with speednut. Mounting hole 1.276/1.281″ × .395/.400″.



Stock No.	Mfr.'s Type	Lens Color	VAC	EACH			
				1-24	25-99	100-249	250-499
679-5001	2330QD1‡	Red	120	1.71	1.54	1.37	1.25
679-5010	2330QD3‡	Amber	120	1.61	1.45	1.25	1.18
679-5020	2332QD5‡	Green	120	2.62	1.82	1.62	1.48
679-5005	2330D1†	Red	120	1.69	1.49	1.32	1.21
679-5015	2330D3†	Amber	120	1.65	1.49	1.31	1.21
679-5025	2332D5†	Green	120	2.21	1.99	1.77	1.62

† With 4.4/4.8″ long wire leads, stripped .43/.57″. ‡ With .250″ tinned brass terminals. Speed nuts supplied.



Oil-Tight Series 6000

- **Fully gasketed construction**
- **Meets NEMA Specification ICS1-110.60**
- **Neon Models come with Built-In Current Limiting Resistor. LED Models Come With Built-In Current Limiting Resistor and a Rectifier Diode**
- **Solid State Models come with Built-In Current Limiting Resistor and Rectifier Diode.**

Mounting: Supplied with internal tooth lockwasher and hex nut; requires .38″ (9.65) min. dia. hole **Wire Leads:** No. 22 AWG (105°C), 4.4/4.8″ (11.8/121.9) long, stripped .43/.57″ (10.9/14.5) **Lens:** Polycarbonate; **Bezel:** Chrome Plated Brass; **Gaskets:** Buna-N; **Housing:** Black Nylon

Solid State Lamps

Stock No.	Mfr.'s Type	Volts	Color	EACH			
				1-24	25-99	100-249	250-499
679-7283	6091M1	12	Red	3.80	3.42	3.04	2.78
679-7284	6091M5	12	Green	3.80	3.42	3.04	2.78
679-7285	6091M7	12	Yellow	3.80	3.42	3.04	2.78
679-7286	6091M1	24	Red	3.80	3.42	3.04	2.78
679-7287	6091M5	24	Green	3.80	3.42	3.04	2.78
679-7288	6091M7	24	Yellow	3.80	3.42	3.04	2.78

Neon Lamps

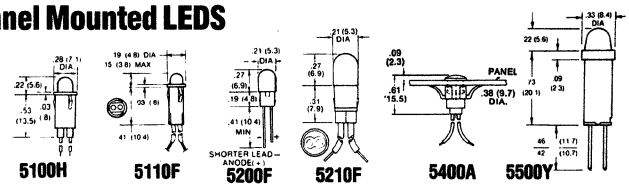
679-7277	6010M1	125	Red	2.97	2.67	2.38	2.18
679-7278	6010M3	125	Amber	2.97	2.67	2.38	2.18
679-7279	6012M5	125	Green*	3.50	3.15	2.80	2.56
679-7280	6011M1	250	Red	2.97	2.67	2.38	2.18
679-7281	6011M3	250	Amber	2.97	2.67	2.38	2.18
679-7282	6013M5	250	Green*	3.50	3.15	2.80	2.56

* Incorporates G2B Lamp and Resistor.

Engineer's Kit Model EK-3

You get 28 LEDs and LED assemblies. Twenty-one styles, three colors. Plain LEDs including Super-Brite and Extra Super-Brite, panel-mounted LEDs, P.C. board-mounted LEDs, complete assemblies including current-limiting resistors and rectifier diodes.
In addition 9 sockets and relampable incandescent lamp assemblies, and 13 incandescent and neon non-relampable assemblies. In all over a dozen styles, seven colors, five voltages, and five mounting hole sizes. Wire leads and terminal types.
679-7002. Model EK-3 ..... **EACH 25.00**

Panel Mounted LEDS



Series 5100H 1/4″ Diameter

Black nylon housing will snap-fit in .249/.254″ diameter hole in panels .031/.062″ thick. Leads are 24 AWG, 4.4/4.8″ long.

Stock No.	Lens Color	Equivalent to Dialight Part	EACH		
			1-24	25-99	100-249
679-7101	Red	559-0101-003	1.65	1.49	1.32
679-7102	Green	559-0201-003	1.65	1.49	1.32
679-7103	Yellow	559-0301-003	1.65	1.49	1.32
679-7104	Red/Green	—	2.37	2.13	1.90

Series 5110F 5/32″ Diameter

Black nylon housing will snap-fit in .155/.158″ diameter hole in panels .031/.062″ thick. Leads are 26 AWG, 4.4/4.8″ long stripped, .18/.32″.

679-7111	Red	558-0101-003	1.55	1.39	1.24
679-7112	Green	558-0201-003	1.55	1.39	1.24
679-7113	Yellow	558-0301-003	1.55	1.39	1.24

Series 5200F 3/16″ Diameter

Sub-miniature "Super-Brite" LED Assemblies feature quick push-in panel mounting. Will snap-fit into .187/.192″ diameter hole in panels. .020/.097″ thick wide angle visibility. High-intensity light output.

679-7131	Red	—	1.41	1.27	1.13
679-7132	Green	—	1.41	1.27	1.13
679-7133	Yellow	—	1.41	1.27	1.13

Series 5210F 3/16″ Diameter

An insulated lead version on the 5200F (sold above). This series gives protection against static discharge. Leads are 26 AWG, 4.4/4.8″ long, stripped .18/.32″.

679-7164	Red	—	1.92	1.73	1.54
679-7165	Green	—	1.92	1.73	1.54
679-7166	Yellow	—	1.92	1.73	1.54

Series 5400A 5/16″ Diameter

Two piece unit consisting of a lens and LED-housing assembly. Allows pre-wiring into circuit and testing before installation. 24 AWG wire leads 4.4/4.8″ long, stripped .43/.57″. Natural nylon housing, polycarbonate lens, red lead and anode.

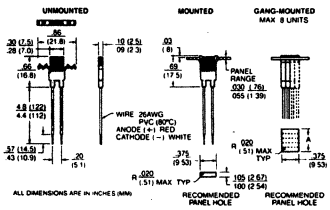
679-5501	Red	—	1.58	1.42	1.26
679-5502	Green	—	1.58	1.42	1.26
679-5503	Yellow	—	1.58	1.42	1.26

Series 5500Y 9/32″ Diameter

Miniature "Super-Brite" assemblies offer attractive appearance, wide-angle viewing, electrostatic discharge protection, and wire-wrap terminals. White nylon housing. Front of panel mounting in a .29″ minimum diameter hole. .025″ square tinned brass pins. Polycarbonate lens. Black oxide finished bezel.

679-7180	Red	—	2.07	1.86	1.66
679-7181	Green	—	2.07	1.86	1.66
679-7182	Yellow	—	2.07	1.86	1.66

Panel Mount LED Assemblies Series 5220R

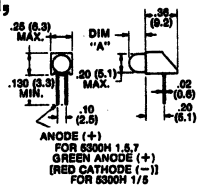


- **Ideal for Flush Mounted Panel Indicators**
- **Stackable for Bar Graph Configurations**
- **High Intensity Light Output Spread Uniformly Over Entire Front Surface**

Mounting: Will snap-fit into a .375 (9.53) by .100/.105 (2.54/2.67) rectangular hole in panels .030/.055 (.76/1.39) thick. **Wire Leads:** No. 26 AWG, 4.4/4.8 (111.8/121.9) long stripped .43/.57 (10.9/14.5). **Anode (+):** Red lead. **Housing:** Black Nylon.

Stock No.	Mfr.'s Type	Color LED	EACH	
			1-24	25-99
679-8220	5220R1	Red	1.43	1.28
679-8221	5220R5	Green	1.43	1.28
679-8222	5220R7	Yellow	1.43	1.28

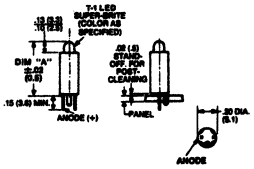
Series 5300E, 6500H, 5302H, and 5308H



- Easy to Mount
- High Contrast Ratio
- Includes Board Standoff to Prevent Flux Entrapment—Permit Easy Washing
- TTL Compatible—Requires No External Current Limiting Resistors (Series 5302H-5 V Only)
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	Equiv. to Dialight Part	EACH 1-24	EACH 25-99
679-7236	5300E1	Red	550-0407	.59	.53
679-7161	5300H1	Red	550-2406	.92	.82
679-7162	5300H5	Green	550-5206	.92	.82
679-7163	5300H7	Yellow	550-5306	.92	.82
679-7240	5302H1-5V	Red	550-0506	1.13	1.02
679-7241	5302H3-5V	Amber	550-0806	1.13	1.02
679-7242	5302H5-5V	Green	550-0706	1.13	1.02
679-7106	5300H1LC	Red	550-1106	1.11	.89
679-7107	5300H5LC	Green	550-1306	1.11	.89
679-7108	5300H7LC	Yellow	550-1206	1.11	.89
679-7289	5308H1	Red	—	1.07	.96
679-7291	5308H5	Green	—	1.07	.96
679-7292	5308H7	Yellow	—	1.07	.96
679-7239	5300H1/5	Red/Grn	550-3006	1.82	1.63

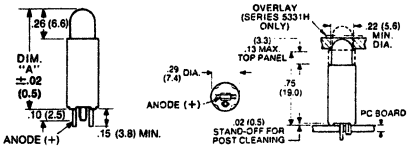
Series 5310F



- Press-in Mounting for accurate location on printed circuit board
- High Intensity light output
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	EACH 1-24	EACH 25-99
679-7170	5310F1	Red	.95	.85
679-7171	5301F5	Green	.95	.85
679-7172	5301F7	Yellow	.95	.85

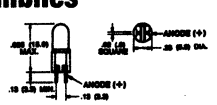
Miniature LED Assemblies Series 5330H, 5331H, 5335H



- T-1¾ Size Wide Viewing Angle (Series 5330H) Or Intense Beam (Series 5331H) LEDs
- Easy, Press-In Mounting For Precise Positioning On PC Board
- Includes Board Stand-Off To Prevent Flux Entrapment, Permit Easy Washing
- Height Matches Popular Size Rocker And Toggle Switches
- Use Series 5330H And 5335H To Fit Panel Hole Openings
- Use Series 5331H To Line Up Behind Panel Overlays
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	Dim. "A" In.	Dim. "A" mm	EACH 1-24	EACH 25-99
679-7243	5330H1	Red	.87	221	.91	.82
679-7244	5330H5	Green	.87	221	.91	.82
679-7245	5330H7	Yellow	.87	221	.91	.82
679-7246	5331H1	Red	.72	183	.91	.82
679-7247	5331H5	Green	.72	183	.91	.82
679-7248	5331H7	Yellow	.72	183	.91	.82
679-7249	5335H1	Red	.57	145	.91	.82
679-7250	5335H5	Green	.57	145	.91	.82
679-7251	5335H7	Yellow	.57	145	.91	.82

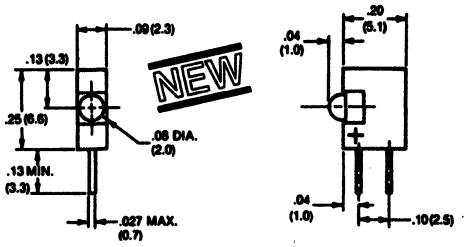
Miniature LED Assemblies



- T-1¾ Size Wide Viewing Angle LEDs
- Includes Board Stand-Off, Features 0.13 Centers
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	EACH 1-24	EACH 25-99
679-7252	5340H1	Red	.92	.82
679-7253	5340H5	Green	.92	.82
679-7254	5340H7	Yellow	.92	.82

Series 5350T LEDs

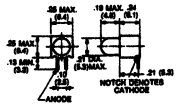


- Small Size Enables These to be Stacked on 0.100" Center
- High-Intensity Light Output
- Ideal for Use Where LEDs Must Align with Opening in a Cover Panel
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Lens Color	Equiv. to Dialight Part	EACH 1-24	EACH 25-99
679-8348	5350T1	Red	555-2001*	1.21	1.09
679-8349	5350T5	Green	555-2301*	1.21	1.09
679-8350	5350T7	Yellow	555-2401*	1.21	1.09
679-8351	5352T1-5V	Red	—	1.46	1.31
679-8352	5352T3-5V	Amber	—	1.46	1.31
679-8353	5352T5-5V	Green	—	1.46	1.31
679-8358	5350T1LC	Red	—	1.42	1.28
679-8359	5350T5LC	Green	—	1.42	1.28
679-8360	5350T7LC	Yellow	—	1.42	1.28
679-8354	5352T1-5VLC	Red	555-2003	1.46	1.31
679-8355	5352T3-5VLC	Amber	555-2403	1.46	1.31
679-8356	5352T5-5VLC	Green	555-2303	1.46	1.31

*External Resistor Required.

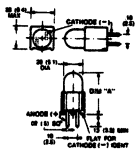
Miniature Super Brite LED Assemblies Series 5380E, 5380H



- Easy Mounting
- Includes Board Stand-off to Prevent Flux Entrapment, Permits Easy Washing
- Needs Minimum Space
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	Equiv. to Dialight Part	EACH 1-24	EACH 25-99
679-7256	5380E1	Red	550-0405	.62	.55
679-7259	5380H1	Red	550-2405	.92	.82
679-7260	5380H5	Green	550-0205	.92	.82
679-7261	5380H7	Yellow	550-0305	.92	.82

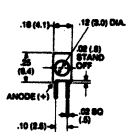
Miniature Super Brite LED Assemblies Series 5381E, 5381H



- Easy to Mount
- Includes Board Stand-off to Prevent Flux Entrapment, Permits Easy Washing
- Uses Minimum Space
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	EACH 1-24	EACH 25-99
679-7271	5381E1	Red	.62	.55
679-7274	5381H1	Red	.92	.82
679-7275	5381H5	Green	.92	.82
679-7276	5381H7	Yellow	.92	.82

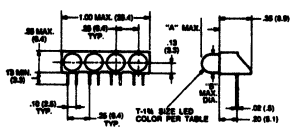
Subminiature Super Brite LED Assemblies Series 5600F



- Easy to Mount
- Includes Board Stand-off to Prevent Flux Entrapment, Permits Easy Washing
- T-1 Size High Intensity LED (GaAsP on GaP for Red and Yellow, GaP on GaP for Green)
- Housing: Black Nylon

Stock No.	Mfr.'s Type	Color LED	EACH 1-24	EACH 25-99
679-7262	5600F1	Red	.92	.82
679-7263	5600F5	Green	.92	.82
679-7264	5600F7	Yellow	.92	.82

Miniature Super Brite LED Assemblies Series 5640E, 5640H



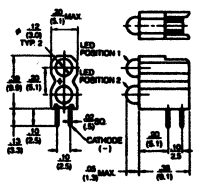
- Quad Assembly Permits Economical Purchase, Easy Mounting of 4 LEDs
- Includes Board Stand-off to Prevent Flux Entrapment, Permits Easy Washing

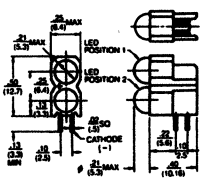
Stock No.	Mfr.'s Type	Color LED	Equiv. to Dialight Part	EACH 1-24	EACH 25-99
679-7265	5640E1	Red	550-0405-004	2.42	2.17
679-7268	5640H1	Red	550-2405-004	3.45	3.11
679-7269	5640H5	Green	550-2205-004	3.45	3.11
679-7270	5640H7	Yellow	550-2305-004	3.45	3.11

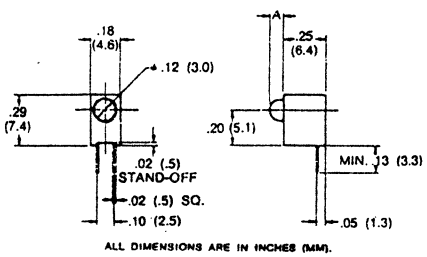
Miniature Super Brite LED Assemblies Series 5670H, 5680F

- Allow Two LEDs In the Same Board Area Required for a Single LED
- High Contrast Ratio, High Intensity Light Output
- Includes Board Stand-off to Prevent Flux Entrapment-Permit Easy Washing

Stock No.	Mfr.'s Type	Color LEDs	Equiv. to Dialight Part	EACH 1-24	EACH 25-99
679-8670	5670H1;1	Red/Red	552-0111	1.83	1.65
679-8671	5670H5;5	Grn/Grn	552-0122	1.83	1.65
679-8672	5670H7;7	Yel/Yel	552-0133	1.83	1.65
679-8680	5680F1;1	Red/Red	—	1.44	1.30
679-8681	5680F5;5	Grn/Grn	—	1.44	1.30
679-8682	5680F7;7	Yel/Yel	—	1.44	1.30







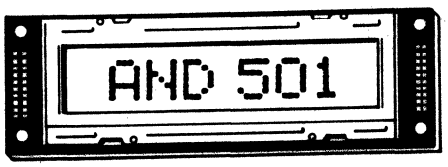
Series 5650F

Easy to mount—High contrast ratio. High-intensity light output. Includes board standoff to prevent flux entrapment—permit easy washing. TTL compatible—requires no external current-limiting resistors. **Housing:** Black nylon.

Stock No.	Mfr.'s Type	Color LED	Equiv. to Dialight Part	EACH 1-24	EACH 25-99
679-5850	5650F1	Red	551-0405	.90	.72
679-5855	5650F5	Green	551-0207	.90	.72
679-5860	5650F7	Yellow	551-0305	.90	.72
679-5865	5652F1-5V	Red	551-0505	1.01	.81
679-5870	5652F3-5V	Amber	551-0705	1.01	.81
679-5875	5652F5-5V	Green	551-0605	1.01	.81

8

Character Display With Controller/RAM



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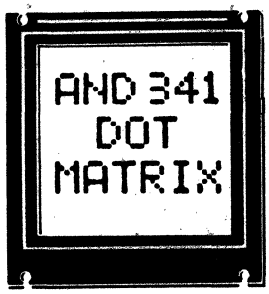

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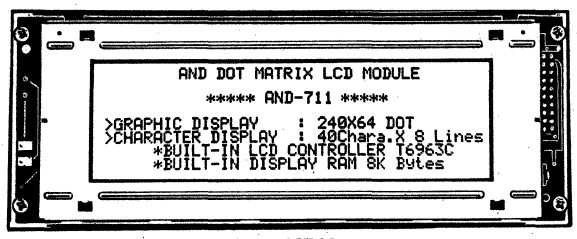

AND711AST-30

(All Character Displays use the HD44780 controller or equivalent except the AND1001, which uses the T6963C)

Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimension (mm)	EACH
505-2145	AND241	16 × 1	3.15 × 7.9; + 5V; 5 × 10 font plus cursor	64.5 × 13.8	80 × 36 × 12	28.00
505-2150	AND671	16 × 1	3.15 × 5.76; + 5V; 5 × 7 font plus cursor	64.5 × 13.8	80 × 36 × 12	19.00
505-2151	AND691	24 × 1	3.2 × 7.95; + 5V; 5 × 10 font plus cursor	100 × 13.8	126 × 36 × 12	42.00
505-2149	AND601	40 × 1	3.2 × 7.95; + 5V; 5 × 10 font plus cursor	154.8 × 17.5	182 × 33.5 × 13	55.00
505-2146	AND491	16 × 2	2.95 × 4.29; + 5V; 5 × 7 font plus cursor	64.5 × 15	80 × 36 × 12	27.00
505-2147	AND501	20 × 2	3.2 × 5.55; + 5V; 5 × 7 font plus cursor	83 × 18.6	116 × 37 × 12.5	33.00
505-2154	AND771	24 × 2	3.21 × 5.07; + 5V; 5 × 7 font plus cursor	93.5 × 16.5	118 × 36 × 12	42.00
505-2148	AND591	40 × 2	3.2 × 5.55; + 5V; 5 × 7 font plus cursor	154.8 × 17.5	182 × 33.5 × 13	56.00
505-2153	AND731	16 × 4	2.96 × 4.51; + 5V; 5 × 7 font plus cursor	61.8 × 26.6	87 × 60 × 12	53.00
505-2152	AND721	20 × 4	2.96 × 4.51; + 5V; 5 × 7 font plus cursor	76 × 27	98 × 60 × 12	60.00
505-2164	AND1001	40 × 4	3.95 × 5.55; + 5V/ – 5V; 5 × 7 font plus cursor	199 × 44	221 × 76 × 12.5	158.00

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LED Backlighted Character Displays with Controller/RAM

Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimension (mm)	EACH
505-4673	AND673-JO	16 × 1	AND671 with LED backlighting; + 5V	64.5 × 13.8	80 × 36 × 16	32.00
505-4493	AND493-JO	16 × 2	AND491 with LED backlighting; + 5V	64.5 × 15.0	80 × 36 × 16	44.00

Graphic Display With Controller

Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimension (mm)	EACH
505-2165	AND1021	120W × 64H	0.44W × 0.56H	62.5W × 43.5H	85W × 70H × 20D	99.00
505-2166	AND1021-EO*					125.00
505-2161	AND682	160W × 64H	0.41W × 0.41H	75W × 32H	125W × 50H × 20D	112.00
505-2162	AND711A	240W × 64H	0.49W × 0.49H	132W × 39H	180W × 65H × 12D	108.00
505-2167	AND711A-EO†					143.00
505-2168	AND1013	160W × 128H	0.56W × 0.56H	101W × 82H	129W × 104.5H × 14D	145.00
505-2169	AND1091	240W × 128H	0.66W × 0.66H	179.9W × 101.5H	241W × 125.3H × 12D	275.00
505-2170	AND1101	160W × 32H	0.46W × 0.46H	82W × 21H	140W × 40H × 12D	80.00

*The AND1021 with Electroluminescent Panel Installed. †The AND711A with Electroluminescent Panel Installed.

Super Twist Medium Size Graphic Displays with Built-In Controller/RAM (T6963C)

Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimension (mm)	EACH
505-4021	AND1021ST-30	120 × 64	0.44 × 0.56; Transflective; 5/ – 8V	62.5 × 43.5	85 × 70 × 20	129.00
505-3021	AND1021ST-EO	120 × 64	0.44 × 0.56; El Backlight; 5/ – 8V	62.5 × 43.5	85 × 70 × 20	156.00
505-4711	AND711AST-30	240 × 64	0.49 × 0.49; Transflective; 5/ – 8V	132 × 39	180 × 65 × 12	139.00
505-3711	AND711AST-EO	240 × 64	0.49 × 0.49; El Backlight; 5/ – 8V	132 × 39	180 × 65 × 12	169.00
505-4391	AND1391ST-30	128 × 128	0.40 × 0.40; Transflective; 5/ – 14.5V	62 × 62	85 × 100 × 14	145.00
505-3391	AND1391ST-EO	128 × 128	0.40 × 0.40; El Backlight; 5/ – 14.5V	62 × 62	85 × 100 × 14	172.00
505-4013	AND1013ST-30	160 × 128	0.60 × 0.60; Transflective; 5/ – 8V	101 × 82	129 × 104.5 × 14	177.00
505-3013	AND1013ST-EO	160 × 128	0.60 × 0.60; El Backlight; 5/ – 8V	101 × 82	129 × 104.5 × 14	216.00
505-4301	AND1301VST-30	240 × 128	0.70 × 0.70; Transflective; 5/ – 14.5V	179.9 × 101.5	241 × 125.3 × 12	323.00
505-3301	AND1301VST-EO	240 × 128	0.70 × 0.70; El Backlight; 5/ – 14.5V	179.9 × 101.5	241 × 125.3 × 12	385.00

Graphic Display Without Controller

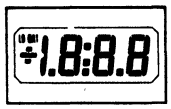
Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimension (mm)	Driving Voltage (V)	Power Consum. (mW)	EACH
505-2158	AND612	640W × 32H	0.34W × 0.4H	250W × 21H	320W × 48H × 14D	+ 5/ – 7	20	154.00
505-2159	AND761	640W × 64H	0.34W × 0.38H	251W × 34.8H	320W × 47H × 14D	+ 5/ – 13	55	160.00
505-2156	AND341AK	128W × 128H	0.42W × 0.42H	63.6W × 63.6H	93.2W × 86.6H × 12D	+ 5/ – 8.5	90	123.00
505-2171	AND531A	128W × 128H	0.60W × 0.60H	89W × 89H	132.2W × 111.5H × 13D	+ 5/ – 8.5	50	149.00
505-2172	AND972	480W × 128H	0.49W × 0.55H	255.5W × 81H	274W × 114.4H × 20D	+ 5/ – 13	80	308.00

Super Twist Graphics Displays (Without Controller). (+ 5/ – 22.5V; 1/200 Duty)

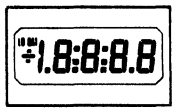
Stock No.	Mfr.'s Type	Number of Characters/Dots	Character/Dot Size (mm); Comments	Viewing Area (mm)	Outline Dimension (mm)	EACH
505-4341	AND341AKST	128 × 128	0.42 × 0.42; Reflective; 1/64 duty; + 5/ – 8V	63.6 × 63.6	93.2 × 86.6 × 12	149.00
505-4932	AND932ST	640 × 200	0.345 × 0.345; Reflective	249 × 82	293 × 97.6 × 14	270.00
505-4561	AND561ST-30	640 × 200	0.32 × 0.46; Transflective	231 × 105	275 × 126 × 14	385.00
505-4181	AND1181ST-30	640 × 400	0.32 × 0.32; Transflective; Contrast of 4:1	230 × 146	276 × 168 × 12	465.00
505-3181	AND1181BST-EO	640 × 400	0.32 × 0.32; El Backlight; Contrast of 6:1	230 × 146	276 × 168 × 12	554.00
505-4501	AND1501MST	640 × 400	0.30 × 0.30; CCFL Backlight; Contrast of 12:1	217.2 × 138	320 × 197.4 × 22	635.00

Liquid Crystal Displays

- Ultra-low Power Requirements
- High Contrast Ratio
- Long Life
- Easy Application
- Wide Viewing Angle
- Fast Response Time (30mms @ 25°C)
- Wide Temperature Range (–30°C to +85°C)
- CMOS Compatible
- High Stability Polarizers



FE203



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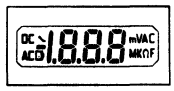

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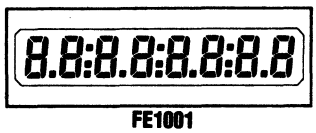


FE1001

Field Effect LCDs. Feature state-of-the-art construction and performance characteristics. Connector pins are phonsphor bronze, permanently affixed on both sides of display with conductive epoxy. This ensures contact and provides an excellent resistance to bending, warping, and lifting. High resistance to moisture penetration. Reflective aluminum foil pinned configuration, wide temperature liquid crystal material (–30°C to +85°C). High temperature/high humidity polarizer.

Other models available. Contact the Allied facility nearest you at 1-800-433-5700.

Parameter	Wide Temperature
Applied Voltage	10 V RMS
DC Drive Component	50 mV
Operating Temperature	–30°C to +85°C
Storage Temperature	–40°C to +85°C
Operating Frequency	+30 to +100 Hz

Stock No.	Mfr.'s Type	Digit Height	Number of Digits	Glass Size	EACH 1-99	EACH 100-499
505-1201	FE0201W-DU	0.5″	3.5	2.0 × 1.2″	10.16	8.59
505-1202	FE0202W-DU	0.5″	4.0	2.0 × 1.2″	10.16	8.59
505-1203	FE0203W-DU	0.5″	3.5	2.0 × 1.2″	10.16	8.59
505-1206	FE0206W-DU	0.4″	4.5	2.0 × 1.2″	10.16	8.59
505-1208	FE0208W-DU	0.4″	5.0	2.0 × 1.2″	10.16	8.59
505-1401	FE0401W-DU	0.5″	6.0	2.75 × 1.2″	13.13	11.08
505-1502	FE0502W-DU	0.7″	4.0	2.75 × 1.5″	16.38	13.86
505-1601	FE0601W-DU	0.7″	6.0	3.7 × 1.5″	19.47	16.48
505-1801	FE0801W-DU	0.4″	3.5	2.0 × .950″	11.65	9.86
505-1803	FE0803W-EU*	0.3″	6.0	2.0 × .950″	12.19	10.32
505-1001	FE1001W-DU	0.5″	8.0	3.7 × 1.2″	19.84	16.79
505-1901	FE1901W-DU	0.5″	2.0	1.20 × 1.20″	11.28	9.55
505-2201	FE2201W-DU	0.2″	3.5	1.59 × 0.70″	11.65	9.86

* Pinless model.

LED Discrete Lamps

Standard Bright T1 3/4

Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	(MCD) Typ.	View Angle	EACH 1-99	EACH 100-999
505-2102	AND113R	Red/Red Clear	700	3.5	50	0.15	0.14
505-2104	AND114R	Red/Red Diffused	700	1.5	80	0.15	0.14
505-2117	AND114S	Red/Red Diffused	635	7.0	80	0.22	0.20
505-2101	AND113G	Green/Green Clear	565	17.0	50	0.18	0.16
505-2103	AND114G	Green/Green Diffused	565	5.0	80	0.18	0.16
505-5100	AND113Y	Yellow/Yellow Clear	585	9.0	50	0.20	0.19
505-5110	AND114Y	Yellow/Yellow Diffused	585	5.0	80	0.20	0.19
505-5105	AND113O	Orange/Orange Clear	610	8.0	50	0.20	0.19
505-5115	AND114O	Orange/Orange Diffused	610	4.0	80	0.20	0.19

Standard Bright T1

505-2110	AND123R	Red/Red Clear	700	2.5	60	0.15	0.14
505-2114	AND124R	Red/Red Diffused	700	1.5	70	0.14	0.13
505-2112	AND123G	Green/Green Clear	565	6.0	60	0.18	0.16
505-2115	AND124G	Green/Green Diffused	565	4.0	70	0.18	0.16
505-2111	AND123Y	Yellow/Yellow Clear	585	4.0	60	0.20	0.19
505-5120	AND124Y	Yellow/Yellow Diffused	585	2.5	70	0.20	0.19

Super Bright T1

505-2127	AND163S	Red/Red Clear	635	20.0	10	0.22	0.20
505-2132	AND164S	Red/Red Diffused	635	10.0	25	0.22	0.20
505-2128	AND163G	Green/Green Clear	565	20.0	10	0.22	0.20
505-2131	AND164G	Green/Green Diffused	565	10.0	25	0.22	0.20
505-2129	AND163Y	Yellow/Yellow Clear	585	20.0	10	0.22	0.20
505-2130	AND164Y	Yellow/Yellow Diffused	585	10.0	25	0.22	0.20
505-5125	AND163O	Orange/Orange Clear	610	20.0	10	0.22	0.20
505-5135	AND164O	Orange/Orange Diffused	610	10.0	25	0.22	0.20

Super Bright T1 3/4

The AND153/AND154 Series products have been replaced by the AND181/AND182 Series.

Ultra Bright T1 3/4

505-5130	AND181URP	Red/Red Clear	660	250.0	15	0.38	0.35
505-5140	AND182URP	Red/Red Diffused	660	150.0	24	0.38	0.35
505-5150	AND181SP	Red/Red Clear	635	150.0	15	0.30	0.27
505-5160	AND182SP	Red/Red Diffused	635	90.0	24	0.30	0.27
505-5145	AND181GP	Green/Green Clear	565	200.0	15	0.30	0.27
505-5155	AND182GP	Green/Green Diffused	565	120.0	24	0.30	0.27
505-5165	AND181YP	Yellow/Yellow Clear	585	150.0	15	0.30	0.27
505-5175	AND182YP	Yellow/Yellow Diffused	585	90.0	24	0.30	0.27
505-5170	AND181OP*	Orange/Orange Clear	610	150.0	15	0.30	0.27
505-5180	AND182OP*	Orange/Orange Diffused	610	90.0	24	0.30	0.27

Ultra Bright T1

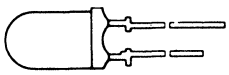
505-5185	AND163UR	Red/Red Clear	660	40.0	10	0.33	0.30
505-5195	AND164UR	Red/Red Diffused	660	20.0	25	0.33	0.30
505-5190	AND163UG	Green/Green Clear	565	40.0	10	0.33	0.30
505-5200	AND164UG	Green/Green Diffused	565	20.0	25	0.33	0.30
505-2135	AND163UY	Yellow/Yellow Clear	585	40.0	10	0.33	0.30
505-5210	AND164UY	Yellow/Yellow Diffused	585	20.0	25	0.33	0.30

Striking Bright T1 3/4

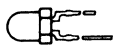
505-5215	AND180QRP	Red/Water Clear	660	720.0	8	1.10	1.00
505-5225	AND135NR	Red/Water Clear	660	230.0	25	1.00	0.91
505-5235	AND134MR	Red/Red Diffused	660	128.0	35	1.12	1.02
505-5240	AND114KR	Red/Milky Diffused	660	41.0	80	1.00	0.91
505-5220	AND180PGP	Green/Water Clear	567	410.0	8	1.10	1.00
505-5230	AND135NGP	Green/Water Clear	567	230.0	24	1.12	1.02

Striking Bright T1

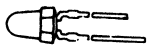
505-5250	AND163QR	Red/Water Clear	660	720.0	8	1.00	0.91
505-5255	AND124KR	Red/Red Diffused	660	41.0	70	1.00	0.91
505-5245	AND160NG	Green/Water Clear	567	230.0	8	1.14	1.04



AND113/114
AND181/182



AND123/124



AND163/164

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Kilo Bright T1 3/4

Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	(MCD) Typ.	View Angle	EACH 1-99	EACH 100-999
505-0180	AND180CRP	Red/Water Clear	660	4100.0	8	3.55	3.00
505-0181	AND180BRP	Red/Water Clear	660	2300.0	8	2.64	2.23
505-5260	AND130CR	Red/Water Clear	660	2300.0	15	3.90	3.55
505-5265	AND130BR	Red/Water Clear	660	1280.0	15	2.90	2.64
505-5270	AND155CRP	Red/Water Clear	660	1280.0	24	3.90	3.55
505-5275	AND155BRP	Red/Water Clear	660	720.0	24	2.90	2.64
505-5280	AND120CR	Red/Water Clear	660	1280.0	35	3.90	3.55
505-5285	AND120BR	Red/Water Clear	660	720.0	35	2.90	2.64
505-5290	AND134CR	Red/Red Diffused	660	230.0	35	3.90	3.55
505-5295	AND116CR	Red/Milky Diffused	660	208.0	60	3.90	3.55

Special Shapes & Products

505-5300	AND255CR	Red/Water Clear/Dual Chip/T-1 3/4	660	350.0	90	3.50	3.19
505-5305	AND255AS	Red/Red Clear/Dual Chip/T-1 3/4	635	20.0	90	0.99	0.90
505-5310	AND255AG	Green/Green Clear/Dual Chip/T-1 3/4	565	25.0	90	0.68	0.62
505-5315	AND255AY	Yellow/Yellow Clear/Dual Chip/T-1 3/4	585	20.0	90	0.88	0.80
505-5320	AND255AO	Orange/Orange Clear/Dual Chip/T-1 3/4	610	20.0	90	1.00	0.91
505-5325	AND221S	Red/Tint/2.1 × 2.9 mm Flat Pack	635	5.0	100	0.44	0.40
505-5330	AND221RC	Red/Tint/2.1 × 2.9 mm Flat Pack	660	15.0	100	0.94	0.86
505-5335	AND221G	Green/Tint/2.1 × 2.9 mm Flat Pack	565	7.0	100	0.38	0.35
505-5340	AND221Y	Yellow/Tint/2.1 × 2.9 mm Flat Pack	585	5.0	100	0.22	0.20
505-5345	AND208S	Red/Tint/2 × 5 mm Rect. on Pedestal	635	1.0	—	0.22	0.20
505-5350	AND211R	Red/Diff/2 × 4 Flush Rect.	700	1.2	—	0.17	0.15
505-5355	AND147R	Red/Fresnel/Tint/5mm	700	1.2	120	0.17	0.15
505-5360	AND226R	Red/Diff/Mini Dot	700	0.5	—	0.17	0.15

Dual/Three Color Led Lamps

505-5370	AND126SG	Red/Green/Diff/T-1	635/565	7.0/5.0	70	0.62	0.56
505-5375	AND116SG	Red/Green/Diff/T-1 3/4	635/565	7.0/5.0	80	0.62	0.56
505-5380	AND116YG	Yellow/Green/Diff/T-1 3/4	585/565	5.0/5.0	80	0.62	0.56
505-5385	AND2451RGL	Red/Green/T-1 3/4/2 Lead-2 Colors	635/565	1.2/1.7	80	0.40	0.36
505-5390	AND208SG	Red/Green/Diff/2 × 5 mm Rect. Top	635/565	1.5/1.5	—	0.62	0.56
505-5395	AND308YG	Yellow/Green/Diff/2 × 5 mm Rect. Top	585/565	5.0/5.0	—	0.62	0.56
505-5400	AND222SG	Red/Gr/Clr-Flat Pack/2.2 × 2.9 × 1.5 mm	635/565	6.0/9.0	100	0.77	0.70
505-5410	AND170S	Red/Red/Clear/2 Lead For AC Oper.	635/635	10.0/10.0	90	0.72	0.66

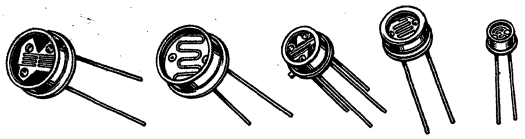
LED Displays - 7 Segment

Stock No.	Mfr.'s Type	Color/Lens/Comments	Wave Length	IV/Seg (MCD)	EACH 1-99	EACH 100-499
505-5415	AND332S	Red/Gray Surface/0.3″/RHDP/CC	635	1.85	2.18	1.85
505-5420	AND333S	Red/Gray Surface/0.3″/RHDP/CA	635	1.85	2.25	1.91
505-5425	AND335S	Red/Gray Surface/0.3″/LHDP/CA	635	1.85	2.25	1.91
505-5430	AND342S	Red/Gray Surface/0.43″/RHDP/CC	635	1.28	2.50	2.12
505-5435	AND343S	Red/Gray Surface/0.43″/RHDP/CA	635	1.28	2.53	2.14
505-5440	AND345S	Red/Gray Surface/0.43″/LHDP/CA	635	1.28	2.50	2.12
505-5445	AND362S	Red/Gray Surface/0.56″/RHDP/CC	635	2.00	2.25	1.91
505-5450	AND363S	Red/Gray Surface/0.56″/RHDP/CA	635	2.00	2.25	1.91
505-5455	AND8010SCL	Red/0.8″/CC	635	1.80	2.67	2.26
505-2307	AND2307SCL	Red/2.3″/CC	635	1.10	10.56	8.93
505-2308	AND2307GCL	Green/2.3″/CC	565	0.95	10.13	8.57
505-4107	AND4107SCL	Red/4.0″/CC	635	1.42	27.73	23.46
505-4108	AND4107GCL	Green/4.0″/CC	565	1.65	23.86	20.19

LED Alphanumeric Displays

505-5460	AND8010SCLB	Red/16 Segment/0.8″/CC	635	1.80	4.96	4.20
505-5461	AND5420OALB	Orange/Dual 14 Segment/0.54″/CA	635	1.80	6.99	5.91

Photoconductive Cells



VT200 Series

All measurements are at 25° C ambient and at 2850 K color temperature of lamp after cells are light adapted at 30 to 50 foot-candles for 16 hours. Available in single element only. TO-18 hermetically sealed.

Stock No.	Mfr.'s Type	Description	2 Ft-C Resistance In K Ohms	Min. Dark Resistance Ohms 5 Sec. After 2 Ft-C	Maximum Voltage	EACH 1-99	EACH 100-Up
980-1707	VT202	Type 0 CdS	8.00K	750.0K	100	2.80	2.03
980-2410	VT204	Type 0 CdS	110.00K	20.0Meg	300	2.80	2.03
980-1703	VT211H	Type 1 CdSe	3.50K	1.0Meg	100	2.80	2.03
980-2403	VT212L	Type 1 CdSe	6.00K	5.0Meg	100	2.80	2.03
980-1701	VT214	Type 1 CdSe	140.00K	200.0Meg	300	2.80	2.03
980-1702	VT214L	Type 1 CdSe	64.00K	100.0Meg	300	2.80	2.03
980-1700	VT225	Type 2 CdS	1000.00K	200.0Meg	300	2.80	2.03
980-2407	VT232	Type 3 CdS	100.00K	50.0Meg	100	2.80	2.03
980-1705	VT241	Type 4 CdSe	2.00K	500.0K	100	2.80	2.03
980-1704	VT242	Type 4CdSe	15.00K	10.0Meg	100	2.80	2.03

VT500 Series

All measurements are at 25° C ambient and at 2850° K color temperature of lamp after cells are light adapted at 30 to 50 foot-candles for 16 hours. Available in single element only. Photoconductive cells are TO-8 hermetically sealed.

Stock No.	Mfr.'s Type	Description	2 Ft-C Resistance In K Ohms	Min. Dark Resistance Ohms 5 Sec. After 2 Ft-C	Maximum Voltage	EACH 1-99	EACH 100-Up
980-1304	VT521H	Type 2 CdS	5.00K	500.0K	300	2.80	2.03
980-1303	VT54L	Type 4 CdS	0.25K	100.0K	200	2.80	2.03
980-1302	VT542L	Type 4 CdS	1.50K	1.0Meg	300	2.80	2.03

VT900 Series

All measurements are at 25° C ambient and at 2850° K color temperature of lamp after cells are light adapted at 30 to 50 foot-candles for 16 hours. Single element. 24 AWG (0.020") tinned copper leads.

Stock No.	Mfr.'s Type	Description	2 Ft-C Resistance In K Ohms	Min. Dark Resistance Ohms 5 Sec. After 2 Ft-C	Maximum Voltage	EACH 1-99	EACH 100-Up
980-2515	VT901	Type 0 CdS	4.30K	500.0K	100	1.33	0.96
980-2520	VT931	Type 3 CdS	22.00K	1.0Meg	100	1.33	0.96

VT300 Series

All measurements are at 25° C ambient and at 2850° K color temperature of lamp after cells are light adapted at 30 to 50 foot-candles for 16 hours. Available in single or dual element types. Photoconductive cells are TO-5 hermetically sealed.

Stock No.	Mfr.'s Type	Description	2 Ft-C Resistance In K Ohms	Min. Dark Resistance Ohms 5 Sec. After 2 Ft-C	Maximum Voltage	EACH 1-99	EACH 100-Up
980-1913	VT301	Type 0 CdS	3.00K	200.0K	200	2.80	2.03
980-1904	VT311L	Type 1 CdSe	2.10K	500.0K	200	2.80	2.03
980-1902	VT314	Type 1 CdSe	140.00K	200.0Meg	300	2.80	2.03
980-1912	VT333	Type 3 CdS	28.00K	10.0Meg	200	2.80	2.03
980-1908	VT341	Type 4 CdSe	1.20K	500.0K	200	2.80	2.03

VT800 Series

All measurements are at 25° C ambient and at 2850° K color temperature of lamp after cells are light adapted at 30 to 50 foot-candles for 16 hours. Single element. 24 AWG (0.020") tinned copper leads.

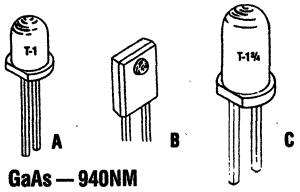
Stock No.	Mfr.'s Type	Description	2 Ft-C Resistance In K Ohms	Min. Dark Resistance Ohms 5 Sec. After 2 Ft-C	Maximum Voltage	EACH 1-99	EACH 100-Up
980-2500	VT801	Type 0 CdS	3.00K	250.0K	200	1.26	0.91
980-2505	VT82L	Type 2 CdS	1.90K	100.0K	100	1.26	0.91
980-2510	VT833	Type 3 CdS	33.00K	15.0Meg	300	1.26	0.91

Standard Light Dependent Resistors

A Cadmium Sulfo-Selenide material with a peak spectral response of 615nm with 50% response at 550 and 725nm. This material combines the low resistance of a CdSe with the temperature stability of a CdS material. Well suited for low light level use or with a visible LED light source.

Stock No.	Mfr.'s Type	Description	2 Ft-C Resistance In K Ohms	Min. Dark Resistance Ohms 5 Sec. After 2 Ft-C	Maximum Voltage	EACH 1-99	EACH 100-Up
980-2525	VT871	VT800	3.00K	10.0Meg	100	1.69	1.23
980-2530	VT971	VT900	4.50K	2.5Meg	100	1.33	0.96

High-Power Infrared Emitting Diodes



This series of Infrared emitting diodes (REDs) consists of two standard chips in packages which provide a broad range of mountings, lens, and power output options. Both end and side radiating cases, as well as narrow and wide-angle emitters, are part of the series. All these IRED devices use high-efficiency GaAs or GaAlAs liquid phase epitaxial chips mounted P side down for highest output. This process produces chips with over ten times the power of chips made by the diffusion process.

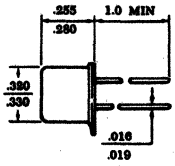
GaAs — 940NM

Stock No.	Mfr.'s Type	Typical Total Power mW	Irradiance, Min. Eo mW/cm²	Condition d, mm	Condition O, mm	Radiant Intensity Ie mW/sr	Case Style Fig.	EACH 1-99	EACH 100-Up
980-0900	VTE3321	0.5	0.50	10.16	2.1	1.50	A	1.12	0.81
980-0905	VTE3322	1.0	1.00	10.16	2.1	2.50	A	1.17	0.85
980-0910	VTE7121	0.5	0.10	16.70	4.6	0.30	B	1.22	0.89
980-0915	VTE7122	1.0	0.20	16.70	4.6	0.65	B	1.27	0.92

GaAlAs — 880NM

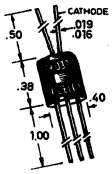
Stock No.	Mfr.'s Type	Typical Total Power mW	Irradiance, Min. Eo mW/cm²	Condition d, mm	Condition O, mm	Radiant Intensity Ie mW/sr	Case Style Fig.	EACH 1-99	EACH 100-Up
980-0920	VTE1261	16 (Min. 10)	—	—	—	33.00	C	1.40	1.01
980-0925	VTE3371L	3.0	1.00	10.16	2.1	3.00	A	1.22	0.89
980-0930	VTE3372L	3.0	2.00	10.16	2.1	5.00	A	1.29	0.94
980-0935	VTE7171	2.5	0.20	16.70	4.6	0.60	B	1.34	0.97
980-0940	VTE7172	2.5	0.40	16.70	4.6	1.30	B	1.40	1.01

TO-5 LED/Vactrol



These devices combine a solid-state light source (a lighting emitting diode LED) with a photoresistor to provide I/O isolation. These devices have four-lead TO-5 hermetically-sealed cases; all elements are isolated from the cases. Can be operated in the ON/OFF mode or in proportional control circuits with a wide range of resistance control. The life of these devices is virtually unlimited when operated within their respective ratings. The VTL2C1 are best for photochoppers; the VTL2C2 have high stability and low temperature coefficient; the VTL2C3 have good stability and fast response; the VTL2C4 are low in resistance and fast light adapting.

Stock No.	Mfr.'s Type	Resistance (Ohms) On(1) Dark Adapted (Typ.)	Resistance (Ohms) On(1) Light Adapted (Max.)	Resistance (Ohms) Off(2) (Min.)	Response(3) (Milliseconds) Ascent Typ.	Response(3) (Milliseconds) Decay to 100K *1M (Max.)	Cell Voltage (Max.)	EACH 1-99	EACH 100-Up
980-0812	VTL2C1	2K	10K	10^8	0.5	3.5*	70	7.56	5.48
980-0814	VTL2C2	300	500	10^6	3.5	500.0	100	7.56	5.48
980-0816	VTL2C3	1K	2K	10^7	2.5	35.0	300	7.56	5.48
980-0818	VTL2C4	50	100	4×10^5	6.0	1.5 Sec.	70	7.56	5.48



LED Axial-Lead Vactrols

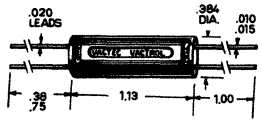
Combine a solid-state light source (LED) with a photoresistor to provide input-output isolation. Sealed in an axial plastic package. Use for photochoppers, linear isolators, SCR and Triac firing, logic circuit inputs, noiseless switching, proportional control circuits. External Current Limiting Resistor Required.

Stock No.	Mfr.'s Type	Output Resistance On Input Current mA	Output Resistance On Dark Adapted Typ.	Output Resistance On Light Adapted Max.	Off Resistance Min. Megohm	Response Ascent Typ. ms	Response Decay to 100KΩ (1MΩ) max. ms	Cell Voltage Max. Volts	EACH 1-99	EACH 100-Up
980-0700	VTL5C1	40/10	200/600	500	50.0	2.5	35	100	2.77	2.01
980-0705	VTL5C2	40/10	200/800	500	1.0	3.5	500	200	2.77	2.01
980-0710	VTL5C3	40/10	1.5K/5K	2000	10.0	2.5	35	250	2.77	2.01
980-0715	VTL5C4	40/10	75/125	200	0.4	6.0	1500	50	2.77	2.01
980-0720	VTL5C8	16/4	1000/1800	2000	10.0	4.0	60	500	2.77	2.01

Dual Element (Specs for each side)

Stock No.	Mfr.'s Type	Output Resistance On Input Current mA	Output Resistance On Dark Adapted Typ.	Output Resistance On Light Adapted Max.	Off Resistance Min. Megohm	Response Ascent Typ. ms	Response Decay to 100KΩ (1MΩ) max. ms	Cell Voltage Max. Volts	EACH 1-99	EACH 100-Up
980-0725	VTL5C4/2	40/10	100/150	500	0.4	6.0	1500	30	3.13	2.37
980-0730	VTL5C3/2	40/10	2000/4500	3000	10.0	3.0	50	100	3.13	2.37

Axial Vactrols



These low-cost Vactrols provide a broad range of input lamps, both neon and incandescent. Various photoconductors are available as output elements. Together they provide a broad range of transfer characteristics and all are of axial construction; this construction provides high input/output voltage isolation. Typical applications for these couplers, are SCR and Triac turn-on, for telephone interconnect circuits, for noiseless audio switches, remote low voltage control, and automatic gain control. Both neon and incandescent models have 0.020" leads on the photocell end; neon models have 0.015" and incandescent models have 0.010" leads on the lamp end.

Neon Types — Specifications at 25° C

Stock No.	Mfr.'s Type	Lamp DC Input (Max.) mA	Lamp AC Input Volts	Lamp AC Input Limit Resit. KΩ	Photocell Resistance - Ohms On Dark Adapted (Typ.)	Photocell Resistance - Ohms On Light Adapted (Max.)	Photocell Resistance - Ohms Off	Photocell Response - ms Ascent (Typ.)	Photocell Response - ms Decay to 100KΩ (Max.)	Volts (Max.)	EACH 1-99	EACH 100-Up
980-0485	VTL3B19	—	120	27	700	1150	5x	—	30	100	3.06	2.22
		2.0	—	—	500	900	10^7	5				
980-0490	VTL3B39	—	120	27	4000	6000	10^7	—	35	250	3.06	2.22
		2.0	—	—	2000	3000	—	5				
980-0495	VTL3B48	—	120	220	400	1000	10^6	—	600	100	3.58	2.60
		0.3	—	—	400	900	—	20				
980-0500	VTL3B49	—	120	27	130	160	10^6	—	600	100	3.06	2.22
		2.0	—	—	120	135	—	5				

Incandescent Types — Specifications At 25° C

Stock No.	Mfr.'s Type	Lamp DC Input (Max.) mA	Lamp AC Input Volts	Lamp AC Input Limit Resit. KΩ	Photocell Resistance - Ohms On	Photocell Resistance - Ohms Off	Photocell Response - ms Ascent (Typ.)	Photocell Response - ms Decay to 100KΩ (Max.)	Volts (Max.)	EACH 1-99	EACH 100-Up
980-0200	VTL3A14	6.0	40	80	160	5x	50	200	100	3.24	2.35
980-0206	VTL3A17	12.0	40	50	160	10^7	25	150	100	3.24	2.35
980-0226	VTL3A26	12.0	25	350	500	10^6	80	500	200	2.77	2.01

Photo Transistors

This series of phototransistors provides a broad range of devices and characteristics. End viewing and side viewing (lateral) devices are included. All chips are planar, epitaxial, fully passivated silicon NPN devices and are available for customer mounting.

Stock No.	Mfr.'s Type	Light Current Ic mA		Condition H fc	Condition VCE Volts	Dark Current ICEO H=0 nA max.	Dark Current ICEO H=0 VCE Volts	Collector Breakdown V(BR)CEO Ic=100µa H=0 Volts min.	Emitter Breakdown V(BR)ECO IE=100µA H=0 Volts min.	Saturation Voltage VCE(SAT) Ic=1.0mA H=400fc Volts max.	Rise/Fall Time tr, tf Ic=1.0mA RL=100 µsec typ.	Ang. Resp. θ typ.	Case Style	EACH 1-99	EACH 100-999
		min.	max.												
980-2540	VTT1012	0.2	0.6	100	5.0	25	20	50	6.0	0.40	3.0	35°	TO-18 Flat	2.04	1.48
980-2570	VTT1112	4.0	10.0	100	5.0	25	20	30	6.0	0.40	5.0	15°	TO-18	2.28	1.66
980-2575	VTT1113	8.0	—	100	5.0	100	10	20	4.0	0.40	8.0	15°	Lensed	2.42	1.76
980-2580	VTT3321	1.0	—	100	5.0	100	10	50	5.0	0.25	1.5	20°	T-1	.73	.53
980-2585	VTT3322	2.0	—	100	5.0	100	10	50	5.0	0.25	2.0	20°	Molded	.77	.56
980-2590	VTT7111	0.5	—	100	5.0	100	10	30	5.0	0.40	3.0	58°	Molded	.78	.57
980-2595	VTT7112	2.0	—	100	5.0	100	10	30	5.0	0.40	4.0	58°	Clear	.82	.59
980-2600	VTT7121	0.5	—	100	5.0	100	10	30	5.0	0.25	1.5	36°	Epoxy	.75	.54
980-2605	VTT7122	1.0	—	100	5.0	100	10	30	5.0	0.25	2.0	36°	Lateral	.78	.57
980-2610	VTT9012	2.0	6.0	100	5.0	100	5	30	6.0	0.55	4.0	50°	Ceramic Epoxy Window	1.50	1.09
980-2615	VTT9112	6.0	18.0	100	5.0	100	5	30	4.0	0.55	4.0	42°	Ceramic Epoxy Lens	1.50	1.09

VTB Blue Enhanced Ultra High Dark Resistance

This series of P on N silicon diodes is primarily intended for use in the photovoltaic mode but may be used with a small reverse bias. The diodes have excellent response in the UV region and units with UV transmitting windows are characterized at 200 nm. All diodes have very high shunt resistance to provide very low offset in high gain transimpedance connected op-amp circuits.

Stock No.	Mfr.'s Type	Responsivity RE µA/(µW/cm²) 220 nm min.	Responsivity RE µA/(µW/cm²) 365 nm typ.	Responsivity RE µA/fc 280 K min.	Responsivity RE µA/fc 280 K typ.	Dark Current ID pA H=0 V=−2.0 V max.	Dark Resistance RD GΩ H=0 V=10 mV typ.	Junction Capacitance CJ nF H=0 V=0 typ.	Active Area A (in.²) mm²	Angular Response θ Half Power typ.	Case Style	EACH 1-99	EACH 100-999
980-2620	VTB1112	—	0.0030	0.300	0.600	500	0.24	0.31	*	15°	TO-18 Lensed	2.87	2.08
980-2625	VTB1113	—	0.0030	0.300	0.600	20	7.00	0.31	*	15°	TO-18 Lensed	3.80	2.75
980-2630	VTB9412	—	0.0015	0.080	0.130	500	0.25	0.31	*	50°	6 mm Ceramic	1.67	1.21
980-2635	VTB9413	—	0.0015	0.080	0.130	20	7.00	0.31	*	50°	6 mm Ceramic	1.80	1.30
980-2640	VTB1112B	—	—	0.030	0.060	500	0.25	0.31	*	15°	TO-18 Lensed	6.09	4.41
980-2645	VTB1113B	—	—	0.030	0.060	20	7.00	0.31	*	15°	TO-18 Lensed	7.01	5.09
980-2650	VTB9412B	—	—	0.008	0.013	500	0.25	0.31	*	50°	6 mm Ceramic	1.80	1.30
980-2660	VTB8440	—	0.0050	0.350	0.450	2000	0.07	1.00	†	50°	8 mm Ceramic	1.84	1.34
980-2665	VTB8441	—	0.0050	0.350	0.450	100	1.40	1.00	†	50°	8 mm Ceramic	2.00	1.15
980-2670	VTB8440B	—	—	0.040	0.050	2000	0.07	1.00	†	50°	8 mm Ceramic	2.00	1.45
980-2675	VTB8441B	—	—	0.040	0.050	100	1.40	1.00	†	50°	8 mm Ceramic	2.33	1.69

*(0.0025) 1.6. †(0.008) 5.16.

VTP Fast Response High Dark Resistance

This series of P on N silicon diodes is primarily intended for use with reverse bias but may be used in the photovoltaic mode. These diodes have excellent response in the IR region and are well matched to IR LEDs. Due to the low capacitance, these devices may be used with high load resistance and still have a fast response time. The low dark current under bias minimize DC offsets in transimpedance connected op-amp circuits.

Stock No.	Mfr.'s Type	Responsivity RE µA/(µW/cm²) 940 nm min.	Responsivity RE µA/(µW/cm²) 940 nm typ.	Responsivity RE µA/fc 2850 K min.	Responsivity RE µA/fc 2850 K typ.	Dark Current ID nA H=0 max.	@Volts	Dark Resistance RD Megohms H=0 V=10 mV min.	Breakdown Voltage VBR Volts H=0 IR=0.10 mA min.	Junction Capacitance CJ pF H=0 max.	@Volts	Active Area A (in.²) mm²	Angular Response θ Half Power typ.	Case Style*	EACH 1-99	EACH 100-999
980-2680	VTP100	.036	0.047	—	0.72	30.0	10	—	30	50	3	(0.0120) 7.45	70°	1	1.24	.90
980-2685	VTP413	.050	0.078	—	1.20	30.0	10	—	30	50	3	(0.0120) 7.45	48°	2	1.45	1.05
980-0400	VTP1012	—	0.011	0.10	0.17	7.0	50	—	—	6	15	(0.0025) 1.60	35°	3	2.56	1.86
980-2695	VTP1112	—	0.033	0.30	0.90	7.0	50	—	—	6	15	(0.0025) 1.60	15°	4	2.87	2.08
980-0415	VTP1113	—	0.033	0.30	0.90	1.5	50	—	—	6	15	(0.0025) 1.60	15°	4	3.80	2.75
980-0420	VTP9412	—	0.011	0.10	0.17	7.0	50	—	—	6	15	(0.0025) 1.60	50°	5	1.67	1.21
980-0425	VTP9413	—	0.011	0.10	0.17	1.5	50	—	—	6	15	(0.0025) 1.60	50°	5	1.80	1.30
980-2715	VTP8440	—	0.025	0.30	0.55	15.0	50	—	—	15	15	(0.0080) 5.16	50°	6	1.85	1.34
980-2720	VTP8441	—	0.025	0.30	0.55	3.0	50	—	—	15	15	(0.0080) 5.16	50°	6	2.00	1.45
980-2725	VTP4050	.040	0.060	—	0.80	30.0	10	—	33	50	3	(0.0120) 7.45	60°	7	2.09	1.51

*Case Style: 1 = Sidelooker IRT Epoxy Flat; 2 = Sidelooker IRT Lensed; 3 = TO-18 Flat Window; 4 = TO-18 Lensed; 5 = 6 mm Ceramic; 6 = 8 mm Ceramic; 7 = Ceramic.

VTS-2 Low Capacitance Large Area Photodiode

This series of P on N large area silicon diodes is intended for use in the photovoltaic mode but may be used with a small reverse bias. They have excellent response in the infrared region and are well matched to IR LEDs. The low capacitance of these units permits fast response time when high load resistances are required. These cells have moderate shunt resistance which provides low offset gain in transimpedance op-amp circuits.

Stock No.	Mfr.'s Type	Dimensions Millimeters Active Area	Dimensions Inches Active Area	Light Current IL µA 100 µW/cm² 940 nm min.	Light Current IL µA 100 µW/cm² 940 nm typ.	Light Current IL mA 100 fc 2850 K Short Circuit typ.	Dark Current ID µA H=0 V=−100 mV typ.	Dark Current ID µA H=0 V=−100 mV max.	Dark Resistance RD Megohms H=0 V=10 mV typ.	Junction Capacitance CJ nF H=0 V=0 typ.	Notes	EACH 1-99	EACH 100-999
980-2730	VTS4085S	21	0.032	11.4	15	200	0.015	0.05	4.0	0.35	Ceramic	2.05	1.49

General Purpose Vactrol

This general purpose vactrol combines incandescent lamps in a low cost aluminum case with .040 inch diameter tin plated pins. It may be operated in the ON-OFF mode or in proportional control circuits with a wide range of control. Applications include photochoppers, DC isolators, noiseless switching, automatic gain controls, audio limiting and comparison SCR and TRIAC firing, audio effects and computer interfacing. Maximum cell power of 200 mW. 500 volt isolation. Lamp voltage is 6.0 volts at 40 MA. Photocell resistance in "ON" position—30 ohms typically when dark adapted; 60 ohms maximum when light adapted. "OFF" position—10^7 ohms; photocell response of 50 mSec. Ascent typically with 350 mSec. Decay to 100 K. Cell voltage 100 V max.

980-0822. Model VTL9A2. ..... **EACH 5.99**

Neon Vactrol VTL110

This VACTROL optical coupler utilizes a 70 VDC breakdown neon lamp as the input element and a light dependent resistor (photoconductor) as the output. This device is particularly suited for telephone ring detectors and other high volume applications where low breakdown voltage is desirable. Neon lamp requires an external current limiting resistor, 50VAC, max.; 1.6 mA, + 65°C. Input/output isolation voltage 30000 VAC for 1 min.

980-2535. Model VTL 110. **1-99** ..... **EACH 1.99**

Slotted Photo Switch VTL10G1

This series of interrupter type optical switches combine a GaAs LED with a Light Activated Circuit in a one piece seamless IR transmitting plastic case. The IC contains all the circuitry necessary for providing on/off operation. Standard industry mounting. Light activated IC output. TTL compatible. Based on an isolated vane passing through the slot at a slow rate. Detection width depends on rate of movement and propagation delay of LED forward current. Indicated detection width must be blocked or opened for typically 25 µS to cause a state change. Interruption rates of 5-10 kHz can be achieved. Polysulfone case is opaque but IR transmitting will block light from fluorescent lights. **Supply Voltage Range:** 4.0 min. to 5.0 typ. **Supply Current:** 3.2 mA. **Forward current for output at high state:** 2 typ. to 4 max. **Low level output:** 300 mV typ. to 500 mV max. **Output Rise/Fall Time:** 200 nS. **Detection Width:** 0.09" (2.3 mm).

980-2545. Model VTL10G1. **1-99** ..... **EACH 5.29**

Slotted Photo Switch VTL10D1/2

- ► 3.2 mm (0.125 in.) slot
- ► Industry standard mounting
- ► Phototransistor output (D series)
- ► Photodarlington output (E series)
- ► Totally sealed units with or without flying leads
- ► No openings on sensing surfaces
- ► TTL compatible
- ► Apertures, 0.005, 0.010, 0.020 In
- ► Opaque housing with opening over device lens

This series of interrupter type optical switches combine a GaAs LED with a phototransistor or photdarlington in a one piece seamless IR transmitting plastic case. Debris cannot accumulate in the light path on these units. Optional models have internal apertures fitted on the detector and emitter. Printed circuit board lead spacing variations and flying leads are included in this series. A series using a totally opaque housing is available. VTL10 is sealed on upper surface only.

980-2550. Model VTL10D1 ..... **EACH 2.06**
980-2555. Model VTL10D2 ..... **EACH 2.24**

Retro Photo Switch VTR16D1

This series of reflective type optical switches combines a GaAs LED with an NPN phototransistor in a one piece sealed IR transmitting plastic case. Debris and moisture cannot degrade operation. Units are available with PC Board mounting leads, and 12 inch AWG #26 leads with or without a four position connector attached. Dark current is measured with part totally shielded from ambient light. With 2150 lux (200 fc) from a cool white fluorescent lamp perpendicular to the sensing axis will result in approximately 50 µA in the detector. Equivalent light from an incandescent lamp will result in significantly greater currents. Cross talk is measured with 20 mA of forward LED current and no reflecting surface. Cross talk is typically less than 3 µA.

980-2560. Model VTR16D1 ..... **EACH 3.42**

Retro Photo Switch VTR22D

A Retro Photo Switch normally sees no light. When an object passes within the field to view, it reflects IR light from the LED to the Detector and the reflectance of the object. The VTR22D Series consists of a GaAs LED with an NPN PHOTOTRANSISTOR mounted with each optical axis perpendicular to the face of the retro package.

Infrared emitter maximums ratings: reverse voltage—3.0V; continuous forward current—50 mA; forward drop voltage—1.6 V. **Photo detector maximum ratings:** V_{BRCEO}—30 V; V_{BRECO}—5.0 V; power dissipation—75 mW. .20 mA minimum light current. .20 µA maximum cross talk. 100 nA maximum dark current.

980-2565. Model VTR22D1 ..... **EACH 2.24**

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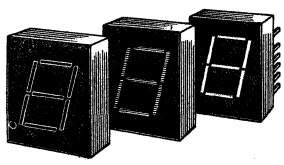
LR 1737 Red LED Digital Display

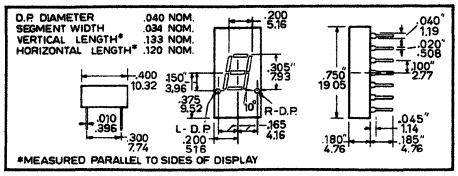
Convenient .3" high, 7-segment characters. Low IC-compatible power requirements: $V_f = 1.7V$, $I_f = 20mA$. Std. 14-pin .3" common anode, DIP packaging; install in 2 to 8 digit multiples with mtg. hardware 1750. Interchangeable with most .3" LEDs. **D.P. dia.:** .040" nom. **Segment width:** .034" nom., **Segment length (measured parallel to sides of display):** .133" nom. vertical, .120" nom. horizontal.

Characteristics	Min.	Typ.	Max.	Units	Conditions
Luminous Intensity	250.0	500.0	—	μed	1F = 20mA
Forward Voltage	1.5	1.7	20	Volts	1F = 20mA
Reverse Current	—	100.0	—	μA	VR = 5V
Peak Wave Length	640.0	655.0	—	—	—

Stock No.	Mfr.'s Type	Character Height	EACH	
			1-99	100-499
658-1050	LR1737R	.300"	1.56	1.31
658-1055*	LR1738R	.300"	1.56	1.31

* Common cathode, Rt. hand decimal only

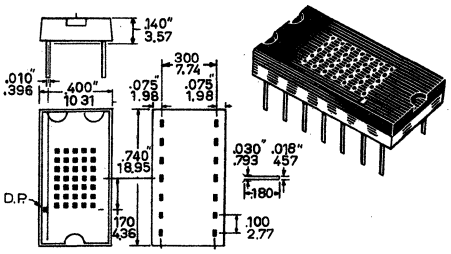




Absolute Max. Ratings @ 25°C

Description	Max. Ratings
Power dissipation	400mW
Operating and storage Temperature range	−20 to +85°C
Average forward current/segment or decimal pt.	25mA

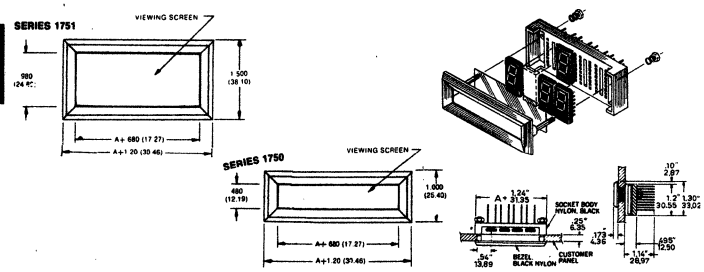
LR 1704 5 × 7 Alpha-Numeric Display



Solid state visible display with red transparent plastic encapsulation. 0.3" high (7.620 mm) character 5 × 7 array with X-Y select and decimal. Compatible with USASCII and EBCDIC codes with appropriate decoding. Use with mtg. hardware 1750 below, left.

Stock No.	Mfr.'s Type	Character Height	EACH	
			1-99	100-499
658-1000	LR1704R	.300"	3.64	3.05

Mounting Hardware For LED Displays



Model 1750 and 1751 Mounting Hardware

For any 14-16 pin DIP package with .3" row spacing. One-piece bezel. Series 23441 bezel assembly and socket assembly combined equal Model 1751. Series 22463 bezel and socket assembly combined equal Model 1750. Any standard 14 or 16 pin LED display automatically centers itself. Eliminates individual DIP sockets but allows easy removal of individual LEDs. Assembly consists of a black nylon bezel requiring a single rectangular panel cutout, a red circularly polarized viewing screen, and a universal socket body ready for wire wrap of PCB insertion. **Oper. temperature:** 0° to +70°C. Display brightness is inversely related to oper. temp. Max. natural air convection around the display should be provided. *Last two numbers in Mfr.'s Type are decades per assembly.
Construction: Viewing screen is a circular polarized red laminated cellulose acetate butyrate plastic which reduces unwanted reflections. The laminated screen construction consists of a linear polarized and a 1/4-wave retardation plate. Bezel and socket bodies are glass-filled nylon. Socket contacts are tin plated phosphor bronze.

Series 23441 Bezel Assembly Only
Used with Socket below to make 1751 hardware

Stock No.	Mfr.'s Type	Color	EACH		
			1-24	25-49	50-99
658-1180	DMH23441R-02	Red	7.56	6.05	4.84
658-1200	DMH23441R-03	Red	7.98	6.38	5.11
658-1220	DMH23441R-04	Red	8.82	7.06	5.65
658-1240	DMH23441R-05	Red	9.73	7.78	6.23
658-1260	DMH23441R-06	Red	10.22	8.18	6.54
658-1280	DMH23441R-07	Red	11.69	9.35	7.48
658-1300	DMH23441R-08	Red	12.04	9.63	7.71

Series 22463 Bezel Assembly Only
Used with Socket below to make 1750 hardware

658-1610	DMH22463R-02	Red	6.93	5.54	4.44
658-1620	DMH22463R-03	Red	7.28	5.82	4.65
658-1630	DMH22463R-04	Red	7.84	6.27	5.02
658-1640	DMH22463R-05	Red	8.47	6.78	5.42
658-1650	DMH22463R-06	Red	8.61	6.89	5.51
658-1660	DMH22463R-07	Red	9.80	7.84	6.27
658-1670	DMH22463R-08	Red	10.50	8.40	6.72

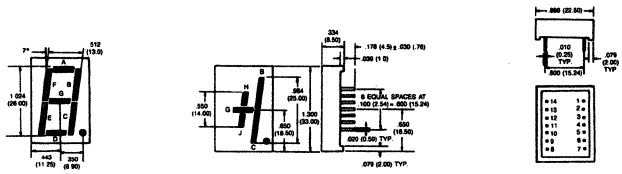
Socket Assembly Only

658-1110	DMH22464-02	—	12.39	9.91	7.93
658-1120	DMH22464-03	—	17.78	10.22	8.18
658-1130	DMH22464-04	—	23.24	18.59	14.87
658-1140	DMH22464-05	—	29.33	23.46	18.77
658-1150	DMH22464-06	—	34.72	27.78	22.22
658-1160	DMH22464-07	—	38.43	30.74	24.60
658-1170	DMH22464-08	—	45.50	36.40	29.12

Physical Dimensions Series 1750/1751

Decades Per Assembly	"A" (Centers Between Decades)	
	In.	mm
1	N.A.	N.A.
2	0.500	12.70
3	1.000	25.40
4	1.500	38.10
5	2.000	50.80
6	2.500	63.50
7	3.000	76.20
8	3.500	88.90

1.02" (26.00 mm) LED Digital Displays

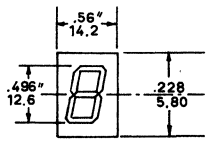


Features
- ► 1.02 inch high characters
- ► Dual-element segments
- ► Wide angle, long distance viewing
- ► High contrast ratio
- ► Categorized for luminous intensity

Note: All segments consist of two chips of light emitting material which are electrically interconnected in series and act functionally as single segments.

Stock No.	Mfr.'s Type	Description	Pinout	EACH
658-4720	LR1720R	Common Anode, Right Hand Decimal	A	2.93
658-4723	LR1723R	Common Cathode, Right Hand Decimal	C	2.93
658-4740	LR1740R	Common Anode, ± 1; Right Hand Decimal	B	2.93
658-4743	LR1743R	Common Cathode, ± 1; Right Hand Decimal	D	2.93

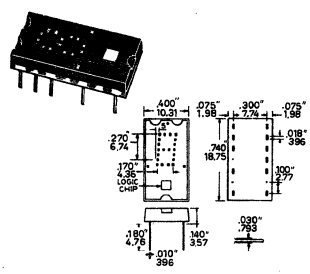
.5" LED Digital Displays



Series LR. 0.5" (12.70mm) red LED digital displays offer wide angle, long distance viewing. High contrast ratio, low power consumption. Categorized for luminous intensity. IC compatible. Leads on .100" (2.5mm) centers. PC board or socket mounting. **Forward voltage:** 1.7V typical, 2.0 max. @ 20mA. **Reverse current:** 100μA at 3V. Luminous intensity segment: 600μcd digit average @ 20mA. **Peak emission wavelength:** 655 nm typical. **Spectral line half-width:** 40 nm @ 20mA. **Segment to segment luminous intensity ratio:** 1.5:1

Stock No.	Mfr.'s Type	Description	EACH	
			1-9	100-499
658-1076	LR8321R	Common anode, right-hand decimal	1.79	1.50
658-1077	LR8322R	Common cathode, right-hand decimal	1.79	1.50

LR 1707 Hexadecimal Display W/ Logic (All are red)

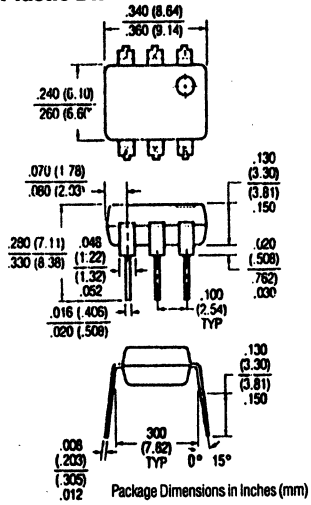


Solid-State with TTL circuit to accept, store and display 4-Bit binary data. 0.270" high (6.858mm) character. Left- and right-hand decimals. Separate LED and logic power supplies may be used. Internal TTL MSI chip with latch, decoder and driver. Operates from 5V or 6V supply. Constant-current drive for hexadecimal characters. Easy system interface. Utilizes "active low" for enable. Use with mt. hardware 1750 at left.

Stock No.	Mfr.'s Type	Character Height	EACH		
			1-24	25-49	50-99
658-1030	LR1707R	.270"	20.31	19.70	18.20

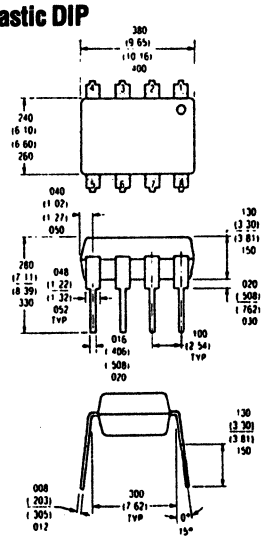
Optocouplers

6 Pin Plastic DIP



Package Dimensions in Inches (mm)

8 Pin Plastic DIP



Package Dimensions in Inches (mm)

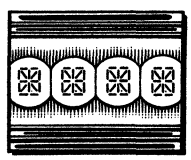
Siemens offers couplers in single, dual, quad, and small outline surface mount packages. In addition to our true surface mount couplers, most of the standard couplers can be ordered with optional gull wing, surface mount butt lead bends. Among the couplers offered are high reliability, high voltage, and high current transfer ratio types All couplers are Underwriters Lab approved #E42744 and most VDE approved #0883.

Stock No.	Mfr.'s Type	Features	Current Transfer Ratio (%)IF = 10 mA	(V_{DC}) Isolation Breakdown Voltage	BV_{CEO}	EACH			
						1-99	100-999	1000-4999	5000-Up
587-3084	4N25	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3086	4N26	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3090	4N28	1	10 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3092	4N35	1	100 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3094	4N36	1	100 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3096	4N37	1	100 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4520	H11A1	1	50 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4522	H11A2	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4524	H11A3	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4526	H11A4	1	10 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4528	H11A5	1	30 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4530	MCT2	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4532	MCT2E	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-5000	MCT270	1	50 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-5002	MCT271	1	45 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5004	MCT272	1	75 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5006	MCT273	1	125 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5008	MCT274	1	225 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5010	MCT275	1	70 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5012	MCT276	1	15 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5014	MCT277	1	100 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-3150	H11AA1	2	20 Min.	7500	30	**1.01**	**0.68**	**0.49**	**0.45**
587-3098	ILCT6	3	20 Min.	7500	30	**1.75**	**1.25**	**1.10**	**0.74**
587-4552	MCT6	3	20 Min.	7500	30	**1.06**	**0.72**	**0.51**	**0.48**
587-3128	4N32	4	500 Min.	7500	30	**0.99**	**0.90**	**0.75**	**0.60**
587-3130	4N33	4	500 Min.	7500	30	**0.99**	**0.90**	**0.75**	**0.60**
587-4534	H11B1	5	500 Min.*	7500	25	**0.87**	**0.59**	**0.42**	**0.39**
587-4536	H11B2	5	200 Min.*	7500	25	**0.84**	**0.57**	**0.41**	**0.38**
587-4538	H11B3	5	100 Min.*	7500	25	**0.84**	**0.57**	**0.41**	**0.38**
587-4540	MCA230	5	100 Min.	7500	30	**0.84**	**0.57**	**0.41**	**0.38**
587-4542	MCA231	5	200 Min.	7500	30	**0.87**	**0.59**	**0.42**	**0.39**
587-4544	MCA255	5	100 Min.	7500	55	**0.87**	**0.59**	**0.42**	**0.39**

1 = Photoxtr. output. Low cost industry standard. Single channel 6 pin DIP. **2** = Bi-directional 3:1 CTR matching Two IR Phoxtr. **3** = Photoxtr. output Dual channel 8 pin DIP. **4** = Photodarlington output. High gain. **5** = Photodarlington output. Low cost. Industry standard Single channel 6 pin DIP. * IF = 1 mA.

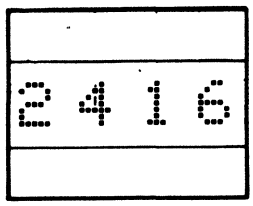
Intelligent Display® Devices

Siemens introduced Intelligent Display devices in 1977. These are LED alphanumeric displays with built-in CMOS drive circuitry for easy interface with microprocessors.



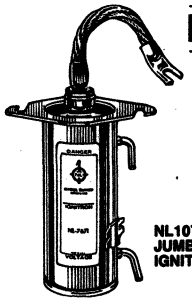
DL1414T

Stock No.	Mfr.'s Type	Character Height	Color	Description	EACH		
					1-99	100-249	250-999
587-1000	DL1414T	.112″	Red	1	**18.00**	**15.75**	**13.75**
587-1006	DL2416T	.160″	Red	1	**18.00**	**17.00**	**15.10**
587-1012	DL3416	.225″	Red	1	**41.00**	**33.75**	**25.50**
587-5016	DLR1414	.150″	Red	2	**19.95**	**18.50**	**15.75**
587-5018	DLO1414	.150″	HER	2	**22.80**	**21.00**	**17.95**
587-5020	DLG1414	.150″	Green	2	**22.80**	**21.00**	**17.95**
587-5022	DLR2416	.200″	Red	2	**22.80**	**21.00**	**17.95**
587-5024	DLO2416	.200″	HER	2	**22.80**	**21.00**	**17.95**
587-5026	DLG2416	.200″	Green	2	**22.80**	**21.00**	**17.95**
587-5028	DLR3416	.270″	Red	2	**28.00**	**25.95**	**22.10**
587-5030	DLO3416	.270″	HER	2	**32.00**	**29.60**	**18.90**
587-5032	DLG3416	.270″	Green	2	**32.00**	**29.60**	**25.20**



DLR/DLO/DLG2416

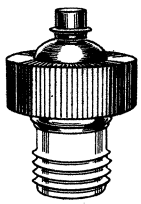
1 = 17 segment magnified lens, 4 character display, 64 character set. **2** = 5 × 7 Dot matrix flat lens, 4 character display, 128 character set. Direct drop-in replacement for 17 segment displays.



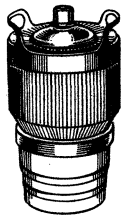
NL1071
JUMBO "C"
IGNITRON

PhilipsECG
North American Philips Company

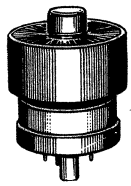
RAYTHEON



4-400C/6775
FORCED-AIR
COOLED INTERNAL
ANODE TETRODE



4CX5000A/8170
FORCED-AIR
COOLED EXTERNAL
ANODE TETRODE



4CX5000A/8/70
FORCED-AIR
COOLED EXTERNAL
ANODE TETRODE

NOTE: Most of the tubes in this listing were purchased by their generic number from the manufacturer with the best price at the time of purchase. Should you desire a specific manufacturer or quantity pricing, please contact the Allied Facility nearest you.

Mfr.'s Type	Tube Type	EACH
12BY7/12BV7/12DQ7	Video Amp.	12.30
12C5/12CU5	Audio Power Amp.	9.88
12CU5/12C5	Audio Power Amp.	9.88
12DQ7/12BV7/12BY7	Video Amp.	12.30
12GN7A/12HG7	Video Amp.	12.58
12HG7/12GN7A	Video Amp.	12.58
12SN7GTA	Horizontal Multivibrator	10.43
13GF7A	Vertical Deflection OSC	12.82
C16J/5665	Thyratron	360.00
FG17/715/5557	Thyratron	43.00
20PE14/4848	Vidicon	83.63
KY21A	Thyratron	283.00
24JE6A/24LQ6	Horizontal Deflection Amp.	19.05
24LQ6/24JE6A	Horizontal Deflection Amp.	19.05
33G47A	Damper	15.67
EL34/6CA7	Audio Power Amp.	15.93
35W4	Half Wave Rectifier	6.97
36KD6/40KD6	Horizontal Deflection Amp.	19.24
40KD6/36KD6	Horizontal Deflection Amp.	19.24
50C5	Audio Power Amp.	7.52
ECF80/6BL8	VHF Oscillator	9.29
EZ80/6V4	Duodiode	1.15
ECC81/12AT7/6679	Mini Twin Triode	12.95
ECC82/12AU7/6680	Mini Twin Triode	7.47
ECC83/12AX7A/6681/7025	AF Amp.	13.95
83	Rectifier	22.95
EL84/6BQ5	Audio Power Amp.	9.67
ECL86/6GW8	Audio Power Amp.	10.07
EL86/6CW5	AF Volt Amp.	8.73
ECC88/6DJ8	P.Q. Twin Tetrode	9.70
E88CC/6922	Duotriode	13.55
EF93/6BA6	RF/IF Amp.	8.13
EF95/6AK5	RF Amp.	10.57
FG95/5560	Thyratron	291.00
T160L/572B	Triode	87.50
EF184/6EJ7	IF Amp.	8.91
FG235A/5552A	Ignitron	440.00
FG258A/B/5553B	Ignitron	1227.00
FG271/5551A	Ignitron	292.00
DX332/5001	Microwave Magnetron	220.00
FG415/5550	Ignitron	251.00
572B/FG160L	Triode	87.50
575A	Rectifier	120.00
604/7014	Rectifier	140.00
604L/7015	Rectifier	165.00
606/7016	Rectifier	198.50
606L/7017	Rectifier	219.50
610/7723	Rectifier	95.00
615/7018	Rectifier	68.00
616	Rectifier	130.00
617	Rectifier	154.00
623	Rectifier	148.00
635/7019	Rectifier	148.00
635L/7020	Rectifier	160.00
635P/6930	Rectifier	165.00
649/5834	Rectifier	117.00
660L/7786	Rectifier	182.00
664L	Rectifier	264.00
673	Rectifier	145.00
710A/7725	Thyratron	127.00
710L/7509A/7518	Thyratron	109.00
714/7021	Thyratron	79.00
715/FG17/5557	Thyratron	43.00
734	Thyratron	205.80
734L	Thyratron	237.00
740/6856	Thyratron	135.00
740L/7022	Thyratron	159.60
740P/6857	Thyratron	175.00
760/6858	Thyratron	215.00
760L/7023	Thyratron	235.00
760P/6859	Thyratron	235.00
770L	Thyratron	538.00
ECF801/6GJ7	VHF Oscillator	9.73
LCF801/5GJ7	VHF Oscillator	9.90
807	Power Amplifier	20.35
811A	Triode	25.00
812A	Triode	103.00
816	Rectifier	50.00
833A	Radiation Cooled Tetrode	207.00
845	Triode	211.00
866A	Rectifier	37.00
869B	Rectifier	588.00
872A	Recifier	59.00
922	Phototube	39.83
931A	Photo Multiplier	76.20
931B	Photo Multiplier	75.00
1051A	Ignitron	306.00
2050A	Thyratron	12.20
4848/20PE14	Vidicon	83.63
5001/DX332	Microwave Magnetron	220.00
5550/FG415	Ignitron	251.00
5551A/FG271	Ignitron	292.00
5552A/FG235A	Ignitron	440.00
5553B/FG258A/B	Ignitron	1227.00
5554	Thyratron	950.00
5557	Thyratron	43.00
5560/FG95	Thyratron	291.00
5563A	Thyratron	240.00
5581	Photo Tube	47.50
5583	Photo Tube	31.00
5632/C3J	Thyratron	69.00
5651A	Duotriode	11.97
5651WA	Duotriode	11.97
5665/C16J	Thyratron	360.00
5684/7306A/C3JA	Thyratron	71.00
5684-NE	Thyratron	89.00
5687WB	Twin Triode	12.75
5691	Duotriode	26.40
5692	Twin Triode	27.90
5727	Thyratron	9.00
5751	Twin Triode	10.64
5763	Beam Pentode	12.20
5814A	Twin Triode	8.80
5823	Cold Cathode Triode	7.55
5834/649	Rectifier	117.00
5869/9950	Thyratron	149.00
5870A	Thryatron	627.00
5881	Beam Pentode	9.40
5886	Pentode	44.15
5894B/8737	RF Twin Tetrode	135.00
5963	Twin Tetrode	6.55
6005	Tetrode	5.00
6011/710/7307A	Thyratron	68.40
6012	Thyratron	139.00
6014/C1K	Thyratron	79.00
6072/6072A	Mini Twin Troide	10.25
6076	Air Cooled Tetrode	1106.00
6080	Twin Power Tetrode	29.05
6146A	Beam Pentrode	20.60
6146B/8298A	Beam Pentrode	20.60
6201	P.Q. Twin Triode	11.00
6211	Twin Triode	7.95
6336A	Triode	160.00
6360A	Twin Tetrode	11.00
6550	Beam Pentode	28.16
6661/6BH6	Mini Pentode	11.40
6669/6AQ5/A/6HG5/A	Mini Pentode	8.10
6676/6CB6/A/6CF6	Mini Pentode	8.10
6677/6CL6	Mini Pentode	12.45
6U8/6DK8/6678	Mini Triode/Pentode	9.54
6679/12AT7/ECC81	Mini Twin Triode	12.95
6680/12AU7/A/ECC82	Mini Twin Triode	7.47
6681/12AX7A/ECC83/7025	Mini Twin Troide	13.95
6688	P.Q. Pentode	17.95
6693	Rectifier	343.00
6807	Thyratron	250.00
6856/740	Thyratron	135.00
6857/740P	Thyratron	175.00
6858/760	Thyratron	215.00
6859/760P	Thyratron	235.00
6894	Rectifier	166.00
6895	Rectifier	163.00
6907	RF Twin Tetrode	49.00
6922/E88CC	Duotriode	13.55
6930/635P	Rectifier	165.00
6989/C6JKL	Thyratron	197.00
6989-NE	Thyratron	206.00
7014/604	Rectifier	140.00
7015/604L	Rectifier	165.00
7016/606	Rectifier	198.50
7017/606L	Rectifier	219.50
7018/615	Rectifier	68.00
7019/635	Rectifier	148.00
7020/635L	Rectifier	160.00
7021/714	Thyratron	79.00
7022/740L	Thyratron	159.00
7023/760L	Thyratron	235.00
7167	Tetrode	7.35
7203/4CX250B	Beam Powered Tetrode	90.70
7306A/C3JA/5684	Thyratron	71.00
7307/710/6011	Thyratron	68.40
7509A/710L/7518	Thyratron	109.00
7518/710L/7509A	Thyratron	109.00
7671	Ignitron	464.00
7723/610	Rectifier	95.00
7723-NE	Rectifier	100.00
7725/710A	Thyratron	127.75
7735A	Vidicon	229.00
7735B	Vidicon	300.00
7786/660L	Rectifier	182.00
7984	Beam Pentode	22.55
8008	Rectifier	73.90
8106	Pentode	11.30
8121	Beam Power	181.00
8167/4CX300A	Ceramic Powered Tetrode	320.00
8170/4CX5000A	Tetrode	1715.00
8270	Thyratron	457.00
8298A/6146B	Beam Pentode	20.60
8321/4CX350A	Ceramic Powered Tetrode	203.50
8417	Beam Pentode	20.50
8643	RF Twin Tetrode	165.00
8660/4CX1500B	Ceramic Radial Tetrode	870.00
8737/5894B	RF Twin Tetrode	139.00
8929	Vidicon	85.00
9950/5869	Thyratron	149.00

For tubes not listed or quantity pricing, contact the Allied Facility nearest you at 1-800-433-5700, Toll-Free.

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

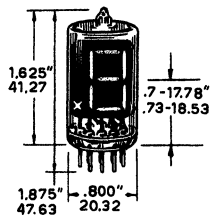
Receiving, Readout, Industrial and Special-Purpose Tubes

NOTE: Most of the tubes in this listing were purchased by their generic number from the manufacturer with the best price at the time of purchase. Should you desire a specific manufacturer or quantity pricing, please contact the Allied Facility nearest you.

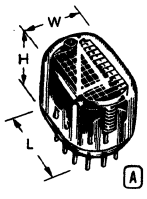
Readout Tubes

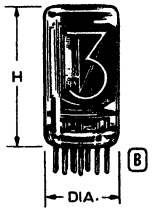
Incandescent Digital Readout Tubes

Bright, low-voltage devices may be used in DC or multiplex mode. Rugged, single-plane unit construction for high reliability and 100,000 hour life. Up-front display surface for wide viewing angle, with display of free residual images. Brightness adjustable with voltage controls, zero to 7000 fl; free of induced or radiated interference. **Power Required:** 108 mW/seg. **Segment Current:** 24 mA. **Voltage:** 4.5 VDC.



Stock No.	Mfr.'s Type	Equiv. Type	Description	Char. Ht.	Slant	View Angle	Mounting	Brightness	Envelope Ht.	Envelope Dia.	Pin Circle	EACH
866-9050	DA2000	DR2000	0-9, no. dec.	.600"	0°	140°	PC or 9-pin	7000fl	1.625"	.800"	.468"	**26.85**
866-9060	DA2010	DR2010	0-9, L.H. dec.	.600"	0°	140°	PC or 9-pin	7000fl	1.625"	.800"	.468"	**26.44**
866-9080	DA2110	DR2110	0-9, L.H. dec.	.400"	4°	140°	PC or 10-pin	7000fl	1.450"	.800"	.230"	**25.92**





Numerical Neon-Glow Readout Tubes

Stock No.	Tube Type	Fig.	Description	Max. DC Ion V	Prebias DCV	Cathode mA Average	Cathode mA Peak	Char. Ht.	Max. View	Max. Tube Ht.	Max. Tube Dia.	Fits Socket RTS-	EACH
866-0200	8422/5991	A	0-9	170	50-120	1.5-3.0	3.5	.610"	30°	1.120"	1.020"	4, 10	**69.10**
866-0084	841	B	LH dec.	170	50-120	1.5-3.0	3.5	.610"	30°	1.800"	.750"	48, 51, 52, 18	**64.90**
866-5440	5440	B	0-9	170	50-120	1.5-3.0	3.0	.610"	30°	1.800"	.750"	54, 55, 56, 57	**56.75**
866-5750	5750	B	0-9	170	60-120	1.8-3.8	15.0	.515"	30°	1.500"	.530"	—	**55.00**

Receiving, Industrial, and Special Purpose Tubes

PhilipsECG — A North American Philips Company

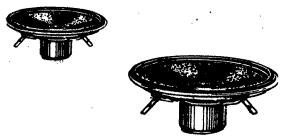
With increasing demands on replacement tubes and the need to satisfy those demands becoming increasingly more difficult, we ask that you contact Allied for any requirements you may have. The list below and on the following page is only a sampling of the many tube types we can supply.

Mfr.'s Type	Tube Type	EACH
0A2	Volt Regulator	**8.40**
0B2	Volt Regulator	**9.85**
0D3/0D3A	Volt Regulator	**23.17**
0Z4/0Z4A	Full Wave Gas Rectifier	**6.66**
C1A	Thyratron	**99.20**
C1K/6014	Thyratron	**79.00**
1B3GT/G3GT	High Voltage Rectifier	**9.70**
1G3GT/1B3GT	High Voltage Rectifier	**9.70**
1P21	Photo Tube	**229.00**
1P39	Photo Tube	**29.50**
1V2	High Voltage Rectifier	**9.00**
2D21	Thyratron	**9.21**
2X2A	Rectifier	**23.50**
C3J/5632	Thyratron	**69.00**
C3JA/5684/7306A	Thyratron	**71.00**
3-500Z	Radiation Cooled Triode	**253.00**
3A3C	Hi-Volt Rectifier	**9.36**
3B22/IC	Rectifier	**87.00**
3B24W	Rectifier	**62.00**
3B24WA	Rectifier	**62.00**
3B28	Rectifier	**50.10**
3B78/3GS8	Sync. Separator	**7.94**
3C23	Thyratron	**55.00**
3CY3/3DB3	Hi-Volt Rectifier	**12.75**
3DJ3	Hi-Volt Rectifier	**10.35**
3GS8/3BU8	Sync. Separator	**7.94**
3HA5/3HM5	VHF Amp.	**9.41**
4-400C	Radiation Cooled Tetrode	**215.00**
4CX250B/7203	Beam Powered Tetrode	**90.70**
4CX300A/8167	Ceramic Powered Tetrode	**290.00**
5CX350A/8321	Ceramic Powered Tetrode	**183.50**
4CX1500B/8660	Ceramic Radon Tetrode	**870.00**
4CX5000A/8170	Tetrode	**1715.00**
5AQ5	Audio Power Amp.	**8.68**
5AS4A/5U4GB	Full Wave Power Rectifier	**17.90**
5CG8	Full Wave Power Rectifier	**8.66**
5CP7A	Cathode Ray	**70.98**
5GH8	VHF Oscillator	**10.38**
5GJ7/LCF801	VHF Oscillator and Mixer	**18.00**
5R4GYB	Rectifier	**8.40**
5U4GB/5AS4A	Full Wave Power Rectifier	**12.90**
5V4GA	Full Wave Power Rectifier	**12.32**
5Y3GT	Full Wave Power Rectifier	**9.59**

Mfr.'s Type	Tube Type	EACH
C6J/K	Thyratron	**180.00**
C6JKL/6989	Thyratron	**218.00**
C6J/KP	Thyratron	**198.00**
6AK5/EF95	RF Amp.	**10.57**
6AK6	Power Pentode	**10.15**
6AL5	Mini Beam Petrode	**8.31**
6AQ5/A/6HG5/A/6669	Receiving Tube	**8.10**
6AQ6	AF Amp. & Detector	**6.23**
6AU5GT	Beam Pentode	**11.51**
6AU6	RF Amp.	**8.09**
6AV6	Detector	**7.13**
6AX4GTB	Damper	**7.73**
6AX5GT	Full Wave Power Rectifier	**10.90**
6BA6/EF93	RF/IF Amp.	**8.13**
6BE6	AM/AF Pentagrid Conn.	**8.18**
6BH6/6661	Mini Pentode	**11.40**
6BK4C/6EL4A	Shunt Volt Regulator	**22.00**
6BL8/ECF80	VHF Oscillator	**7.29**
6BQ5/EL84	Audio Power Amp.	**9.67**
6BQ7/A/6BZ7/6BS8	VHF Cascode Amp.	**11.43**
6BS8/6BQ7/A/6BZ7	VHF Cascode Amp.	**11.43**
6BZ7/6BQ7/A/6BS8	VHF Cascode Amp.	**11.43**
6C4	RF Oscillator	**10.07**
6CA7/EL34	Audio Power Amp.	**15.93**
6CB6/A/6CF6/6676	Mini Pentode	**8.10**
6CF6/6CB6/A/6676	Mini Pentode	**8.10**
6CG7/6FQ7	Hor-Ver Deflection OSC	**7.29**
6CJ3/6DW4B	Damper	**13.20**
6CL6/6677	Mini Pentode	**12.45**
6CW5/EL86	Audio Power Amp.	**8.73**
6DJ8/ECC88	P.Q. Twin Tetrode	**9.70**
6DQ6B/6GW6	Horizontal Deflection Amp.	**14.50**
6DW4B/6CJ3	Damper	**13.20**
6EA8	VHF Oscillator	**9.54**
6EJ7/EF184	IF Amp.	**8.91**
6EL4/6BK4C	Shunt Volt Regulator	**22.00**
6EU7	Oscillator	**16.20**
6EW6	IF Amp.	**8.81**
6FQ7/6CG7	Hor-Ver Deflection OSC	**7.29**
6GF7A	Vertical Deflection OSC	**12.61**
6GH8A	VHF Oscillator	**7.37**
6GJ7A/ECF801	VHF Oscillator	**9.28**
6GW6/6DQ6B	Horizontal Deflection Amp.	**14.50**

Mfr.'s Type	Tube Type	EACH
6GW8/ECL86	AF Volt Amp.	**10.07**
6HA5/6HM5	VHF Amp.	**10.10**
6HF5	Horizontal Deflection Amp.	**19.05**
6H35/A/6AQ5/A/6669	Mini Pentode	**8.10**
6HM5/6HA5	VHF Amp.	**10.10**
6HV5A	Beam Triode	**19.05**
6H6	Duodiode	**17.55**
6J5	Triode	**13.10**
6J7	Pentode	**17.43**
6JB5/6HE5	Vertical Deflection Amp.	**11.40**
6JC6A	IF Amp.	**10.62**
6JE6C/6LQ6	Horizontal Deflection Amp.	**21.25**
6JS6C	Horizontal Deflection Amp.	**17.19**
6KD6	Horizontal Deflection Amp.	**24.00**
6KD8/6U8/A/6678	Mini Triode/Pentode	**9.54**
6KE8	VHF Oscillator	**12.84**
6KT8	Sync. Separator	**12.58**
6KY8A	Vertical Defl. Oscillator	**15.44**
6L6GC	Audio Power Amp.	**14.94**
6LF6	Receiving Tube	**22.50**
6LQ6/6JE6C	Horizontal Deflection Amp.	**19.68**
6MJ6	Receiving Tube	**15.65**
6SJ7	RF or AF Amp.	**14.21**
6SL7GT	AF Volt Amp.	**13.84**
6SN7GTB	Horizontal Multivbrator	**9.96**
6U8/A/6KD8/6678	Mini Triode/Pentode	**9.54**
6U10	General Purpose Amp.	**9.80**
6V4/EZ80	Duodiode	**1.50**
6V6GTA	Audio Power Amp.	**11.24**
6X4	Full Wave Power Rectifier	**8.83**
6X5GT	Full Wave Power Rectifier	**8.91**
8AW8A	Sync. Separator	**11.93**
8CG7/8FQ7	Hor-Ver Deflection OSC	**7.18**
8FQ7/8CG7	Hor-Ver Deflection OSC	**7.18**
12AT7/ECC81/6679	Mini Twin Triode	**12.95**
12AU7A/ECC82/6680	Mini Twin Triode	**7.47**
12AV7	Grounded Grid Amp.	**10.64**
12AX7A/ECC83/6681	AF Amp.	**13.95**
12B4A	Triode	**11.11**
12BH7A	Hor-Ver Deflection OSC	**11.20**
12BV7/12BY7/12DQ7	Video Amp.	**12.30**
—	—	—
—	—	—

Miniature 8-Ohm Radio Speakers



Alnico PM replacement speakers with very thin profiles to fit the tightest spaces possible. Suitable for transistor radios, tape recorders and walkie-talkies.

Stock No.	Mfr.'s Type	Size	EACH			
			1-99	100-499	500-999	1000-2499
284-0200	A-0200	2″	1.20	1.04	.88	.76
284-0201	A-0201	2 1/4″	2.25	1.72	1.65	1.50
284-0202	A-0202	2 1/2″	1.28	1.10	.96	.79
284-0203	A-0203	2 3/4″	1.28	1.10	.96	.79
284-4018	EH-971	40 mm	1.32	1.10	.97	.88

Unshielded Jumpers

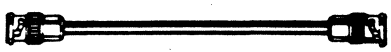
Standard Alligator Clip Fig. A

Mini Alligator Clip Fig. B

Unshielded jumper cords with choice of standard or miniature alligator clip styles. All leads are #18 AWG 20,000-volt insulated wire. Cadmium-plated steel clips; vinyl plastic boots. Have No. 20, 5000-volt insulation.

Stock No.	Mfr.'s Type	Length Ft.	Color	Fig.	EACH			
					1-99	100-499	500-999	1000-2499
283-9683	EH-1683	1	Red	A	.99	.88	.78	.65
283-9684	EH-1684	1	Black	A	.99	.88	.78	.65
283-9685	EH-1685	3	Red	A	1.26	1.14	1.05	.97
283-9686	EH-1686	3	Black	A	1.26	1.14	1.05	.97
283-9687	EH-1687	5	Red	A	1.14	1.05	.99	.90
283-9690	EH-1690	5	Black	A	1.14	1.05	.99	.90
283-9688	EH-1688	1	Red	B	.99	.88	.78	.65
283-9689	EH-1689	1	Black	B	.99	.88	.78	.65
283-9691	EH-1691	3	Red	B	1.14	1.05	.99	.90
283-9692	EH-1692	3	Black	B	1.14	1.05	.99	.90

Coaxial Cable Shielded Standard Patch Cords



BNC Male Plug

Shielded standard patch cords. All leads use RG-58C/U coaxial cable.

Stock No.	Mfr.'s Type	Length Ft.	Color	EACH			
				1-99	100-999	1000-2499	2500-4999
283-1650	SM-1650	1	Black	3.04	2.89	2.63	2.44
283-1652	SM-1652	3	Black	3.90	3.50	3.25	2.95
283-1654	SM-1654	5	Black	4.42	3.98	3.58	3.22

Audio Extension Cables

Fig. 1

Fig. 2

Fig. 3

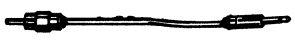


Fig. 4

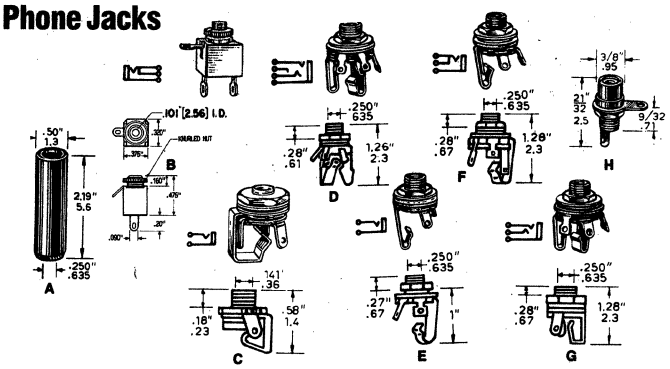
Fig. 5

Fig. 6

Stock No.	Mfr.'s Type	Description*	Length	Fig.	EACH			
					1-99	100-999	1000-2499	2500-4999
283-9000	9000	E.C., Phono Pin Plugs	1 1/2′	1	1.06	.83	.63	.48
283-9001	9001	E.C., Phono Pin Plugs	3′	1	1.24	1.12	.89	.78
283-9002	9002	E.C., Phono Pin Plugs	6′	1	1.32	1.19	.94	.81
283-9005	9005	E.C., Phono Pin Plugs	12′	1	2.07	1.76	1.50	1.27
283-9006	9006	E.C., Phono Pin/Plug Jack	3′	2	1.08	.92	.74	.58
283-9007	9007	E.C., Phono Pin/Plug Jack	6′	2	1.44	1.30	1.08	.91
283-9012	9012	E.C., Phono Pin Plug/Tinned Leads	3′	3	.90	.72	.53	.42
283-9013	9013	E.C., Phono Pin Plug/Tinned Leads	6′	3	1.18	1.06	.94	.79
283-9037	9037	E.C., Mini Plug to Phono Pin	6′	4	1.44	1.30	1.09	.91
283-9040	9040	E.C., Adapter (Pin Plugs/Jacks)	4″	5	1.48	1.31	1.16	1.00
283-9041	9041	E.C., Adapter (Pin Plugs)	4″	6	1.15	1.03	.90	.72

*E.C. = Extension Cable.

Phone Jacks



Nickel-plated brass and brass springs for long life and trouble-free plug mating. Extra-heavy duty insulators prevent breakdowns.

Extension In-Line Phono Jack Standard 1/4″ Type

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH			
					1-99	100-999	1000-2499	2500-4999
283-2030	SJ-203	A	Metal	2-conductor	1.44	1.30	1.08	.91

Miniature and Sub-Miniature Types

283-0251	JY-2501-02-020	B	Tan	2-cond. 2.5 mm	.50	.45	.38	.30
283-0440	SJ-M44	C	Metal	2-cond. Closed Circuit	.53	.48	.35	.26
283-0441	SJ-M441	C	Metal	2-cond. Open Circuit	.53	.48	.35	.26

Standard 1/4″ Type

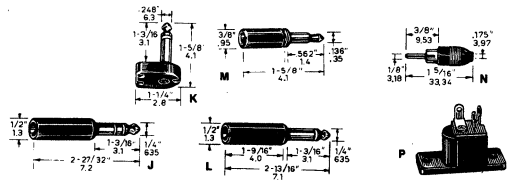
283-2080	SJ-208	D	Metal	3-cond. Closed Circuit	.91	.68	.58	.48
283-2110	SJ-211	E	Metal	2 cond. Open Circuit	.59	.47	.40	.36
283-2100	SJ-210	F	Metal	2 cond. Closed Circuit	.59	.47	.40	.36
283-2090	SJ-209	G	Metal	3 cond. Open Circuit	1.25	1.00	.84	.71

Phono Jack

Stock No.	Mfr.'s Type	Fig.	Description	EACH			
				1-99	100-999	1000-2499	2500-4999
283-1021	FJ-102A*	H	Phono Jack. Front mount in 3/8″ hole.	.41	.35	.30	.27
283-1022	JR-1611†	H	Front Mount in 3/8″ hole.	.42	.36	.31	.28

*White thermoplastic insulation. †Black thermoplastic insulation.

Phone Plugs



Standard 1/4″ Type

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH			
					1-99	100-999	1000-2499	2500-4999
283-3001	PP-3001	L	Black	2 cond. Screw terminal. Mates w/jacks SJ211/210	.82	.60	.51	.40
283-3002	PP-3002	L	Red	2 cond. Screw terminal. Mates w/jacks SJ211/210	.82	.60	.51	.40
283-3003	PP-3003	L	Metal	2 cond. Screw terminal. Mates w/jacks SJ211/210	1.19	.96	.76	.65
283-1060	SP-106	K	Black	Right angle type 2 cond. solder terminal. Mates with SJ211 and SJ210	.53	.44	.37	.29
283-0052	FP-005B	J	Black	3 cond. Solder terminal.	.67	.58	.47	.38

Miniature and Sub-Miniature Types

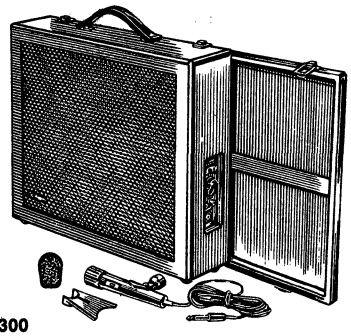
283-0072	FP-007B	M	Black	2 cond. Solder Terminals Mates with SJM44/441	.38	.33	.27	.22
283-0071	FP-007A	M	Red	2 cond. Solder Terminals Mates with SJM44/441	.38	.33	.27	.22
283-0080	FP-008	M	Metal	2 cond. Solder Terminals Mates with SJM44/441	.47	.42	.37	.33
283-0011	FP-001A	N	Red	Plug	.18	.16	.14	.12
283-0012	FP-001B	N	Black	Plug	.18	.16	.14	.12
283-0016	FP-001F	N	White	Plug	.18	.16	.14	.12

Model HT J020-03B Miniature Power Receptacle. Ideal as the power receptacle for portable radios, tape recorders, and battery chargers. Rated 12 VDC, 500 MADC, or 125 VAC, 7 amp. Mates with switchcraft power plugs 760 and 765.

283-9999. 1-99.....EACH .27 100-999.....EACH .24
1000-2999.....EACH .20 2500-4999.....EACH .17

Executive III Portable Sound System

Model Number EX-300. Cabinet: Briefcase type case in textured black vinyl finish. Detachable lid opens to provide easy access to microphone storage and battery compartment. Space provided for carrying written materials and for the installation of an optional Power Pak accessory. **Speakers:** Two 6″ high efficiency speakers for full voice and music amplification. Designed to provide a controlled pattern for greater sound projection. **Microphone:** Low impedance dynamic cardioid type, includes 15 ft. cable, windscreen and stand adapter. Pick-up pattern helps reduce howl and squeal from feedback. **Power Supply:** Uses one standard 12-volt lantern battery with binding post terminals. Replacements are readily available at your local hardware store. Unit can use rechargeable battery. . .see instructions. (Battery is not included.) For 120 VAC operation a user installable Power Pak is available. (See SDP-126 accessory.) **Amplifier:** Modern solid state integrated circuitry delivers 15 watts continuous power rating. EIA Standard RS-234G. **Controls:** On/Off switch and master volume control. **Inputs:** 1 for low impedance mic., 1 for tape, radio, systems expander, etc. **Output:** 2 for recording program material (Aux and Mic. level), 1 for using systems expander. **Size:** 15″ high × 17½″ wide × 5″ deep. **Shipping Weight:** 15 lbs.



EX300

Model Number EX-300A. Same as EX-300 but with Shure high performance unidirectional dynamic cardioid microphone (Argos MDM-3). Includes microphone stand adapter.

503-3100. EX300 ..... **EACH 320.00**
503-3101. EX300A ..... **EACH 375.00**

Accessories

503-3102. SDA-1009. Ten ft. Mic. extension cable with plug and jack ..... **EACH 23.95**
503-3103. SDA-1003. 50 ft. ext. cable with connectors ..... **EACH 29.95**
503-1004. SDP-126. Power Pak for 120 VAC operation ..... **EACH 65.00**

Model MSD-1060 60-Watt Sound Column

Designed for high power areas, such as auditoriums or large convention halls. Proven quality performance where multiple horns, baffles, and ceiling speakers failed. Can be used for both voice and music in many varied applications. **Frequency Range:** 70 to 15,000 Hz. **Power Capacity:** 60 Watts RMS. **Nominal Impedance:** 16 Ohms. **Vertical Sound Projection Angle:** 30°. **Horizontal Sound Projection Angle:** 130°. **Sound Pressure Level:** 91 dB at 30′. 60 Watts. **Speakers:** Six 8″ special design. **Dimensions:** 50½″H × 10¾″W × 8¼″D (128.2 × 27.3 × 20.9 cm). **Shipping Wt.:** 52 lbs. (23.4 kg). Walnut woodgrain vinyl finish.

503-2005 ..... **EACH 192.90**

Model SD-1064 30-Watt Sound Column

Designed to provide clarity — use where acoustics or microphone placement causes feed-back or reverberations. For churches, meeting rooms, restaurants, clubs, or lobbies. Low-frequency roll-off of 6 dB per octave for minimal reverberation. **Frequency Range:** 200 to 10,000 Hz. **Power Capacity:** 30 Watts RMS. **Nominal Impedance:** 16 Ohms. **Vertical Sound Projection Angle:** 30°. **Horizontal Sound Projection Angle:** 120°. **Sound Pressure Level:** 94 dB at 30′. 30 Watts. **Speakers:** Six 5¼″ special twin cone design. **Dimensions:** 32⅞″H × 6⅝″W × 3¼″D (82.3 × 16.8 × 7.9 cm). **Shipping Wt.:** 12 lbs. (5.4kg). Wood housing finished in walnut clearguard vinyl with matching caned fiber grille.

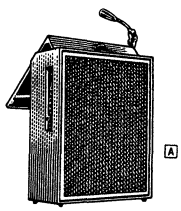
503-2010 ..... **EACH 96.85**

Speech and Voice Director II

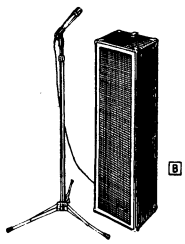
Type LSD-6040B. "Speech Director II" Portable Sound Column Lectern. AC/DC powered solid state amplifier, 4-speaker sound column, cardioid dynamic microphone, lectern in carrying case.

Type PVD-5060A. "Voice Director II." Portable battery-powered amplifier with integrated circuit. 6-speaker sound column, cardioid dynamic microphone, mic stand in carrying case. Use 12 V or rechargeable batteries. Operates from 120 VAC when power pack is installed.

Stock No.	Mfr.'s Type	Fig.	Dimensions (H × W × D)	Wt. Lbs.	EACH 1-4	EACH 5-Up
503-0140	LSD-6060B	A	21 × 16 × 7⅝″	27	550.00	515.00
503-0160	PVD-5060A	B	71¼ × 9¼ × 32¼″	27	425.00	393.00

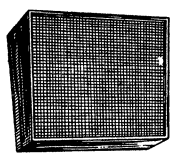


A

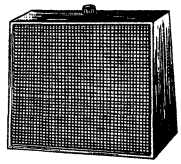


B

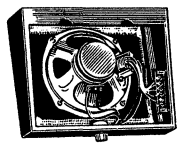
Public Address Enclosed Speakers



WB-18CST



WB-48CST



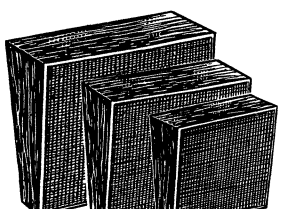
WB-48CSVT

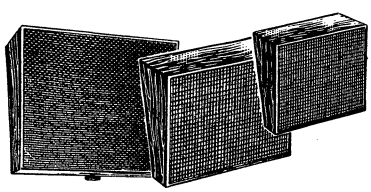
Speaker Wall Baffle. Rugged "Woodtex" walnut vinyl finish with durable matching cane grille. Baffle with 6-watt RMS. 8″ speaker and 70.7/25 dual voltage line matching transformer. **Mag. Wt.:** 3 oz. **Voice Coil:** ¾″. **Freq. Response:** 70-9000 Hz. Mounting Hardware.
503-0040. WB-18CST ..... **EACH 29.95**

Deluxe Speaker Wall Baffle. Excellent where quality background sound is essential. Baffle with 10 watt RMS 8″ speaker and 70.7/25 dual volt line matching transformer. **Mag. Wt.:** 6 oz. **Voice Coil:** 1″. **Freq. Response:** 50-12000 Hz. Mounting Hardware.
503-0020. WB-48CST ..... **EACH 33.55**

Deluxe Speaker Wall Baffle. Same as above, except Baffle has volume control with knob. **Freq. Response:** 50-12000 Hz.
503-0030. WB-48CVST ..... **EACH 36.20**

Wall Baffles and Speaker/Baffle Combinations





WB-408CSVT

Regular Wall Baffles—*Contractors' Most Popular!*
Durable Argos Regular Wall Baffles feature a rugged construction that increases rigidity and eliminates the possibility of baffle resonance and sound distortion. Easy to install with Speedy Mounting Clips. Finished in Walnut wood-grain vinyl with rugged cane grilles. Wall clips and speaker hardware included.

Model WB-4/5D. For 4″/5″ speaker, maximum speaker depth 2¾″ (6.9 cm). **Capacity:** 100 cubic inches (1640 cu.cm). **Shipping wt.:** 2 lbs (.91 kg).
503-0050 ..... **EACH 10.50**

Model WB-8D. For 8″ speaker, maximum speaker depth 4⅜″ (11.1 cm). **Capacity:** 400 cubic inches (6550 cu.cm). **Shipping wt.:** 4 lbs. (1.82 kg).
503-0060 ..... **EACH 12.75**

Model WB-12-D. For 12″ speaker, maximum speaker depth, 6⅜″ (16.2 cm). **Capacity:** 1180 cubic inches (19.4 cu.cm). **Shipping wt.:** 7 lbs. (3.18 kg).
503-0070 ..... **EACH 19.55**

Famous Thinline Series Speaker/Baffle Combinations

WB-408CS. Speaker system features hi-performance 8″ speaker with 6 oz. ceramic magnet. 10 watt capacity, 8 ohm impedance. Walnut finish. 9¾″H × 12¼″W × 4⅜″D (24.7 × 31.1 × 11.1 cm). **Shipping wt.:** 4½ lbs. (2.02 kg).
503-0080 ..... **EACH 26.00**

WB-408CSVT. Speaker system features hi-performance 8″ speaker with 6 oz. ceramic magnet, volume control, and 70.7V transformer. 10 watt capacity, 8 ohm impedance. Walnut finish. 9¾″H × 12¼″W × 4⅜″D (24.7 × 31.1 × 11.1 cm). **Shipping wt.:** 5 lbs. (2.25 kg).
503-0090 ..... **EACH 36.20**

TPB-508CST. "Prestige" speaker system features heavy-duty 8″ speaker with 6 oz. ceramic magnet and 70.7V transformer. 10 watt capacity, 8 ohm impedance. Luxurious Autumn Walnut wood-grain finish. 9¾″H × 12¼″W × 4½″D (24.7 × 31.1 × 11.4 cm). **Shipping wt.:** 6 lbs. (2.73kg).
503-0095 ..... **EACH 37.90**

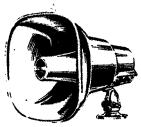
TPB-508CSVT. "Prestige" speaker system features heavy-duty 8″ speaker with 6 oz. ceramic magnet, volume control, and 70.7V transformer. 10 watt capacity, 8 ohm impedance. Luxurious Autumn Walnut wood-grain finish. 9¾″H × 12¼″W × 4½″D (24.7 × 31.1 × 11.4 cm). **Shipping wt.:** 6 lbs. (2.73 kg).
503-0100 ..... **EACH 40.20**

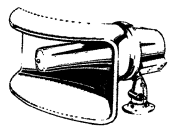
WB-212CS. Heavy-duty speaker system features 12″ speaker with 10 oz. ceramic magnet. 15 watt capacity, 8 ohm impedance. Walnut finish. 14″H × 16¼″W × 6¼″D (35.5 × 41.2 × 15.8 cm). **Shipping wt.:** 10 lbs. (4.5 kg).
503-0105 ..... **EACH 42.45**

WB-212CSVT. Heavy-duty speaker system features 12″ speaker with 10 oz. ceramic magnet, volume control, and 70.7V transformer, 15 watt capacity, 8 ohm impedance. Walnut finish. 14″H × 16¼″W × 11¼″D (35.5 × 41.2 × 15.8 cm). **Shipping wt.:** 10½ lbs. (4.73 kg).
503-0110 ..... **EACH 52.35**

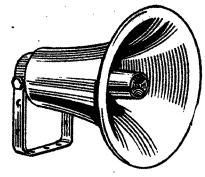
Professional Omni-Purpose Speakers

AP-15T


AP-30T


APC-30T

SC-15


SC-30

Stock No.	Mfr.'s Type	Continuous Power Watts	Equalized Power Watts	Frequency Hz	Sound Level	Impedance* Ohms	Power Taps* Watts	Dispersion	Dimensions W × H × D	Weight lbs.	EACH
537-3003	AP-15T	15	20	275-14,000	121 db†	5000, 2500, 1300, 666, 333, 89, 45	70V:.9, 1.8, 3.8, 7.5, 15; 25V: .48, .94, 1.8, 7.5, 15	110°	8 × 8 × 9″	4; 4½	65.94
537-3004	AP-30T	30	40	225-14,000	125 db‡	4000, 2000, 1000, 666, 333, 167	1.2, 2.5, 5, 7.5, 15, 30	100°	10 × 9½ × 10½	5½; 6; 6	80.10
537-3005	APC-30T	30	40	250-14,000	123 db	2500, 1300, 666, 333, 167, 89, 45	70V: 1.8, 3.7, 7.5, 15, 30; 25V: 1.8, 3.7, 7.5, 15	120° × 60°	14 × 6 × 12¾″	7½; 8	86.43
537-3006	SC-15	—	15	350-12,000	120 db	4, 8, or 25	—	130°	6½″ dia. × 6⅝″ D	3	41.82
537-3007	SC-30	—	30	275-8,000	125 db	8	—	125°	9¾″ dia. × 10½″ D	4	56.65

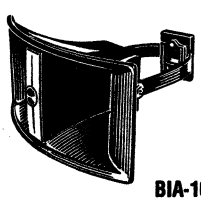
*Vari-Tap Switch on Transformer Models. †Measured 4′ on axis at 15 watts input. ‡Measured 4′ on axis at 30 watts input.

Projector Horns

Model BIA-100. Bi-axial sectoral horn with computer calculated exponential flare rate. Uniform wide angle sound coverage . The high efficiency non-resonant projector is molded of vibration-free rigid material and equipped with steel mounting bracket.

Model DR-32. Directional projector horn for uniform reflex sound path for high efficiency penetration over distance and ambient noise. Weather proof, all-metal construction. Heavy duty adjustable mounting bracket.

Stock No.	Mfr.'s Type	Low End Cut-Off	Dispersion	Air Column Length	Bell Size	Horn Length	Weight lbs.	EACH
537-3008	BIA-100	180 Hz	130° × 60°	2.8′	21½ × 10½″	10¾″	10	107.27
537-3009	DR-32	190 Hz	95°	2.5′	16½″dia.	12½″	10	85.41


BIA-100

DR-32

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PD-30T

PD-5VT
PD-60T

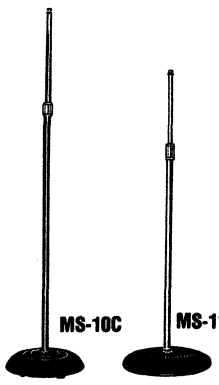
PD-20

Driver Units

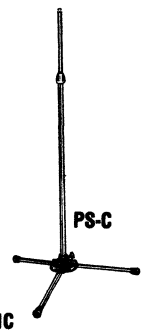
These heavy-duty weatherproof compression driver units are designed for reliability, efficient sound production, high intelligibility and penetration. PD series drivers feature self-aligning field-replaceable diaphragm and standard 1⅜″-18 male threads for CJ-46, BIA-100, WCH-100, or DR-Series models or as replacement drivers for use with standard threaded projector horn.

Stock No.	Mfr.'s Type	Power (Continuous)	Power (Equalized)	Impedance	Frequency Hz	Weight Lbs.	EACH
537-3011	PD-30T	30 Watts	40 Watts	Built-In X-Former	120-14,000	4¾	73.94
537-3021	PD-30	30 Watts	40 Watts	8 Ohms	120-14,000	3	60.23
537-3012	PD-5VT	40 Watts	60 Watts	Built-In X-Former	80-12,000	7	110.72
537-3013	PD-60T	60 Watts	100 Watts	Built-In X-Former	70-12,000	8	122.33
537-3020	PD-20	20 Watts	25 Watts	16 Ohms	120-7,000	2½	48.00

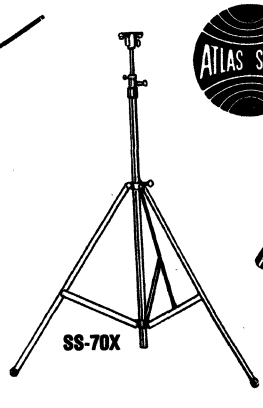
Microphone Stands, Adaptors and Fittings


MS-10C

MS-11C


PS-C

MSB-21


SS-70X

PB-1

DS-7

GN-13

CO-1B

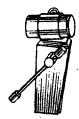
AD-4B

AD-5B

AD-8B

SO-1B

AD-15B


PB-K

SSA-5

AD-16

SSA-2

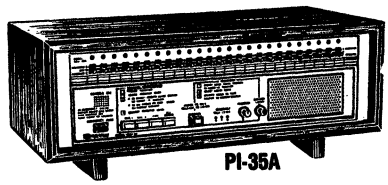
SSA-4

Stock No.	Mfr.'s Type	Description	EACH
537-2000	MS-10C	Economic floor stand. Cast iron base (10″ dia.), charcoal. Height: 35″ to 63″.	23.48
537-2001	MS-11C	General Purpose Stand. Low-profile chrome base (10″ dia.). Height: 34″ to 62″.	28.14
537-2003	PS-C	Portable and foldable, tripod floor stand. 5/8-27 termination for U.S. standard mic. holders. Base spread: 25″. Storage/Shipment Length: 32″.	44.85
537-3022	MSB-21	Converts instantly from microphone stand to adjustable-height stand/boom combination. Height: 40″-70″. Boom Extension: to 30″. Chrome plated with black baked epoxy base. Thread Size: 5/8″-27. Tube: 7/8″ lower, 5/8″ upper dia. cold rolled steel.	45.20
537-2006	PB-1	Die-cast swivel. Tapered counterweight. Attaches to mic. stand terminating in 5/8″ dia. tubing or adaptor. 31″ long.	21.75
537-2007	DS-7	Adjustable Desk Stand. Chrome tube assembly. Height: 8″ to 13″. Grip-action clutch. 6″ dia.	13.26
537-2008	GN-13	13″ Flexible Gooseneck. Attach to Atlas Sound stand or adaptor, 5/8″-27 male and female threads.	6.17
537-2009	CO-1B	Connect-on Swivel. Install at any height level of a second 5/8″-27 mic. on 5/8″ or 7/8″ dia. tube of floor or desk stand.	8.43
537-2010	SO-1B	Snap-on Accessory. For quick fastening or disconnection of microphone-holder or boom attachment from any stand.	7.07
537-2011	AD-4B	3/4″ long, 5/8″-27 male running thread.	2.09
537-2012	AD-5B	5/8-27 female to 5/8-27 female, coupling.	2.37
537-2013	AD-8B	6″long tube 5/8″-27 male each end.	2.84
537-2014	AD-15B	Cable feed-thru adaptor: 5/8″-27 male and female end	5.01
537-2015	PB-K	Designer-styled microphone boom attachment swivel for use with 5/8″dia. tubing.	12.60
537-2016	AD-16	Mounts any paging speaker onto 5/8″ or 7/8″ dia. stands.	11.05
537-3014	SS-70X	Heavy-duty, multi-purpose stand for stage monitor and loudspeaker cabinets, portable lighting, instrument and industrial. Height: 55″ to 100″. Tubing dia:1 3/8″.	114.00
537-3015	SSA-2	Bar-mount adaptor for surface mounting to speaker cabinet, control equipment, portable lighting, bar/assembly or Atlas Sound projector horns.	10.83
537-3016	SSA-4	Platform mount adaptor for surface mounting of Bose or loudspeaker cabinet or control equipment.	17.45
537-3017	SSA-5	Recessed flange-adaptor for flush-type loudspeaker cabinet mounting.	25.50

Other Styles also Available.

PI-35A and SI-35A

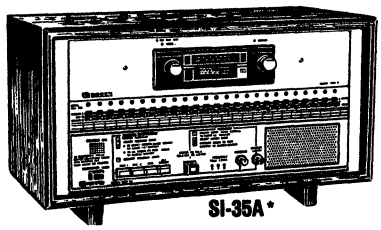
- ► Instant Two-Way Communication with Master Station
- ► Color Coded for Easy Operation
- ► Instant EMERGENCY / ALL ROOM Announcements
- ► Separate 35-Watt Program Channel


PI-35A

These models are handsome, executive-style units designed to serve the high-power intercom paging requirements of business, industry, school, and institutions. Both have built-in 20-Watt intercom and 35-Watt program amplifiers, enabling instant communication with any station without interrupting program distribution to others. Calls from a remote station equipped with the CA-10 Call-in switch are announced by light annunciation and tone signal. These models are enclosed in compact consoles, finished in an attractive simulated walnut veneer. **Specifications. Output:** Balanced 25 VCT line. **Power Requirements:** 120 V, 60 Hz AC; 100 W maximum.

Model PI-35A. Provides facilities for communicating with up to 25 remote locations equipped with loud speakers. Capable of distributing program material from external sources such as microphones, tuner, cassette player, or "piped in" background music sources.

MODEL SI-35A. Provides communication, paging and program distribution serving 25 to 75 remote speakers and custom flexibility in a space-saving design.


SI-35A*

Stock No.	Mfr.'s Type	Description	Dimensions Inches	Shp. Wt. Lbs.	EACH	
					1-5	6-Up
733Q2560	PI-35A	Control Center Intercom	8 1/2 × 20 1/2 × 11	20	1278.75	1171.50
733Q2565	SI-35A*	Control Center Intercom	12 × 20 1/2 × 11	35	1377.75	1262.20
733Q2567	CPT-1A	Cassette Player	—	5	255.50	239.00
733Q2570	SBA225	Room Selector & Annunciator Panel	19 × 1 3/4 × 2	4	247.50	231.00
733Q2575	CA-10	Remote Call-in Annunciator Switch	2 3/4 × 4 1/2	1	13.50	12.20

*Pictured with optional cassette player CPT-1A.

Accessories for Above

Stock No.	Mfr.'s Type	Description	EACH
733Q1500	25-18	Connector Kit (18 ga)	18.15
733Q1505	25-20	Connector Kit (20 ga)	18.15
733Q1510	25-22	Connector Kit (22 ga)	18.15
733Q1520	T456	Insertion Tool	19.05
733Q1525	RCP35	Mfg. kit for CPT-1A	49.50

CPT-1A

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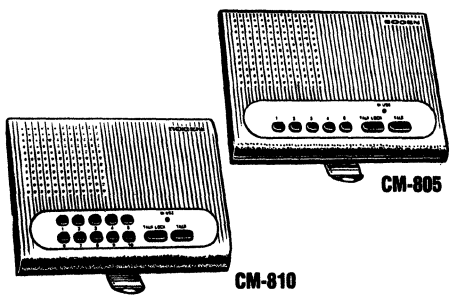

CM-805

CM-810

Administrative Intercom System

The CM-Series Administrative Intercoms are versatile intercommunication devices designed to operate as an all-master system, or as a single-master/multiple remote system. Each station in an all-master system can selectively call any other station(s). The single-master/multiple remote configuration lets the master station call any remote and any remote call the master station. All-master systems use the Model CM-805 or CM-810 master station for capacity of up to 6 or 11 stations, respectively. Each master has push-on/push-off call buttons to select a station and sound an electronic call tone. A privacy feature alerts the parties when their conversation has been joined by sounding the call tone at both stations. A single power supply (Bogen Model RF-12) is required for each installation.

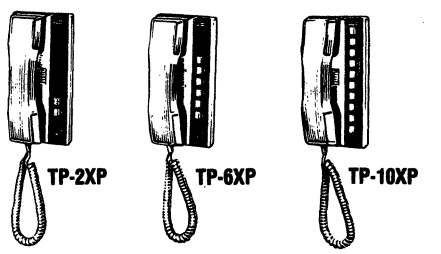
Stock No.	Mfr.'s Type	Description	Dimensions	EACH
733-4100	CM-805	Master Station (6)	5.46 × 7.09 × 1.67	135.30
733-4110	CM-810	Master Station (11)	5.46 × 7.09 × 1.67	163.35
733-4120	CM-801	Remote Station	5.46 × 7.09 × 1.67	29.35

Multi-Channel Interphone/Paging System

The **TP-20CN** and **TP-30CN** are digitally controlled interphone systems with a capacity of up to 20 or 30 stations, respectively. The system features three fully private talk-paths for multiple simultaneous conversations, and all-station paging through a built-in speaker. The Bogen Model RF-24 regulated power supply provides operational voltage. One power supply is recommended for each ten interphones in the system. Interconnection of stations is through junction boxes, simplifying installation.

TP-30CN

Stock No.	Mfr.'s Type	Description	Dimensions	EACH
733-4200	TP-20CN	20 Station Interphone	9.07 × 7.1 × 3.54	160.05
733-4210	TP-30CN	30 Station Interphone	9.07 × 7.1 × 3.54	181.50


TP-2XP TP-6XP TP-10XP

IH-8A

RF-12/RF-24

Selective Ring-Common Talk Interphone/Paging System

The **TP-2XP, TP-6XP** and **TP-10XP** are selective ring, common talk interphones providing two-way and conference call communication, and all-station paging in systems of 2, up to 6, or up to 10 stations, respectively. Each interphone has a push-button keypad to select and ring the desired station(s). Paging is easily defeated at any station where this feature is not desired. A two-position high/low switch is provided at each station to control the volume of page announcements and the electronic calltone. Each station has a built-in amplifier, permitting the addition of an external loudspeaker (such as the Bogen IH-8A) to any station. A single power supply (Bogen Model RF-24) is required for each installation.

Stock No.	Mfr.'s Type	Description	Dimensions	EACH
733-5100	TP-2XP	2 Station Call	9.36 × 4.1 × 3.51	80.05
733-5110	TP-6XP	6 Station Call	9.36 × 4.1 × 3.51	90.75
733-5120	TP-10XP	10 Station Call	9.36 × 4.1 × 3.51	99.85

Accessories for Interphones

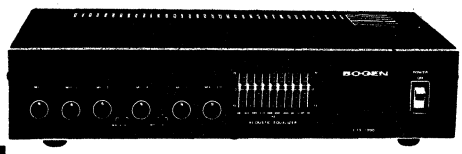
733-2305	IH-8A	Horn (2 Way)	6 1/2 × 6 5/8	44.55
733-5210	RF-12	Power Supply	2.75 × 3.25 × 6.375	82.50
733-5215	RF-24	Power Supply	2.75 × 3.25 × 6.375	82.50

C Series

The C Series are versatile, reliable, economical and among the most widely used P.A. amplifiers. Offering a choice of rated output power from 10 to 100 watts, they can operate continuously even at extreme temperatures. Thermal and electrical circuit breakers protect the amplifiers against abnormal heat build-up and short-circuited or overloaded outputs. They may be rack mounted using optional accessory brackets, RPK-50 (for C100A, C60A, C35A) or RPK-35B (for C20A, C10A). C100A, C60A, C35A mix 3 inputs; C20A, C10A mix 2 inputs; GA6A 6-watt amplifier mixes 2 inputs.

Stock No.	Mfr.'s Type	Power Output	Outputs (Impedance)	Dimensions Inches	Shp. Wt. Lbs.	Power Consumption	EACH 1-5	EACH 6-Up
733-0083	C100A	100 Watts	Bal.4 and 16 Ohms, 25V C.T. 70V Line (49 Ohms)	14 1/2 x 11 x 3 3/4	22	250W, 120V, 60 Hz	412.50	394.35
733-1104	C60A	60 Watts	Bal. 8 and 16 Ohms, 25V C.T. Line (82 Ohms)	14 1/2 x 11 x 3 3/4	17	170W, 120V, 60 Hz	349.80	326.70
733-0081	C35A	35 Watts	Bal. 8 and 16 Ohms, 25V C.T. 70V Line (140 Ohms)	14 1/2 x 10 5/8 x 3 3/4	15	96W, 120V, 60 Hz	283.80	245.25
733-2010	C20A	20 Watts	Bal. or unbal. 4, 8 and 16 Ohms 25V (31.3 Ohms), 70V Line (250 Ohms)	11 3/8 x 7 3/4 x 2 7/8	8	60W, 120V,60 Hz	206.25	191.10
733-2020	C10A	10 Watts	Bal. or unbal. 4, 8 an 16 Ohms 25V (62.5 Ohms), 70V Line (500 Ohms)	11 3/8 x 7 3/4 x 2 7/8	7	46W, 120V, 60 Hz	165.00	156.75
733-1114	GA6A	6 Watts	8 Ohms, 25V, 70V Line	8 1/2 x 6 x 2 5/8	5	16W, 120V, 60 Hz	132.00	125.05

CTS Series



The Bogen Models CTS-1035, CTS-1060, and CTS-1100 are public address amplifiers designed for use in high-quality sound systems. They combine advanced solid-state design with versatile operating features and the flexibility to meet a wide range of application requirements.

Each CTS-Series amplifier mixes five input signals; either five low-impedance microphones, or a combination of microphone and auxiliary inputs. Microphone input is via screw terminal strips; standard Hi-Z phono jacks for the auxiliary inputs accept a tuner, tape/cassette player, line-matching transformer, or tone generator.Switches are used to select MIC 4/AUX 1 and/or MIC 5/AUX 2 operation. An internal jumper configuration activates a phantom power supply for condenser microphones.

Precedence circuitry is provided for the MIC/AUX channels (requires customer-supplied contract closure). The RVC-CTS accessory permits remote volume control of the master output level from distances up to 2000 feet without loss of gain or tone quality. Automatic Level Control (ALC) circuitry compensates for differing microphone techniques and assures a uniform output level. A 2/3-octave equalizer permits boosting or attenuating any of 10 selected frequencies to provide antifeedback and tone control circuit.

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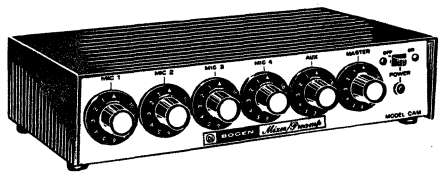
► Mix up to five inputs: microphones or a combination of microphones and auxiliary inputs.
► Built-in microphone precedence circuit
► Input-and output- matching to a telephone line, using WMT-1A accessory
► Ten frequency equalizer filters with slide controls provide antifeedback and tone control circuit
► Phantom power supply for condenser microphones
► Integral automatic level control (ALC)

Stock No.	Mfr.'s Type	Power Output RMS	Outputs (Impedance)	Dimensions H x W x D	Shp. Wt. Lbs.	Power Consumption	EACH 1-5	EACH 6-Up
733-1035	CTS1035	35 Watts	8-, 16-ohms, 25 VCT (4.5-ohms), 25V, and 70.7V (140-ohms) bal./unbal. lines	3 3/4 x 16 1/4 x 11	16	0.9A, 98W	387.75	348.95
733-0091	CTS1060	60 Watts	8-, 16-ohms, 25 VCT, 25V, and 70.7V (82-ohms) bal./unbal. lines	3 3/4 x 16 1/4 x 12 3/4	18	1.6A, 170W	471.90	435.00
733-1100	CTS1100	100 Watts	4-, 6-, 8-, 16-ohms, 25 VCT, 25V (6.25-ohms), and 70.7V (40-ohms) bal./unbal. lines	3 3/4 x 16 1/4 x 12 3/4	20	2.5A, 250W	537.90	484.10

Mixer/Preamplifier

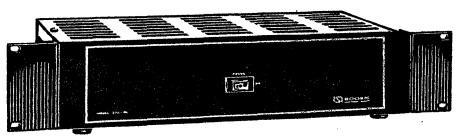
Add all the microphones you need, easily and economically with Bogen's Mixer-Preamplifiers. **Model CAM** offers four microphone inputs, plus master volume control. It also has one auxiliary input with individual volume control. Its units may be interconnected for more MIC inputs. Plus it has integrated circuits, and an illuminated, calibrated VU meter. **Model CDM** provides six transformer-isolated inputs, each preceded by a switch-selectable attenuator pad to allow channels one through four to accept 0 dBm, 600 ohm line or microphone level inputs. A built-in circuit provides precedence over channel five and six, it may also be used for remote control. Also features an illuminated VU meter.



Stock No.	Mfr.'s Type	Outputs	Dimensions Inches	Shp. Wt. Lbs.	Power Consumption	EACH 1-5	EACH 6-Up
733-1080	CAM	Hi-Z 2.5 V; MIC 125 mV; Lo-Z MIC 12.5 mV	11 3/8 x 7 3/4 x 2 7/8	6	120V, 60 Hz, .02A; 24-28 VDC, .01A	272.25	260.00

Power Amplifiers

The BPA and HTA Series are designed to fulfill power amplification requirements with high quality and reliability. Inputs are high impedance, unbalanced, convertible to low impedance, balanced or unbalanced, with optional TL600 transformer. Designed for continuous heavy-duty operation. The amplifiers are thermally protected to prevent damage due to excessive temperatures. Accessory rack panel kits permit mounting in a 19-inch equipment rack. (RPK-53, RPK-54 for BPA-60, BPA-125, respectively.)



Stock No.	Mfr.'s Type	Power Output	Outputs (Impedance)	Dimensions Inches	Shp. Wt. Lbs.	Power Consumption	EACH 1-5	EACH 6-Up
733-2250*	HTA-250A	250 Watts	4, 8 Ohms, 25 VCT (2.5 Ohms), 70.7V (20 Ohms)	19 x 11 x 5 1/4	50	120V, 60 Hz, 520W Idle, 60W	957.00	890.00
733-2125*	HTA-125A	125 Watts	4, 8 Ohms, 25 VCT (5 Ohms), 70.7V (40 Ohms)	19 x 11 x 5 1/4	36	120V, 60 Hz, 260W Idle, 45W	594.00	575.00
733-2240	BPA-60	60 Watts	8 Ohms/25V, 16 Ohms, 25 VCT, 70V	15 1/4 x 8 x 3 1/2	19	180 W, 120 V, 60 Hz	453.75	435.00

*Furnished with brackets.

Brackets

Stock No.	Mfr.'s Type	Description	EACH
733-2420	RPK-53	3 1/2"H for BPA 60	22.30

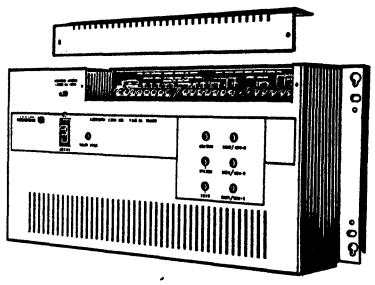
Microphone

The Bogen Model MBS-1000 is a dual impedance, omnidirectional dynamic desk microphone offering modern styling and features in a rugged Cycolac housing for all industrial and commercial public address and paging applications. The Model MBS-1000 has a slide switch for low or high impedance selection. **Weight:** 1.8 lbs.

733-1000. MBS1000 ..... **EACH 120.00**

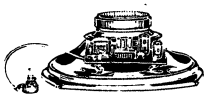
TPU-A Series Amplifiers

- **Built-In Telephone Line Input Transformers**
- **Screwdriver Adjustable Controls**
- **Wall or 19" Rack Mounting**

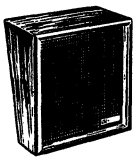


Models TPU-100A, TPU-60A, TPU-35A, and **TPU-15A.** Amplifiers designed specifically for telephone paging applications. Each has three input channels, with built-in transformers for 600 Ohm balanced telephone lines. Channel 1 also may be used for a balanced low-impedance microphone, while channels 2 and 3 also will accept a music source or other high impedance input. Built-in precedence circuitry mutes channel 3 for special announcements. **Dimensions:** 19 × 3½ × 8¾".

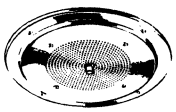
Stock No.	Mfr.'s Type	Power Output	Outputs (Impedance)	Shp. Wt. (Lbs.)	EACH
733-2215	TPU-15A	15 Watts	25V, 70V Balanced, Transformer coupled (8 Ohms)	4	**219.45**
733-2255	TPU-35A	35 Watts	25V, 25 VCT, 70V, 16 Ohms, Balanced/Unbalanced	10	**354.75**
733-2260	TPU-60A	60 Watts	25V, 25 VCT, 70V, 16 Ohms, Balanced/Unbalanced	13	**437.25**
733-2265	TPU-100A	100 Watts	25V, 25VCT, 70V, 16 Ohms, Balanced/Unbalanced	15	**478.50**



AS-1



ASWB-1



ASWG-1

AH-5A

Amplified Speakers and Horns

Amplified speakers eliminate the need for a centralized amplifier and provide individual volume adjustment of each location. They are easy to install and interface with any phone system, via the SAM or PAM access modules.

Model AS-1. 8", 45 ohm cone speaker with compact IC amplifier and volume control. 1 Watt output and operates on 24 VDC. **Weight:** 2 lbs.
733-2325.....**EACH 27.25**

Model ASWB-1. For wall mounting, consists of the AS-1 in the attractive WB8 baffle. **Weight:** 8 lbs.
733-2335.....**EACH 49.50**

Model ASWG-1. For recessed ceiling installation. Features an aluminum baffle finish in white enamel. **Weight:** 3 lbs.
733-2330.....**EACH 37.95**

Model AH-5A. Amplified horn speaker for use outdoors or in high noise locations. 5 Watts output, operates on 24 VDC and is equipped with a volume control and mounting bracket. **Dimensions:** 8 × 8 × 9". **Weight:** 4½lbs.
733-2435.....**EACH 105.60**

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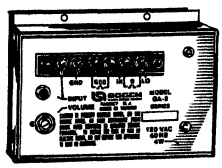
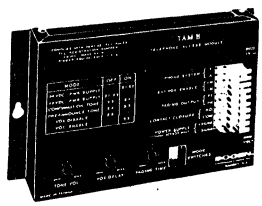
GA-2 Music-On-Hold Amplifier



Compact, reliable, 1½ Watt amplifier. Excellent for feeding "music-on-hold" to a telephone system. It has a high-impedance input that is available at both a phono jack and screw terminals. 8 Ohms or 600 Ohms output. Only 50 mV input is required for full output. **Power Consumption:** 4 W, 120 V, 60 Hz. **Dimensions:** 5½ × 4⅛ × 2¼". **Weight:** 1 lb.

733-1113. Model GA-2 .....**EACH 82.50**

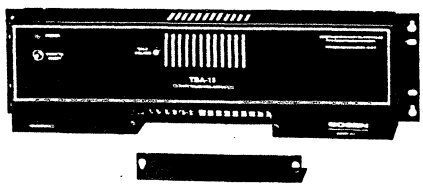
Telephone Access Module



- **Dual-mode, Station Port or Trunk Port paging access**
- **Compact, wall-mount design**
- **24- or 48-volt operation (Trunk Port model)**
- **Compatible with most standard telephone systems**
- **Calling-party-controlled disconnect**
- **Volume-adjustable preannounce or splash tones**

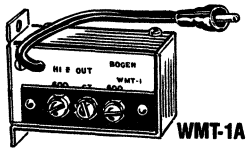
733-2281. Model TAMB .....**EACH 165.00**

TBA-15A Paging/Talkback Amplifier

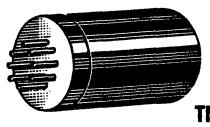


Designed for talk-back applications, the TBA-15A senses and continually switches direction of conversation from telephone to remote speakers automatically, without use of moving parts. Switching function recovery time is adjustable, ensuring intelligible flow of conversation. **Outputs:** 25 V and 70 V balanced. **Power Output:** 15 Watts. **Power Requirements:** 120 V, 60 Hz or 24 VDC @ 1.8 A, positive or negative ground. **Dimensions:** 19 × 3½ × 5⅛". **Weight:** 13 lbs.
733-2270. Model TBA-15A .....**EACH 371.25**

Microphone and Line Plug in Transformers



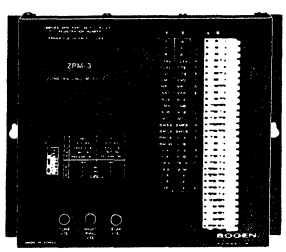
WMT-1A



TM-200A

WMT-1A may be used as input-matching transformer to connect telephone systems to aux. input of most Bogen public address amplifiers for telephone paging. It may also function as output-matching transformer in feeding special program material over 500/600 ohm telephone line for transmission to a local broadcast studio. May be used with any amplifier having a 25-Volt output terminal. **TM200A** will provide a low impedance microphone input for CHS-A or CT series amplifiers.
733-1107. WMT-1A .....**EACH 22.80**
733-1108. TM-200A .....**EACH 36.75**

Zone Page Modules



- **Three- or nine-zone switching plus All-Call**
- **Direct connection to page ports, loop-start and ground-start trunks**
- **Built-in night ringer**
- **Background music input with volume control**
- **Field-programmable paging, night ringer, and shift change/emergency call zone groups**
- **100 W total power handling ability**
- **Confirmation and preaanounce tones**
- **Programmable privacy beep for talkback zones**

733-2285. Model ZPM-3.....**EACH 247.50**
733-2290. Model ZPM-9.....**EACH 412.50**

Power Supplies

Bogen power supplies can be plugged into any convenient 120 VAC/60 Hz electrical outlet. Up to ten AS-1s can be driven by a single PRS-ASA Power Supply. For larger systems, or those which incorporate amplified horns or zoned paging, the PRS-624DA Power Supply is recommended.

PRS-ASA

Model PRS-ASA. Provides 24 VDC regulated and filtered output at .5 amps. U.L. listed.
Dimensions: 2¾ × 4½ × 2½". **Weight:** 2 lbs.
733-2300.....**EACH 64.35**

PRS-624DA

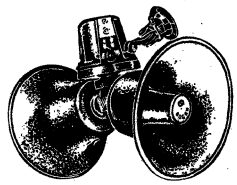
Model PRS-624DA. Provides 24VDC at 4 amps, also includes separate 250 mA talk battery supply. U.L. listing pending. **Dimensions:** 4⅜ × 6⅝ × 6¼". **Weight:** 10 lbs.
733-2295.....**EACH 181.50**

Re-Entrant Horns

The Bogen **SPT-15** and **SP15-8A** are high-intelligibility horns designed for one or two-way paging systems. Their weatherproof, all metal construction features a unique all-purpose mounting bracket. **SPT-15A** has a variable impedance selector switch for 25 V or 70 V line; **SP15-8A** impedance is 8 Ohms. **Power Rating (RMS):** 15 Watts continuous, 20 Watts equalized. Models **SPT-30A** and **SP30-8A** are similar to the **SPT-15A** and **SP15-8A**, except rated at 30 Watts continuous, 40 Watts equalized. **Model SPT-5A** is a 7.5 Watt speaker with variable impedance selection for 25 V or 70 V line.

Stock No.	Mfr.'s Type	Description	Dimensions	Weight Lbs.	EACH 1-5	EACH 6-Up
733-2515	SPT-15A	15 Watt Paging Horn w/Trans.	8 × 8 × 9″	4½	69.30	66.25
733-2520	SP15-8A	15 Watt Paging Horn 8 Ohms	8 × 8 × 9″	4	54.45	51.55
733-2525	SPT-30A	30 Watt Paging Horn w/Trans.	10 × 9½ × 10½″	6	84.15	80.50
733-2530	ST30-8A	30 Watt Paging Horn 8 Ohms	10 × 9½ × 10½″	5½	69.30	65.50
733-2535	SPT-5A	7.5 Watt Speaker 8 Ohms	6 × 4″	2½	54.45	52.20

Bi-Directional Horn

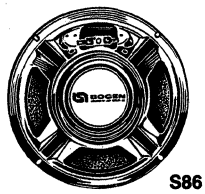


Featuring twin horns for bi-directional projection, **Model BDT-30A** is a high-intelligibility re-entrant speaker for one or two-way use. Weatherproof, all metal construction with all-purpose mounting bracket. Variable impedance selector switch to match power requirements to 25 V or 70 V constant voltage line. **Power Rating (RMS):** 30 Watts continuous, 40 Watts equalized. **Dimensions:** 16½ × 9¾″. **Weight:** 8 lbs.

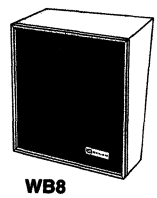
733-2540. Model BDT-30A. **1-5** .....**EACH 114.50**
6-Up.....**EACH 110.00**

Cone Speakers and Baffles

Bogen cone speakers feature powerful ceramic magnets and diaphragms selected for high sensitivity and optimized response. They are only 3″ deep and easily mounted in wall or ceiling baffles. Preassembled to save you time, the S86 and S810 are available with a 25/70 V transformer mounted and wired.



S86



WB8

Stock No.	Mfr.'s Type	Power Hdlg. Capacity	Cone Dia.	Magnet Wt.	Voice Coil Impedance	Weight Lbs.	EACH 1-5	EACH 6-Up
733-2450	S86	7 Watts	8″	6 oz.	8 Ohms	4 @ 8 lbs.	8.25	7.55
733-2455	S810	15 Watts	8″	10 oz.	8 Ohms	4 @ 13 lbs.	10.15	9.75
733-2460	S86T725	S86 with 25V/70V transformer					12.75	11.50
733-2465	S810T725	S810 with 25V/70V transformer					14.85	13.75

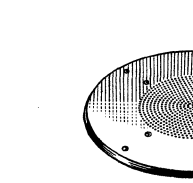
Model WB8 wall baffle is ruggedly constructed of ⅜″ particle board covered in simulated walnut vinyl, with textured black cellular plastic grille cloth. 9½ × 11⅝ × 6⅝″ deep, it accommodates an 8″ speaker. **Weight:** 4 @ 15 lbs. For easy installation, these assemblies include cone speaker, transformer, and baffle, ready to install.

Stock No.	Mfr.'s Type	Description	EACH 1-5	EACH 6-Up
733-2480	WBS8T725	S86 with 25V/70V transformer in WB8 baffle	30.15	28.10
733-2485	WBS810T725	S810 with 25V/70V transformer in WB8 baffle	32.65	29.25

Bogen's metal ceiling baffles are sturdy, handsome, and economical. They are made of aluminum or steel, attractively finished, and supplied with complete hardware. **Models S86T725PG8W** and **S810T725PG8W** are ceiling baffles available in assemblies with speaker and transformer already mounted.

Stock No.	Mfr.'s Type	Speaker Size	Baffle Dia.	Finish	Weight Lbs.	EACH 1-5	EACH 6-Up
733-2490	CG8A Aluminum	8″	12⅝″	Satin Aluminum	15 @ 8 lbs.	5.50	4.95
733-2495	CG8AW Aluminum	8″	12⅝″	Semi-Gloss White Enamel	15 @ 9 lbs.	5.50	4.95
733-2500	PG8W Steel	8″	13¼″	Semi-Gloss White Enamel	20 @ 24 lbs.	4.95	4.50
733-2505	PG8A Aluminum	8″	12⅞″	Satin Aluminum	20 @ 10 lbs.	5.50	4.95
733-2510*	SG8W Steel	8″	13¼″	Semi-Gloss White Enamel	10 @ 13 lbs.	5.50	4.95
733-2470	S86T725PG8W	S86 speaker with 25V/70V transformer in PG8W baffle				17.35	16.45
733-2475	S810T725PG8W	S810 speaker with 25V/70V transformer in PG8W baffle				19.50	18.60

*Features hidden speaker mounting studs.



CG8A

Model RE84 is a protective enclosure for an 8″ speaker designed for use with any of the above ceiling baffles. **Weight:** 10 @ 20 lbs.

733-2545. 1-5 .....**EACH 9.60**
6-Up.....**EACH 8.85**

Model MR8 is a steel plaster ring which will mount to any of the ceiling baffles. **Weight:** 25 @ 18 lbs.

733-2550. 1-5 .....**EACH 4.95**
6-Up.....**EACH 4.60**

Model TB8 is a load bearing steel support designed to sustain the weight of 8″ speakers, baffles and protective enclosures in suspended ceiling construction. **Weight:** 10 @ 23 lbs.

733-2555. 1-5 .....**EACH 4.95**
6-Up.....**EACH 4.55**

9

FM/AM Tuners

Model TP-50A and **TP-100A** tuners offer precise tuning and superior signal quality for FM and AM mono reception, and the TP-100A offers FM-Stereo reception as well. Both incorporate excellent sensitivity, image rejection, and frequency response. Each is extremely compact, 10¼ × 7¼″ and requiring only 1¾″ of height when rack-mounted with the optional **RPK-46** panel kit. **Shpg. Wt.:** 7 lbs.

733-2220. TP-50A. **1-5** ....**EACH 179.85** **6-Up**.....**EACH 165.00**
733-2225. TP-100A. **1-5** ...**EACH 255.75** **6-Up**.....**EACH 247.80**

Sound Columns

Wall-mounted sound columns restrict sound projection to a narrow vertical pattern, minimizing undesirable reflections. Choice of three models.

Stock No.	Mfr.'s Type	Wattage Rating (cont.)	Speakers	Size Inches	Weight Lbs.	EACH 1-5	EACH 6-Up
733-2320	SCW80	80 Watts	Six 8″	52 × 7¼ × 11½	48	305.25	281.60
733-2315	SCW35	35 Watts	Six 6″	42 × 6 × 9½	31	206.25	194.90
733-2310	SCW20	20 Watts	Four 5″	20 × 5 × 7½	12	107.25	98.15

FM/AM Receivers

Versatile receivers that feature high quality mono reception on both FM and AM bands. Microphone precedence circuitry permits double duty for paging. The receivers may be rack-mounted with optional panel kit **RPK-47.**

Model RM-150A can provide music for 1 to 40 loud speakers. **Power Output:** 15 W. **Output Impedance:** 4, 8, 16 Ohms, 70 V line, tape/booster. **Power Consumption:** 60 W, 120 V, 60 Hz. **Dimensions:** 12 × 10⅜ × 3⅝″. **Weight:** 11 lbs.

733-2230. 1-5 .....**EACH 341.55** **6-Up**.....**EACH 321.75**

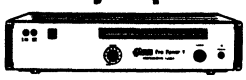
Model RM-350A can provide music for up to 100 speakers. **Power Output: 35 W. Output Impedance:** 4, 8, 16 Ohms, 25 V, 70 V lines, tape/booster. **Power Consumption:** 100 W, 120 V, 60 Hz. **Dimensions:** 12 × 10⅜ × 3⅝″. **Weight:** 20 lbs.

733-2235. 1-5 .....**EACH 387.75** **6-Up**.....**EACH 371.25**

Pro-20T 20 Watt Amplifier With Built-In AM/FM Tuner

With priority paging. **Specifications. Power Output:** 20W rms. **Frequency Response:** 50 Hz to 15 KHz. **Noise:** Mic – 60 dB; aux, – 75 dB. **Sensitivity:** mic, 0.3M, aux 0.3V. **Tone Controls:** AM/FM, AFC on/off, mic volume, aux volume tuner volume, tone, tuning, power on/off. **Inputs:** mic (balanced or unbalanced), HIZ; LOZ, aux 100K. **Outputs:** 4, 8, 16 ohms; 25V and 70V (balanced or unbalanced); booster/tape; screw terminals; speaker jacks. **Power Requirements:** 117 VAC, 50-60 Hz, 100W, or 13.8 VDC for mobile operation. **Dimensions:** 3½″H × 17¼″W × 11″D. **Weight:** 20 lbs.
790-7520. Pro-20T. **1-5** ..... **EACH 270.00**
6-Up ..... **EACH 257.00**

Pro-T AM/FM Tuner For Use With Any Amplifier



Specifications. Tuning Range: AM, 540-1650 kHz; FM, 88-108 MHz. **Sensitivity:** AM (20 dB S/N), – 48 dBm loop ant; FM (30 dB quieting), – 25 dBm, ext. antenna. **Frequency Response:** AM, 100-8000 Hz; FM, 100-7000 MHz. **Intermediate Frequency:** AM, 455 kHz; FM, 10.7 MHz. **Selectivity:** AM image rejection, – 40 dB; FM limit (– 3 dB), – 21 dB. **Audio Output:** AM, 2.0V pp; FM, 1.5V pp. **Output:** 100K ohms. **Front Panel Controls:** AM/FM/AFC, tuning, on/off. **Power Requirements:** 105-125VAC, 50-60 Hz, 2W. **Dimensions:** 3½″H × 17¼″W × 11″D. **Weight:** 27.5 lbs.
790-7599. Pro-T. **1-5** ..... **EACH 166.90**
6-Up ..... **EACH 147.80**

Pro-120 120 Watt PA Amplifier

With priority paging. **Specifications. Power Output:** 120W rms. **Frequency Response:** 50 Hz to 15 kHz. **Noise:** mic, – 60 dB; aux., – 75 dB. **Sensitivity:** mic, 0.3mV; aux., .03V. **Tone Controls:** bass (100 Hz), ± 12 dB; treble (10 kHz), ± 12dB. **Front Panel Controls:** 4 mic volume, master volume, (2) aux. volume, bass, treble, mag. phono volume, power on/off. **Inputs:** mic 1, 2, 3, 4 (balanced or unbalanced); HIZ; LOZ; (2) aux. – 100K; mag phono; equalizer. **Outputs:** 4, 8, 16 ohms, 25V and 70V (balanced or unbalanced), booster/tape, screw terminals, speaker jacks. **Power Requirements:** 117VAC, 50-60 Hz, 230W. **Dimensions:** 3½″H × 17¼″W × 11″D. **Weight:** 33 lbs.
790-7598. Pro-120. **1-5** ..... **EACH 354.50**
6-Up ..... **EACH 329.68**

Multi-Purpose Speakers

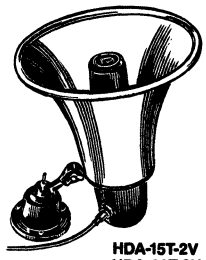
Model HDA-5 8 Ohms
Compact high-power speaker that measures 6″ diameter by 6⅛″ long 7.5 watts continuous duty. Excellent response and acoustical output of voice and non-critical music for its size. Full-range swivel mount with positive locking action. **Wt.:** 3½ lbs.
790-4005. 1-5 ..... **EACH 20.95**
6-Up ..... **EACH 18.95**

Model HDA-15T-2V
Power 15 watts, power taps 25 & 70.7 volt lines-15, 7.5, 3.5, 2.0 watts, 8½″ bell diameter. Ruggedly constructed of aluminum with baked enamel finish. Anyone can hook up a multi-horn P.A. system with 'Multi-Tap' Speakers, with built-in matching transformer. They are equipped with four different power selections on each horn. All you have to do is select the power you need. Comes complete with 18″ speaker wires.
790-7605. 1-5 ..... **EACH 46.42**
6-Up ..... **EACH 42.25**

Model HDA-30T-2V
Same as HDA-15T, above, Power 30 watts—power taps 25 & 70.7 volt lines—30, 15, 7.5, 4.5, watts, bell diameter 10″. Recommended for higher powered system.
790-6000. 1-5 ..... **EACH 52.50** **6-Up** ..... **EACH 47.78**

Model HDA-6 8 Ohms
Outperforms all directly competitive speakers in its size and class. Rated at full 15 watts continuous duty. Speaker has 6½″ diameter bell and is 8″ long. Smooth response and very high conversion efficiency. Full-range swivel mount with positive locking action. **Wt.:** 4 lbs.
790-6150. 1-5 ..... **EACH 27.75** **6-Up** ..... **EACH 24.53**

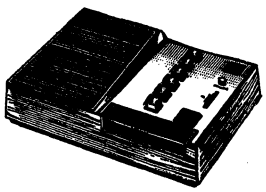
Model HDA-10 8 Ohms
Higher power version of HDA-5 and HDA-6 with improved low frequency response. Rated at 30 watts continuous output, it has a 10″ diameter bell. Produces a sound pressure of 124 dB or double the efficiency of speakers of the same size and input rating. Good wide-range response. Full-range swivel mount with positive locking action. **Wt.:** 5 lbs.
790-7603. 1-5 ..... **EACH 29.25** **6-Up** ..... **EACH 26.90**



HDA-15T-2V
HDA-30T-2V

HDA-5-8
HDA-6-8
HDA-10-8

Executive and Director Intercom Systems



'Executive' Intercom Systems are 7-station systems that provide a full range of any combination of master-to-master or master-to-remotes, including paging horns. Features private or 'hands free' conversations. Over one watt power output for station-to-station calls; 4 watts of reserve power for paging. Reduces to normal wattage level automatically through talk-back power. Can accommodate cable runs of 1,000 feet or more. Quiet performance; no cross-talk. Includes a Busy Light (to indicate stations in use), Privacy Switch, Monitor Light (to indicate call or eavesdropping in non-private position (switchable option in Master), Paging,* and All Call (to call all remotes simultaneously.)** **Cable requirements.** All Master System—interconnecting cable requires one more pair of wires than total number of Master stations in the system; shielded wires not required. Intermix System (Masters and Remotes)—interconnecting cable requires one more pair of wires than total number of stations (Masters and Remotes) in system PLUS one shielded pair between each Remote and its Master.
790-4000. Executive 7 Master. 7-station capacity; 9½″ × 6¾″ × 3½″; weighs 2½ lbs ..... **EACH 149.95**
790-4002. Executive 1 Remote. single station; 6¾″ × 6¾″ × 3½″; weighs 2 lbs ..... **EACH 37.50**

'Director' Wired Intercoms for All Master or Master to Remote systems. All Master System handles up to 7 Director-7 master stations. Permits any station to communicate with any other station or group of stations in the system. Holds up to 3 simultaneous conversations at one time. Also excellent for conferences between stations. Can use a one-station selector switch to connect the masters to a PA system with PR-15B paging/talk-back relay. Master to Remote System allows one Director-7 master to connect with up to 6 Director-1 remotes. Remotes can converse only with the Master 'hands free' (conversation with other remotes not possible); can operate either private or non-private using the privacy switch . 1 watt power; stations can be up to 500 feet apart. Master features volume control on/off switch, talk/listen switch with locked position, and UL listed power supply for 110-120V AC. **Cable requirements.** One more wire than the total number of stations in system. Add one shielded wire for PR-15B.
790-4010. Director-7 Master: 7 station capacity; 9½″ × 6¾″ × 3½″; weighs 2½ lbs ..... **EACH 104.95**
790-4012. Director-1 Remote: Indoor remote; 7″ × 3½″ × 2″; weighs 2 lbs ..... **EACH 29.95**
790-4004. PR-15B Paging/Talk-Back Relay: connects to PA system; weighs 1 lb. ..... **EACH 90.00**

FM Wireless Intercom Systems

- **Two Way 'Hands-Free' Voice (vox) and Manual Operation.**
- **Operates room-to-room or between houses on same AC electrical wiring. No installation is required.**
- **Any number of stations may be operated on same line.**
- **Each intercom unit is plugged into an AC outlet and uses the house or office electrical wiring as a message path.**
- **Ultra-sensitive FM circuitry with separate microphone and speaker provides dependable clarity of voice transmission.**
- **Solid state circuitry permits instant 'ON' operation assuring dependable service; no warm-up time required.**
- **All stations are equipped with 'call' button for signalling, lock buttons for continuous monitoring of baby, sickroom, etc.**
- **All modes are fully compatible with each other.**
- **Can be used on desk, table, counter or wall mounted.**
- **Cabinets are of high impact plastic with woodgrain and charcoal brown colors; 6″W × 5″D × 2″H dimensions.**

Stock No.	Mfr.'s Type	Description	Shipping Weight	EACH
790-3501	VFM-300-2	3 Channel-Two Station System	2 lbs.	89.95
790-3502	VFM-300	Additional Station for above	1 lb.	44.95
790-3503	VFM-200-2	2 Channel-Two Station System	2 lbs.	79.95
790-3504	VFM-200	Additional Station for above	1 lb.	39.95
790-3505	VFM-100-2	1 Channel-Two Station System	2 lbs.	69.95
790-3506	VFM-100	Additional Station for above	1 lb.	34.95

Two-Station Master/Remote System

Model IN-402. Versatile AC operated system, the IN-402 includes one hi-powered output Master, one indoor remote (IN-2) and one length of 50 ft. plug-in cable. The IN-402 accepts up to three additional outdoor remotes (IN-2). Charcoal brown cabinets with wood grain accents. Expandable to 5 station Master/Remote System. U.L. Listed.
790-4023. 1-4 ..... **EACH 45.95** **5-Up** ..... **EACH 42.27**
Model IN-2 Indoor Remote Station with 50-ft. plug-in cable.
790-4024. 1-4 ..... **EACH 17.95** **5-Up** ..... **EACH 16.53**
Model 2C-100 100 ft. extension cable with plugs.
790-4025. 1-4 ..... **EACH 8.95** **5-Up** ..... **EACH 8.06**

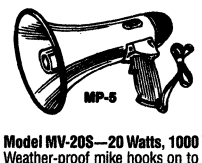
Megaphones

Model MP-3
Compact megaphone similar to our larger series. **Specifications. Power output:** 3 watts peak—2 watts rated. **Batteries:** 6 'AA' cells (not included).
790.7954. 1-4 ..... **EACH 69.76** **6-Up** ..... **EACH 61.18**

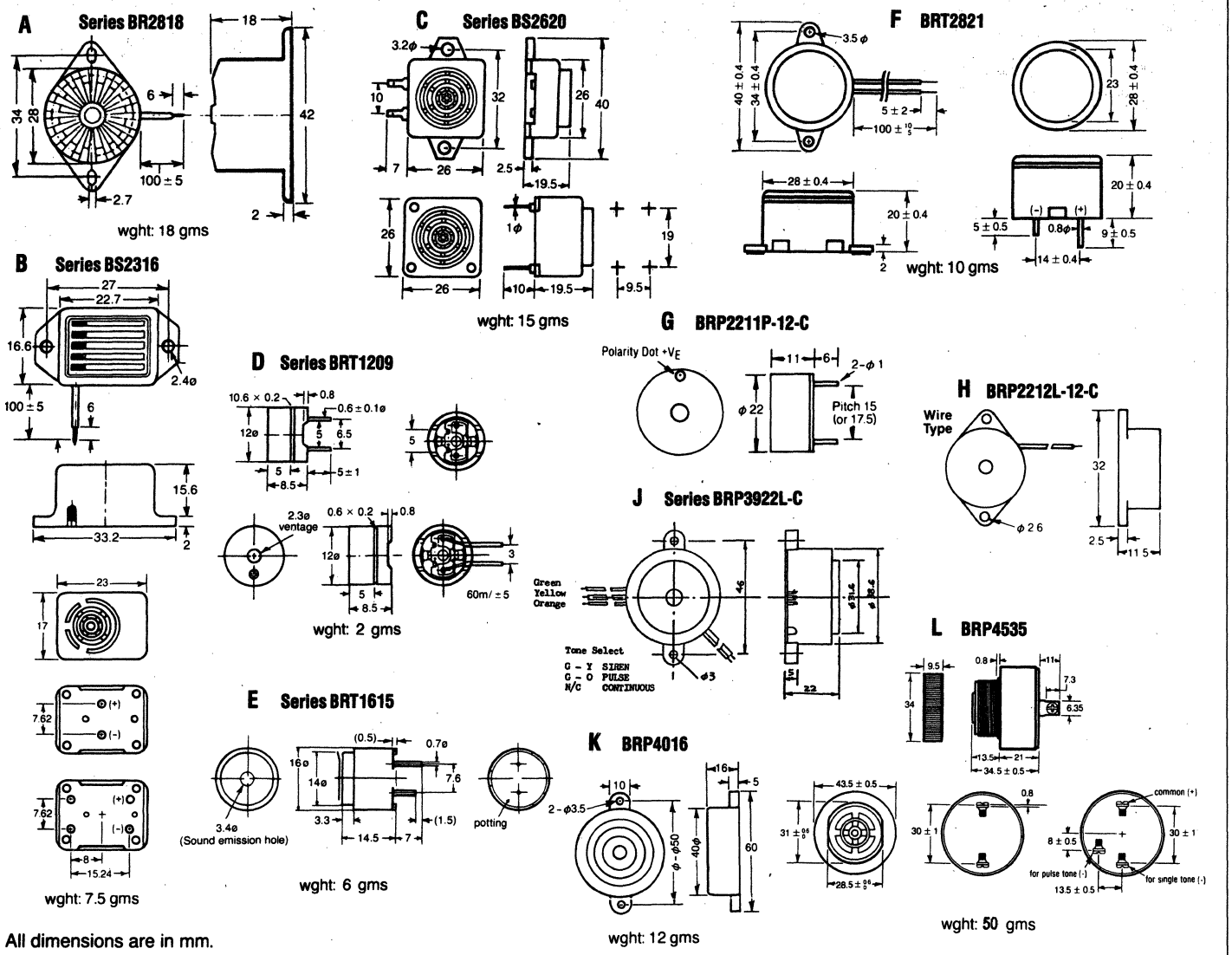
Model MP-5—5 Watt, 300 Yd. Range Megaphone
Battery operated and convenient to use. The sturdy, high-impact ABS plastic bell and weather-proof, built-in microphone will give years of use from this low-priced, but rugged megaphone. Trigger talk switch. Includes volume control, dynamic microphone and carrying strap. **Specifications. Power output:** 6 watts peak, 5 watts rated. **Batteries:** 8 'AA' cells (not included).
790-7593. 1-5 ..... **EACH 77.43** **6-Up** ..... **EACH 70.46**

Model MV-10S—10 Watts, 600 Yd. Range Built-In Signal Alarm/Fog Horn
Ideal for police, fire, industrial and recreational applications. Weatherproof. Carrying strap included. Sturdy high-impact ABS plastic bell. Volume control, signal alarm switch, pistol-trigger talk switch, dynamic microphone and carrying strap. **Specifications. Power output:** 10 watts peak, 8 watts rated. **Batteries:** 6 'C' cells (not included).
790-7592. 1-5 ..... **EACH 108.43** **6-Up** ..... **EACH 98.67**

Model MV-16S—16 Watts, 800 Yd. Range Built-In Signal Alarm/Fog Horn
Powerful signal alarm for fog horn or general alert. Weatherproof construction. Adjustable volume control. 12 VDC Negative ground only. Features include volume control, signal alarm switch, pistol-trigger talk switch, 12 VDC input jack, dynamic microphone and carrying strap. **Specifications. Power output:** 16 watts peak, 12 watts rated. **Batteries:** 8 'C' cells (not included).
790-7591. 1-5 ..... **EACH 131.67** **6-Up** ..... **EACH 119.82**



Model MV-20S—20 Watts, 1000 Yd. Range Built-In Signal Alarm/Fog Horn
Weather-proof mike hooks on to rear for standard use. Megaphone may be shoulder mounted with mike detached. Coiled cord and talk switch on mike for hand-held use. Solid state amplifier has a signal alarm for warning alert, fog horn or 'mayday'. Negative ground only. Includes volume control, hand and shoulder straps, dynamic microphone with coiled cord and talk switch. Pistol-trigger switch. 12VDC input jack. Signal alarm switch. **Specifications. Power output:** 20 watts peak, 16 watts rated. Uses Class B push-pull circuit. **Batteries:** 8 'C' cells (not included).
790-7590. 1-5 ..... **EACH 178.95** **6-Up** ..... **EACH 162.67**



Electronic Buzzers

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max Current (mA)	Sound Pressure Level (dB)	Diameter (MM)	Height (MM)	Terminal Type	Mounting Dim. or Pin Spacing (MM)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2000	BR2818L-12	A	400 ± 50	9-20	Cont.	30	80 @ 30 CM	28	18.0	2 Leadwires	34	2.81	2.34	1.87
623-2002	BR2818L-24	A	400 ± 50	20-28	Cont.	20	85 @ 30 CM	28	18.0	2 Leadwires	34	2.81	2.34	1.87
623-2004	BS2316L-12	B	400 ± 50	9-20	Cont.	35	80 @ 30 CM	23	16.0	2 Leadwires	27	2.24	1.87	1.50
623-2006	BS2316P-06-C	B	400 ± 50	4-8	Cont.	35	80 @ 30 CM	23	16.0	4 Pins	15.2 x 7.6	2.75	2.30	1.84
623-2008	BS2620PH-12-C	C	400 ± 50	8-16	Cont.	60	75 @ 100 CM	26	19.5	4 Pins	19 x 9.5	3.42	2.85	2.28

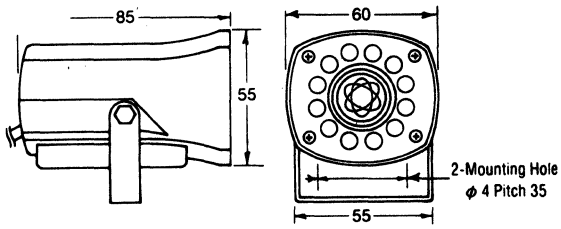
Electro-Acoustic Transducers

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max Current (mA)	Sound Pressure Level (dB)	Diameter (MM)	Height (MM)	Terminal Type	Mounting Dim. or Pin Spacing (MM)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2010	BRT1209L-01	D	2048	1-12	Cont.	30	80 @ 10 CM	12	8.5	2 Leadwires	—	1.07	0.89	0.71
623-2012	BRT1209P-01	D	2048	1-12	Cont.	30	80 @ 10 CM	12	8.5	2 Pins	6.5	1.07	0.89	0.71
623-2014	BRT1209P-06-C	D	2300	4-8	Cont.	30	80 @ 10 CM	12	9.5	2 Pins	7.6	3.52	2.93	2.35
623-2016	BRT1615P-06	E	2048	3-12	Cont.	40	85 @ 10 CM	16	14.5	2 Pins	7.6	1.89	1.57	1.26
623-2018	BRT1615P-06-C	E	2200	4-7	Cont.	30	85 @ 10 CM	16	14.5	2 Pins	7.6	3.62	3.02	2.41
623-2020	BRT2821P-12	F	2800 ± 200	9-15	Cont.	40	95 @ 30 CM	28	20.0	2 Pins	14.0	2.04	1.70	1.36

Piezo Electric Alarms with Circuits

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max Current (mA)	Sound Pressure Level (dB)	Diameter (MM)	Height (MM)	Terminal Type	Mounting Dim. or Pin Spacing (MM)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2022	BRP2211P-12-CS	G	4000 ± 500	3-15	Cont.	4.5	75 @ 100 CM	22.0	11.0	2 Pins	15.0	2.50	2.08	1.67
623-2024	BRP2212L-12-C	H	4000 ± 500	3-15	Cont.	4.5	90 @ 30 CM	22.0	11.5	2 Leadwires	26.5	2.19	1.83	1.46
623-2026	BRP3922L-CT3	J	2800	6-15	3 Tone	95.0	107 @ 100 CM	39.0	22.0	5 Leadwires	46.0	6.38	5.31	4.25
623-2028	BRP4016L-12-C	K	2800 ± 300	3-24	Cont.	18.0	100 @ 100 CM	40.0	16.0	2 Leadwires	50.0	3.11	2.59	2.07
623-2030	BRP4535S-12-C	L	2900 ± 500	1-16	Cont.	30.0	100 @ 30 CM	43.5	34.5	3 Screws	30.0	6.32	5.27	4.22

M Series BPS6055L



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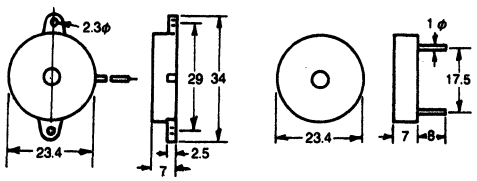
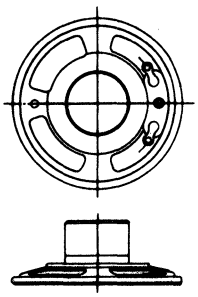
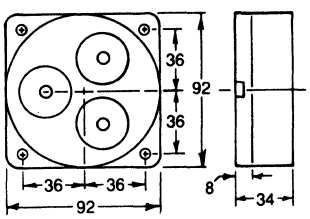


T General Purpose Round



N Series BPS9234S



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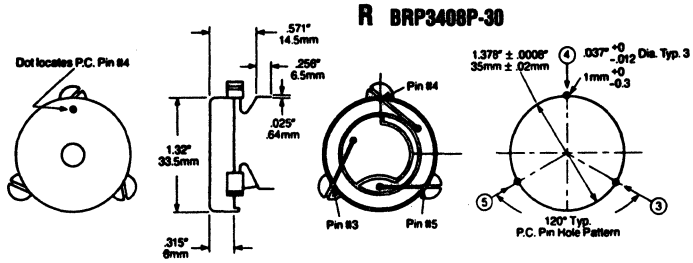
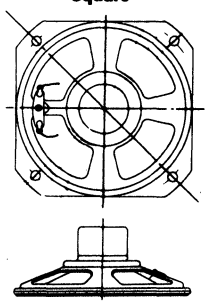


U General Purpose Square



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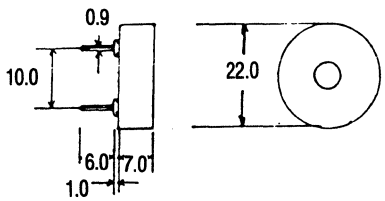

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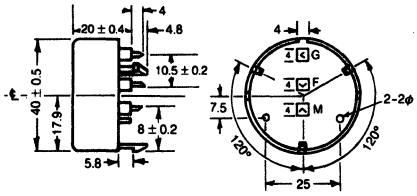

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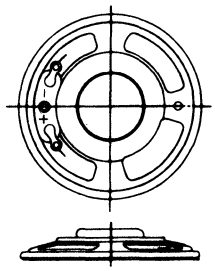
V Low Profile Samarium Cobalt Magnet



Piezo Sounders

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Operating Voltage (VDC)	Tone	Max Current (mA)	Sound Pressure Level (dB)	Diameter (MM)	Height (MM)	Terminal Type	Mounting Dim. or Pin Spacing (MM)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2032	BPS6055L-12-C	M	2500 ± 500	6-12	Siren	350	115 @ 100 CM	60	55	2 Leadwires	35	25.04	20.87	16.69
623-2034	BRS9234S-12-C	N	2800	6-15	3 Tone	300	115 @ 100 CM	92	34	4 Screws	72	15.30	12.75	10.20

Piezo Electric Alarms Without Circuits

Stock No.	Mfr.'s Type	Fig.	Sound Frequency (Hz)	Resonant Resistance (Ohm) Max	Electro-Static Capacitance (pF)	Max Input Voltage	Diameter (MM)	Height (MM)	Termination	Mounting Dim. or Pin Spacing (MM)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2036	BRP2207P-30	P	4000 ± 500	300	10,000 ± 30%	30Vp-p	22.0	7	2 Pins	10.0	1.38	1.15	0.92
623-2038	BRP2407L-30	Q	5600 ± 600	1500	10,000 ± 30%	30Vp-p	23.4	7	2 Leadwires	29.0	1.12	0.94	0.75
623-2040	BRP2407P-30	Q	5600 ± 600	1500	10,000 ± 30%	30Vp-p	23.4	7	2 Pins	17.5	1.30	1.08	0.87
623-2042	BRP3408P-30	R	2500 ± 500	300	25,000 ± 30%	30Vp-p	34.0	8	3 Pin Config.	—	1.68	1.40	1.12
623-2044	BPR4016P-30	S	3000 ± 500	200	30,000 ± 30%	30Vp-p	39.0	16	3 Pin Config.	—	2.04	1.70	1.36

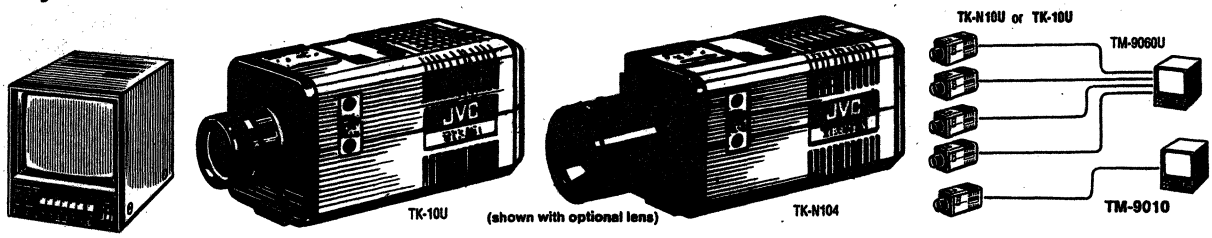
General Purpose Miniature Speakers

Stock No.	Mfr.'s Type	Cone Diameter & Shape	Fig.	Rated Power (Watts)	Voice Coil Impedance (OHMS)	Frequency Response (Hz)	Magnet Material	Magnet Weight (OZ)	Frame Depth (IN)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2046	S150RA	1½" Round	T	0.1	8 ± 15%	600-5000	ALNICO V	.34	.705	2.41	2.01	1.60
623-2048	S200RA	2" Round	T	0.2	8 ± 15%	450-4000	ALNICO V	.34	.705	2.16	1.80	1.44
623-2050	S200SA	2" Square	U	0.2	8 ± 15%	450-5000	ALNICO V	.34	.740	2.58	2.15	1.72
623-2052	S225RA	2¼" Round	T	0.2	8 ± 15%	400-5000	ALNICO V	.34	.740	2.16	1.80	1.44
623-2054	S250SA	2½" Square	U	0.5	8 ± 15%	350-5000	ALNICO V	.35	.843	2.48	2.07	1.65
623-2056	S300SA	3" Square	U	0.5	8 ± 15%	250-5000	ALNICO V	.34	.975	2.70	2.25	1.80
623-2058	S2X3VA	2" × 3" Oval	—	0.5	8 ± 15%	280-5000	ALNICO V	.35	1.030	3.99	3.32	2.66

Low Profile Samarium Cobalt Magnet

Stock No.	Mfr.'s Type	Cone Diameter & Shape	Fig.	Rated Power (Watts)	Voice Coil Impedance (OHMS)	Frequency Response (Hz)	Magnet Material	Magnet Weight (OZ)	Frame Depth (IN)	EACH 1-24	EACH 25-99	EACH 100-Up
623-2060	S100RL	1" Round	V	0.1	8 ± 15%	150-5000	—	.023	.394	5.26	4.38	3.51
623-2062	S150RLS	1½" Round	V	0.1	8 ± 15%	450-8000	—	.056	.327	4.66	3.88	3.11
623-2064	S200RL	2" Round	V	0.1	8 ± 15%	300-5000	—	.056	.350	4.27	3.56	2.85
623-2066	S225RL	2¼" Round	V	0.1	8 ± 15%	200-5000	—	.056	.445	4.27	3.56	2.85

JVC CCTV System



- **Designed for connection of up to six cameras (TK-10 or TK-S1304)**
- **Built-in CCUs for camera operation control**
- **Motion detector circuit for Camera-1 input whose video sensor position marker has variable size (1/30 to 1/3 of screen) and position (H and V)**
- **Electronic buzzer with variable volume**
- **Camera power ON/OFF switches are provided**
- **Camera-1 signal direct output for connection of another monitor**
- **Terminals for video recorder recording/playback**
- **Auto-manual scanning with variable duration (0.5 sec to 30 sec)**
- **Standby function which works when a picture is required only when motion detector circuit or external alarm circuit is activated**
- **Selected video output terminal for all cameras**
- **Alarm input/output terminal**
- **External timer input terminal**
- **Timer output terminal.**

912-9060. Model TM-9060U.....**EACH 685.00**

Cameras

914-5110. Model TK-10U.....**EACH 250.00**
914-5210. Model TK-N104.....**EACH 420.00**

Lenses for Above TK-N104

914-5115. Model 813APC, 8.5 mm F1-3.....**EACH 225.00**
914-5120. Model 1613APC, 16 mm F1-3.....**EACH 210.00**

Model	TK-10U	TK-N10U
Scanning system Scanning frequencies Synchronization system Video output	2:1 interlaced Horizontal: 15.75 kHz, Vertical: 60 Hz External (Special composite sync signal from CCU) Camera out × 1: V, 0.7 Vp-p, 75 ohms (BNC), Monitor out × 1: VS, 1 Vp-p, high impedance (pin)	
Video output for EE lens Horizontal resolution Lens Normal illumination Minimum illumination Pickup tube	— More than 550 lines (center) HZ-F8161 (provided) 20 lux(f/1.6, Hi-Sens) 2 lux(f/1.6, Hi-Sens) 2/3″ vidicon (20PE14)	0.7 Vp-p, high impedance, 9 V DC supplied to lens (3-pin connector) More than 500 lines (center) Optional 3 lux(f/1.4, Hi-Sens) 0.3 lux(f/1.4, Hi-Sens) 2/3″ Newvicon® (S4092)
Lens mount Power supply Power consumption	C mount Supplied from system monitor (BNC), 13 to 21 V DC, coaxial cable Approx. 260 mA	
ALC range	65000: 1 (Hi-Sens)	40000 to 60000: 1 (with optional lens)
S/N Ambient temperature range Dimensions (w/o lens) Weight (w/o lens) Max. distance from monitor	More than 40 dB (normal sensitivity) – 10 to + 50°C (14 to 122°F) 70(W) × 74(H) × 150(D)mm (2 3/4″ × 2 15/16″ × 5 15/16″) Approx. 430g (0.95 lb) 200m (650 ft) with RG-59 (3C-2V), 350m (1140 ft) with RG-6 (5C-2V), 500m (1650 ft) with RG-11 (7C-2V)	

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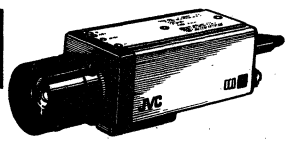


JVC TK-885U Color Camera

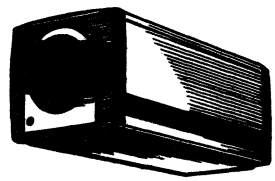
- **1/2″ CCD with a 330-line resolution**
- **High sensitivity and high S/N ratio**
- **1/1200-second high-speed electronic shutter**
- **TTL auto white balance adjustment**

A high-resolution CCD camera designed for use where limited space is a major factor.

914-0885. Model TK-885-U.....**EACH 1350.00**

SPECIFICATIONS. Signal system: Based on NTSC system. **Pickup element:** Interline-transfer system CCD solid-state image sensor. **Pickup color system:** Single CCD complementary color system. **No. of effective pixels:** 510(H) × 492(V). **Pickup area:** 4.6(V) × 6.2mm (equivalent to 1/2″ format). **Scanning lines:** 525 lines, 2:1 interlaced. **Sync system:** Internal. **Video output:** Composite video signal: 1Vp-p, 75 ohms, unbalanced, BNC connector. **Video S/N:** 47 dB (luminance signal, AGC switch set to 'OFF', shutter mode set to 'NORM'). **Minimum required illumination:** 10 lux (f/1.4, AGC switch set to 'ON', shutter mode set to 'NORM'). **Recommended subject illumination:** 2000 lux (shutter mode set to 'NORM'). **Switching function:** AGC (ON/OFF), shutter mode (NORM/1/1200), white balance setting (/ /). **Adjusting function:** Flange-back, tint. **Lens mount:** C-mount(with C-mount adapter)/CS mount. **Power requirement:** 12 V DC (± 10%), ripple voltage 50 mV or less. **Power consumption:** 3.5 W. **Operating temperature range:** – 10°C to + 50°C. **Operating humidity:** Less than 90% Rh (noncondensing). **Weight:** Approx. 1.1 lbs(500 g) including C-mount adapter.

Panasonic General Purpose CCTV Cameras



Available as **Model WV-1410** with a power requirement of 117VAC, 60 Hz, 9W, or as **Model WV1414** which accepts 24VAC, 60Hz, 10W. Features scene averaging automatic light compensation, automatic beam control, automatic focus control 2:1 interface select, white peak clip cicuit, and external vidicon position adjustment. **SPECIFICATIONS. Image Tube:** 20 PE 13A. **Horizontal Resolution:** greater than 600 lines. **Video Dimensions:** 8 3/8L × 3 9/16 W × 3 5/16H. **Weight:** 3.7 lbs. **Connectors:** video — BNC; power — Model WV 1410, 3 prong plug and cord; Model WV 1414, screw terminal barrier strip. **Lens Mount:** standard 'C'. **Temperature:** 14°F to 122°F.

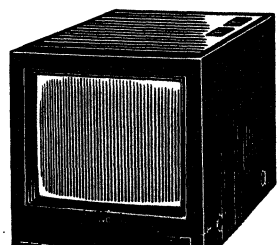
915-1410. Model WC 1410.....**EACH 315.00**
915-1414. Model WV 1414.....**EACH 315.00**

Lenses for CCTV Cameras

2/3″ lens. **Model VL 1616** has 16mm focal length; **Model VL 814,** 8mm. Manual focus adjust and standard C mount. No iris. **Relative Aperture:** VL1616, 1:1.6; VL814, 1:1.4. **Lens Elements:** VL1616, 4; VL814, 6.

912-9010. Model VL814.....**EACH 59.00**
912-9011. Model VL1616.....**EACH 23.00**

JVC TM-9U, 9-Inch and TM13U, 13-Inch Color Video Monitors

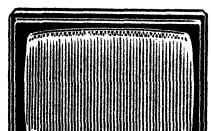


- **Medium-high resolution CRT reproduces a remarkably high-quality picture.**
- **A set of audio (RCA) and video (BNC) terminals make bridge connections possible.**
- **A round speaker is provided.**
- **Sleek, space-saving design with scaled-down dimensions unique to color monitors of this caliber.**
- **Two TM-9U units can be mounted in the optional EIA-standard double-unit rack (RK-9U). It can also mount one TM-9U unit together with a WFM using the optional rack adapter (ADP-9U).**
- **Metal cabinet minimizes interference.**

JVC's **TM-9U** or **TM-13U** is a space-saving color video monitor with a 9-inch or 13-inch, medium high resolution CRT that delivers the best picture reproduction in its class. It's designed to handle a whole range of applications in the industrial, commercial and communication fields. Including that of an editing monitor when used in combination with a second unit. **Type:** Color video monitor. **Color system:** NTSC system. **CRT:** TM-9U — 9-inch (diagonally measured); TM-13U — 13-inch medium-high resolution CRT. **Power Requirement:** AC 120V, 60 Hz. **Audio Output:** TM-9U — 1W; TM-13U — 1.2 W. **Speaker:** TM-9U — 3 1/8″ (8 cm) round × 1; TM-13U — 4″ (10 cm) × 1. **External input terminal:** Video (BNC) — 1.0 Vp-p, 75 ohms; Audio (RCA) — 390 mVrms (– 6 dBs), high impedance. **Bridge output terminal:** Video (BNC) — 1.0 Vp-p, 75 ohms; Audio (RCA) — 390 mVrms (– 6 dBs), high impedance (termination switch is provided). **TM-9U exterior dimensions:** Width — 8 4/5″ (22.3 cm), Depth — 13 1/2″ (34.3 cm), Height — 8 15/16″ (22.7 cm). **TM-13U exterior dimensions:** Width — 14 3/4″, Depth — 16 1/8″, Height — 14 3/8″. **Weight:** TM-9U — 17.6 lbs (8.0 Kg); TM-13U — 24.7 lbs.

914-5009. Model TM-9U.....**EACH 495.00**
914-5013. Model TM-13U.....**EACH 425.00**

Sanyo® B/W Video Monitors



- **U.L. and DHHS Approval**
- **FCC RFI Compliance**

VM4512, VM4515, VM4519, and VM4509 Video Monitors offer high-resolution and solid-state ciruitry. **Other features:** Flip-open control cover, DC restoration switch, HiZ-LoZ termination switch, video input bridging, and a regulated power supply with isolation transformer, all encased in a rugged metal cabinet. **Controls:** On-off, brightness, contrast, H-hold, and Impedance. Also features Quick Start without pre-heating and recessed hand grips for portability. U.L. and DHHS approved. **SPECIFICATIONS. Input Signal Range:** 0.5 to 1.5Vp-p. **Horizontal Resolution:** 700 lines nominal. **MTBF (Less CRT):** 15,000 Hrs. **Light Output:** 25 FL min. **Video Bandwidth:** VM4512 — – 3 dB 15 MHz; VM4515 — 15 MHz; VM4519 — 12 MHz; VM4509 — 15 MHz. **Raster Distortion:** VM4515 — Trapezoidal — 1.5% Max., Barrel - 3% max., Pincushion - 3% max., Parallelogram - 2% max.; VM4519 — Trapezoidal - 4% max., Barrel - 4% max., Pincushion - 4% max., Parallelogram - 3% max., VM4509 — Trapezoidal - 1% max., Barrel - 1% max., Pincushion - 1% max., Parallelogram - 3% max. **Size (W × H × D):** VM4512 - 12 3/10 × 12 1/2 × 12 1/2″ (310 × 317 × 317 mm); VM4515 — 15 3/4 × 14 21/32 × 12 27/32″ (400 × 372 × 310 mm); VM4519 — 20 11/16 × 17 15/16 × 14 9/16″ (526 × 559 × 483 mm); VM4509 — 8 5/8 × 9 1/2 × 10 9/8″ (220 × 238 × 260 mm). **Weight:** VM4512 — 23.4 lbs. (10.6 Kg); VM4515 — 30.4 lbs. (13.8 Kg); VM4519 — 59.5 lbs. (26.9 Kg); VM4509 - 12.8 lbs. (5.81 Kg). **Power:** VM4512 — 120 VAC ± 10%, 60 Hz, 12-16 VDC; VM4515 — 120 V 50/60 Hz ± 10% 46W; VM4519 — 120 V 60 Hz, 68 W; VM4509 — 120 V 50/60 Hz, ± 10%, 33 W or 12-16 VDC, 17 W. **Picture Tube:** VM4512 — Type 310JCB4; VM4515 — Type 400 CTB4; VM4519 — Type 500 BMB4 or Type 500 BRB4; VM4509 — Type 240 × B4A or Type 240YB4. **Screen Size (Diagonal):** VM4512 — 12″; VM4515 — 15″; VM4519 — 19″; VM4509 — 9″. **Deflection:** VM4512 — 90°; VM4515 — 110°; VM4519 — 114°; VM4509 — 90°. **Heater:** VM4515 — 12 V 75 mA; VM4519 — 6.3 V 240 mA; VM4509 — 11 V 140 mA. **Additional Controls:** VM4512 — V-hold; VM4515 — Data Picture Switch; VM4519 — V-hold; VM4509 — V-hold, Data Picture Switch. **Connectors:** Video — M Type 2 SO-239 video in and out; AC 3-pin U.L. Approved plug.

912-0100. Model VM4509. 9″ Screen.....**EACH 197.00**
912-9016. Model VM4512. 12″ Screen.....**EACH 271.05**
912-9017. Model VM4515. 15″ Screen.....**EACH 357.00**
912-9018. Model VM4519. 19″ Screen.....**EACH 554.00**

Camera Enclosures, Mounts, and Scanners

Stock No.	Mfr.'s Type	Description	EACH
913-0002	CM-1400	Light duty, camera wall mount with ball/swivel adjustable head. Supports up to 20 lbs.	30.00
913-9023	EH4014	Indoor/outdoor enclosure for 2/3″ cameras and fixed focal lenses, 18″ long.	110.00
913-9025	EM-22	Medium duty wall mount. Manually adjustable swivel head. Supports up to 40 lbs.	73.00
913-9030	MM-22	Medium duty, camera pedastal or ceiling mount. Manually adjustable head. Supports up to 40 lbs.	50.00

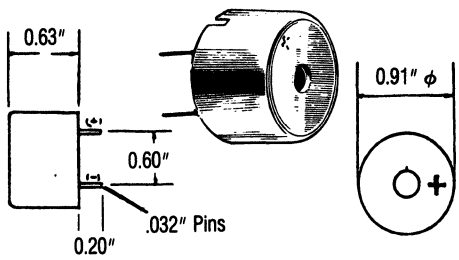
Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

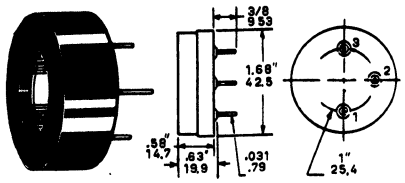
Minilert Model MCP320B2 Electronic Audible Signal

► **Extremely Low Power Consumption in Comparison to Electromagnetic Buzzers**
► **Contact-Free Design Insures Long Life and No Electrical Noise Problems**
► **Compact Design, Yet Produces High Sound Pressure with Minimum Voltage**

The Minilert Model MCP320B2 is a high-performance, low-cost piezoelectric audible signal comprising an audio transducer and all the driving electronics contained in a small attractive package. This unit is designed to be mounted on the printed circuit board. Applications include fire alarms, smoke detectors, intrusion systems, call buzzers, car alarm systems, clocks, and cash registers. **Specifications. Resonant Frequency (KHz):** 2.5 ±0.5 KHz. **Sound Pressure (dB/40 in.):** 70 db Min. @ 12 VDC. **Rated Voltage (VDC) @ 25°C:** 3 to 20 VDC. **Current (mA):** 10 mA Max. **Operating Temperature:** – 20 to 60°C. **Storage Temperature:** – 25 to 70°C.

854-9385. MCP320B2 ..... **EACH 3.78**





PC Board Mounted Sonalert Signal

Low profile pin mounted signal. Suited for insertion and soldering into printed circuit boards. May be hand or wave soldered. Audible signal is 2900 Hz medium loud and is available as continuous tone, fast pulse, or slow pulse.

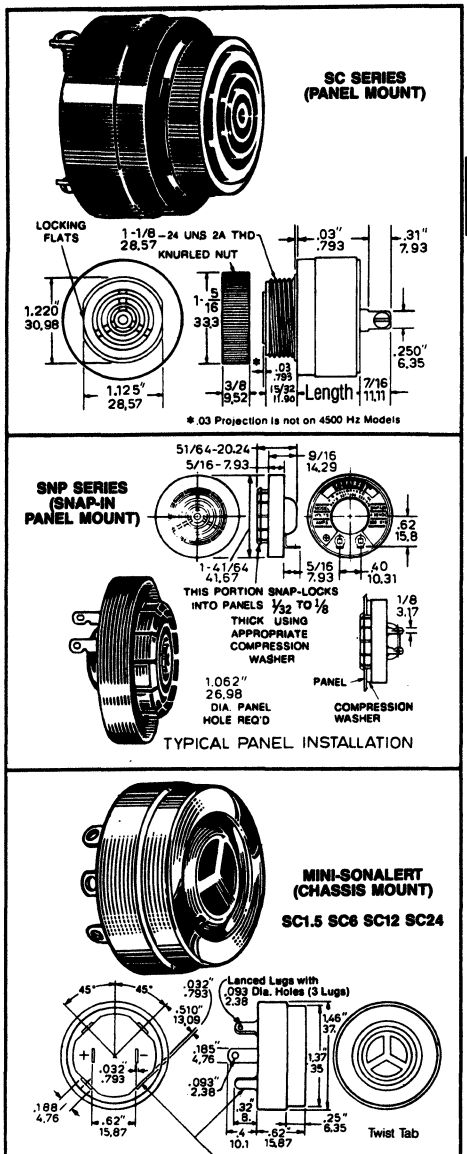
Stock No.	Mfr.'s Type	VDC	Sound Level dB	Oper Curr. (mA)	EACH 1-24	EACH 25-49	EACH 50-99
854-6570	SBM2	1-5	Cont. Tone 55-68	1-10	9.73	9.04	8.44
854-6575	SBM428	4-28	Cont. Tone 64-78	1.8-14	10.52	9.77	9.12

Sonalert® Solid-State Audible Warning Device

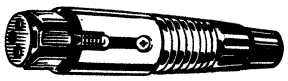
Emits penetrating signal at min. current. Solid-state circuit—no arcing—no RF noise, no mechanical wear, lowest failure rate with max. efficiency. Compact, lightweight, versatile—consumes less current than normal indicator light. Ideal for use as safety device. Alerts to mechanical malfunctions in cars, communications, computers, fire signals, medical electronics, etc. Sonalert signals may be powered by many electrical sources ranging from single cell batteries to industrial power lines. Little electrical power is required making them ideally suitable for portable battery operated equipment. This low power feature allows the Sonalert signal to be turned on or off with a low power transistor, SCR, or integrated circuit. Completely solid state with no moving parts, no arcing, and no mechanical wear, the Mallory Sonalert signals should give you many years of trouble-free service. **Temp. range:** – 20°C to + 65°C. Self-extinguishing black nylon case, 1.687″ dia. (lgth. in table). **Weight:** 8 oz.

Stock No.	Mfr.'s Type	Notes	Sound Freq. (Hz)	Operating Volts	Tone	Oper. Curr. (mA)	Sound Level (dB)	Length In.	EACH 1-24	EACH 25-49	EACH 50-99
854-6540	SC1.5	—	3500	1-4 DC	Cont	4	60	.675	10.52	9.77	9.12
854-6545	SC6	—	3500	4-8 DC	Cont	12	70	.675	10.52	9.77	9.12
854-6550	SC12	—	3500	8-15 DC	Cont	14	70	.675	10.52	9.77	9.12
852-6551	SC24	—	3500	20-30 DC	Cont	16	70	.675	10.52	9.77	9.12
854-6500	SC110*	—	2900	30-120 AC/DC	Cont	4-16	68-80	1.375	17.78	16.51	15.41
854-6544	SC105	—	2900	1-5 DC	Cont	3-16	60-75	.812	13.66	12.69	11.84
854-6546	SC110D	—	1900	30-120 AC/DC	Cont	4-16	60-75	1.375	19.74	18.33	17.11
854-6510	SC110H	—	4500	30-120 AC/DC	Cont	4-16	68-80	1.375	21.42	19.89	18.56
852-6522	SC110N	—	2900	30-120 AC/DC	Cont	8-28	80-95	1.375	22.66	21.04	19.64
854-6525	SC110P	3	2900	30-120 AC/DC	Pulse	6-28	68-80	1.937	26.55	24.66	23.01
852-6531	SC250	—	2900	60-250 AC/DC	Cont	4-16	68-80	1.375	17.78	16.51	15.41
854-6516	SC616N	—	2900	6-16 DC	Cont	4-16	80-95	.812	15.55	14.44	13.48
854-6547	SC616NL	1	2900	6-16 DC	Cont	4-16	80-95	.812	16.98	15.77	14.72
854-6502	SC628*	—	2900	6-28 DC	Cont	3-14	64-80	.812	12.42	11.53	10.76
854-6504	SC628A	—	2900	6-28 AC/DC	Cont	4-16	68-80	1.375	17.78	16.51	15.41
854-6548	SC628AD	—	1900	6-28 AC/DC	Cont	4-16	60-75	1.375	19.74	18.33	17.11
854-6549	SC628AH	—	4500	6-28 AC/DC	Cont	4-16	68-80	1.375	21.42	19.89	18.56
852-6503	SC628AN	—	2900	6-28 AC/DC	Cont	8-28	80-95	1.375	21.42	19.89	18.56
854-6520	SC628D	—	1900	6-28 AC/DC	Cont	3-14	60-75	.812	13.45	12.49	11.65
854-6506	SC628H	—	4500	6-28 DC	Cont	3-14	68-80	.812	13.45	12.49	11.65
854-6505	SC628L	1	2900	6-28 DC	Cont	3-14	68-80	.812	11.48	10.66	9.95
854-6571	SC648*	—	2900	10-48 DC	Cont	3-14	68-80	.812	12.42	11.53	10.76
854-6572	SNP2	—	2900	1-5 DC	Cont	2-12	55-68	.563	10.52	9.77	9.12
854-6565	SNP428*	—	2900	4-28 DC	Cont	2-14	64-78	.563	10.52	9.77	9.12
854-6530	SC628W	2	2900	6-28 DC	Warble	3-16	68-80	1.375	20.15	18.71	17.47
852-6523	SC616CP	—	2900	6-16 DC	Chime	3-8	68-80	1.375	20.18	18.74	17.49
854-6573	SC110NP	3	2900	30-120 AC/DC	Pulse	8-28	80-95	1.375	24.63	22.87	21.35
854-6574	SC110NJ	4	2900	30-120 AC/DC	Pulse	8-28	80-95	1.375	24.63	22.87	21.35
854-6501	SC616NP	3	2900	6-16 DC	Pulse	4-16	80-95	.812	17.78	16.51	15.41
854-6512	SC616NJ	4	2900	6-16 DC	Pulse	4-16	80-95	.812	17.78	16.51	15.41
854-6576	SC628ANP	3	2900	6-28 AC/DC	Pulse	8-28	80-95	.1375	24.63	22.87	21.35
854-6508	SC628P*	3	2900	6-28 DC	Pulse	3-14	68-80	1.375	20.15	18.71	17.47
854-6577	SC628J	4	2900	6-28 DC	Pulse	3-14	68-80	1.375	20.15	18.71	17.47
854-6578	SC628K	5	2900	6-28 DC	Pulse	3-14	68-80	1.375	20.15	18.71	17.47
854-6579	SC110Q	—	2900	30-120 AC Only	Chirp	3-12	68-80	.812	12.45	11.56	10.79
854-6519	SC628M	6	2900	6-28 DC	Cont	3-14	68-80	.812	38.42	32.02	26.68
854-6501	SC628MP	3/6	2900	6-28 DC	Pulse	3-14	68-80	1.375	58.02	48.35	40.29
854-6524	SC110HP	3	4500	30-120 AC/DC	Pulse	4-16	68-80	1.937	26.05	24.19	22.57
854-6580	SC250P	3	2900	60-250 AC/DC	Pulse	4-16	68-80	1.937	23.22	21.56	20.12
854-6581	SC628AP	3	2900	6-28 AC/DC	Pulse	4-16	68-80	1.937	24.63	22.87	21.35
854-6582	SC628AJ	4	2900	6-28 AC/DC	Pulse	4-16	68-80	1.937	24.63	22.87	21.35
854-6583	SC110K	5	2900	30-120 AC/DC	Pulse	4-16	68-80	1.937	26.55	24.66	23.01
854-6584	SC307N	—	2900	3-7 DC	Cont	3-8	80-90	.812	15.11	14.03	13.09
854-6585	SC628N	—	2900	6-28 DC	Cont	3-14	80-90	.812	9.55	8.87	8.28
854-6586	SC648AN	—	2900	10-48 AC/DC	Cont	3-8	80-95	1.375	21.42	19.89	18.56
854-6587	SC250D	—	1900	60-250 AC/DC	Cont	4-16	60-75	1.375	18.66	17.33	16.17
854-6588	SC250H	—	4500	60-250 AC/DC	Cont	4-16	68-80	1.375	21.42	19.89	18.56
854-6589	SC416	—	2900	4-16 DC	Cont	3-11	68-80	.812	9.09	8.44	7.88
854-6590	SC648A	—	2900	10-48 AC/DC	Cont	4-16	68-80	1.375	16.52	15.34	14.32
854-6591	SC648AD	—	1900	10-48 AC/DC	Cont	4-16	60-75	1.375	19.74	18.33	17.11
854-6592	SC648AH	—	4500	10-48 AC/DC	Cont	4-16	68-80	1.375	21.42	19.89	18.56
854-6593	SC110E	—	1900	30-120 AC/DC	Cont	3-14	55-65	1.375	19.74	18.33	17.11
854-6594	SC110F	—	2900	30-120 AC/DC	Cont	1-4	55-70	1.375	16.52	15.34	14.32
854-6595	SC250E	—	1900	60-250 AC/DC	Cont	3-14	55-65	1.375	18.66	17.33	16.17
854-6596	SC250F	—	2900	60-250 AC/DC	Cont	1-4	55-70	1.375	16.52	15.34	14.32
854-6566	PW1	7	—	—	—	—	—	.125-.109	.12	—	—
854-6567	PW2	7	—	—	—	—	—	.093-.056	.16	—	—
854-6568	PW3	7	—	—	—	—	—	.053-.031	.18	—	—

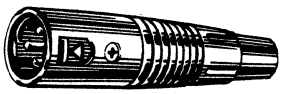
Notes: 1—Wire Leads; 2—Warble Unit for use with SC628 or SC628H; 3—Fast Pulse (2-10 per second); 4—Slow Pulse (.5 to 1.2 per second); 5—Short Pulse; 6—Military Applications; 7—For SNP Series only. *Denotes UL Models



In-Line XLR Cable Connectors



A



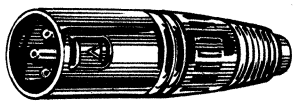
B

C-Series XLR Cable Connectors. Solder or crimp termination. Choice of silver or gold plate on the contacts. Rated 250 VAC, 7.5 Amp. (6 Contact) to 16 Amps (3 Contact).

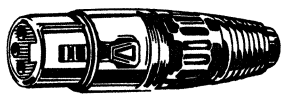
Number of Contacts	Fig.	Type	Stock No.	Mfr.'s Type*	EACH 1-9†	Stock No.	Mfr.'s Type**	EACH 1-9†
3	B	Male	**514-1000**	NC3MC	**3.84**	**514-1008**	NC3MC-B	**5.67**
3	A	Female	**514-1001**	NC3FC	**4.53**	**514-1009**	NC3FC-B	**6.58**
4	B	Male	**514-1002**	NC4MC	**4.30**	**514-1010**	NC4MC-B	**6.11**
4	A	Female	**514-1003**	NC4FC	**5.76**	**514-1011**	NC4FC-B	**8.71**
5	B	Male	**514-1004**	NC5MC	**7.52**	**514-1012**	NC5MC-B	**9.82**
5	A	Female	**514-1005**	NC5FC	**9.44**	**514-1013**	NC5FB-B	**10.97**
6	B	Male	**514-1006**	NC6MC	**8.64**	**514-1014**	NC6MC-B	**11.07**
6	A	Female	**514-1007**	NC6FC	**10.72**	**514-1015**	NC6FC-B	**11.08**

* Satin Nickel Shell; Silver Contacts. ** Black Chrome Shell; Gold Contacts. † Contact an Allied sales office for pricing on larger quantities.

'X' Series Compact XLR Connectors



C



D

A new worldwide accepted standard. These are the SMALLEST XLR Cable Connectors available.

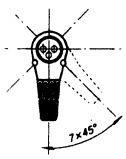
Number of Contacts	Fig.	Type	Stock No.	Mfr.'s Type*	EACH 1-9	Stock No.	Mfr.'s Type**	EACH 1-9
3	D	Male	**514-1016**	NC3MX	**2.98**	**514-1018**	NC3MX-B	**4.14**
3	C	Female	**514-1017**	NC3FX	**3.62**	**514-1019**	NC3FX-B	**4.80**
4	D	Male	**514-1080**	NC4MX	**3.82**	**514-1086**	NC4MX-B	**4.78**
4	C	Female	**514-1081**	NC4FX	**4.78**	**514-1087**	NC4FX-B	**5.60**
5	D	Male	**514-1082**	NC5MX	**5.09**	**514-1088**	NC5MX-B	**5.79**
5	C	Female	**514-1083**	NC5FX	**5.63**	**514-1089**	NC5FX-B	**6.48**
6	D	Male	**514-1084**	NC6MX	**4.96**	**514-1090**	NC6MX-B	**6.10**
6	C	Female	**514-1085**	NC6FX	**6.53**	**514-1093**	NC6FX-B	**7.76**
Model with on-off switch for microphones								
3	C	Female	**514-1092**	NC3FX-S	**9.82**	**514-1095**	NC3FX-S-B	**10.14**

* Satin Nickel Shell; Silver Contacts. ** Black Chrome Shell; Gold Contacts.

Right Angle XLR Cable Connectors

E

F

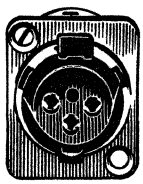


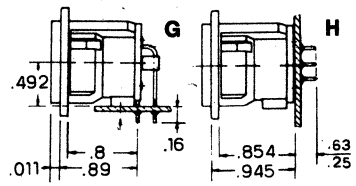
Seven indexing positions for high-density packaging. Self-retentive, release latch lock. Compatible with all XLR connectors.

Number of Contacts	Fig.	Type	Stock No.	Mfr.'s Type*	EACH 1-9†	Stock No.	Mfr.'s Type**	EACH 1-9†
3	F	Male	**514-1020**	NC3MRC	**9.21**	**514-1028**	NC3MRC-B	**9.58**
3	E	Female	**514-1021**	NC3FRC	**9.96**	**514-1029**	NC3FRC-B	**10.42**
4	F	Male	**514-1022**	NC4MRC	**9.28**	**514-1030**	NC4MRC-B	**10.65**
4	E	Female	**514-1023**	NC4FRC	**11.40**	**514-1031**	NC4FRC-B	**12.52**
5	F	Male	**514-1024**	NC5MRC	**13.12**	**514-1032**	NC5MRC-B	**14.00**
5	E	Female	**514-1025**	NC5FRC	**14.48**	**514-1033**	NC5FRC-B	**15.08**
6	F	Male	**514-1026**	NC6MRC	**13.79**	**514-1034**	NC6MRC-B	**15.98**
6	E	Female	**514-1027**	NC6FRC	**16.01**	**514-1035**	NC6FRC-B	**17.64**

* Satin Nickel Shell; Silver Contacts. ** Black Chrome Shell; Gold Contacts. † Contact an Allied sales office for pricing on larger quantities.

'D' Series Compact Panel Receptacles



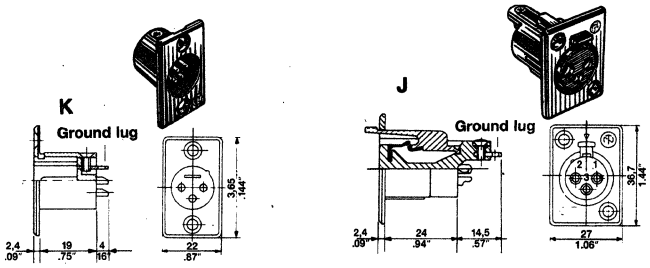


Compact design with common mounting hole for both male and female. Contact assembly removes from rear of housing via turn latch. Housing remains fastened to panel. Front or rear panel mounting. Choose of horizontal or vertical PCB styles.

Mounting	Fig.	Type	Stock No.	Mfr.'s Type*	EACH 1-9†	Stock No.	Mfr.'s Type**	EACH 1-9†
Panel — PCB Rt. Angle	G	Male	**514-1036**	NC3MD-H	**4.06**	**514-1094**	NC3MDH-B	**4.93**
Panel — PCB Rt. Angle	G	Female	**514-1038**	NC3FD-H	**4.05**	**514-1039**	NC3FD-H-B	**5.23**
Panel — PCB Str.	H	Male	**514-1040**	NC3MD-V	**3.84**	**514-1096**	NC3MDU-B	**4.85**
Panel — PCB Str.	H	Female	**514-1042**	NC3FD-V	**3.93**	**514-1097**	NC3FDV-B	**5.84**
Solder Term Str.	H	Male	**514-1044**	NC3MD-L-1	**4.06**	**514-1098**	NC3MDL-B	**5.36**
Solder Term Str.	H	Female	**514-1099**	NC3FD-L-1	**4.31**	**514-1100**	NC3FD-L-B-1	**5.36**
Panel — PCB Rt. Angle	G	Male	—	—	—	**514-1047**	NC3MD-H-BAG-0	**4.40**

* Satin Nickel Shell; Silver Contacts. ** Black Chrome Shell; Gold Contacts. † Contact an Allied sales office for pricing on larger quantities.

Standard Panel Receptacles

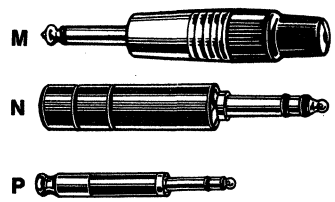


Number of Contacts	Fig.	Type	Stock No.	Mfr.'s Type*	EACH 1-9†	Stock No.	Mfr.'s Type**	EACH 1-9†
3	K	Male	**514-1056**	NC3MP	**3.43**	**514-1064**	NC3MP-B	**3.89**
3	J	Female	**514-1057**	NC3FP-1	**4.47**	**514-1065**	NC3FP-B-1	**5.56**
4	K	Male	**514-1058**	NC4MP	**3.99**	**514-1066**	NC4MP-B	**5.44**
4	J	Female	**514-1059**	NC4FP-1	**6.60**	**514-1067**	NC4FP-B-1	**7.98**
5	K	Male	**514-1060**	NC5MP	**6.99**	**514-1068**	NC5MP-B	**7.87**
5	J	Female	**514-1061**	NC5FP-1	**10.52**	**514-1069**	NC5FP-B-1	**11.00**
6	K	Male	**514-1062**	NC6MP	**8.13**	**514-1070**	NC6MP-B	**9.86**
6	J	Female	**514-1063**	NC6FP-1	**12.40**	**514-1071**	NC6FP-B-1	**14.38**

* Satin Nickel Shell; Silver Contacts. ** Black Chrome Shell; Gold Contacts. † Contact an Allied sales office for pricing on larger quantities.

1/4" Phone Plugs

L

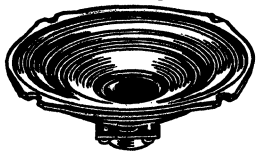


Professional standard Phone Plugs. The shell is one piece machined die-cast zinc. Features the patented check-type strain relief.

Number of Circuits	Fig.	Type	Stock No.	Mfr.'s Type*	EACH 1-9	Stock No.	Mfr.'s Type**	EACH 1-9
2	M	In-Line	**514-1072**	NP2C	**2.80**	**514-1075**	NP2C-BAG	**2.88**
3	M	In-Line	**514-1073**	NP3C	**4.25**	**514-1076**	NP3C-BAG	**4.41**
2	L	Rt. Angle	**514-1074**	NP2RC	**4.93**	**514-1077**	NP2RC-BAG	**5.58**
3	L	Rt. Angle	**514-1101**	NP3RC	**5.44**	**514-1102**	NP3RC-BAG	**5.58**
'Longframe' BPO 1/4"								
3	N	In-Line	**514-1103**	NP3TT-B	**5.96**	**514-1104**	NP3TT-R	**5.96**
'Bantam' 4.4 MM								
3	P	In-Line	**514-1105**	NP3TB-B	**7.68**	**514-1106**	NP3TB-R	**7.68**

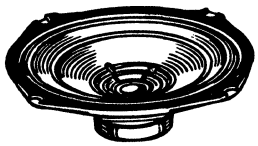
* Satin Nickel. ** Black Chrome

Industrial Loudspeakers



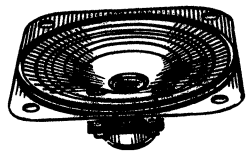
Stock No.	Mfr.'s Type	Size (In.) And Shape	Frequency Response (Hertz)	Power Handling Capacity (Watts)	Voice Coil Imp. (Ohms)	Depth (In.)	Shipping Weight (Lbs.)	EACH
897-1181	30A05Z8	3 SQ	150 Hz to 12K Hz	2	8-10	19/32	1/4	6.20
897-1182	35A05Z8	3 x 5 OV	130 Hz to 14K Hz	2	8-10	1 1/2	1/4	7.13
897-1183	30C25Z8	3" SQ	150 Hz to 14K Hz	5	8-10	13/16	1/2	7.22
897-1184	3A05Z8	3 1/2 SQ	130 Hz to 12K Hz	2	8-10	15/16	1/4	6.39
897-1185	4A1	4 SQ	180 Hz to 12K Hz	3	3-4	1 3/4	3/4	7.13
897-1186	4A178	4 SQ	200 Hz to 12K Hz	3	8-10	1 5/8	3/4	7.13
897-1187	4C3Z80T	4 SQ	130 Hz to 9K Hz	4	8-10	2 3/4	2	9.54
897-1188	4C5Z8	4 SQ	120 Hz to 15K Hz	7	8-10	1 5/8	1	9.26
897-1189	46C3Z8	4 x 6	130 Hz to 10K Hz	6	8-10	1 3/4	1	9.26
897-1190	5C3Z8	5 PC	130 Hz to 14K Hz	5	8-10	1 7/8	1	9.26
897-1191	6C5Z8	6 1/2 PC	70 Hz to 14K Hz	7	8-10	3	1 3/4	10.37

Intercom Speakers



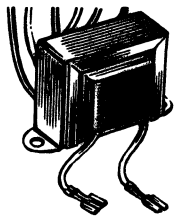
Stock No.	Mfr.'s Type	Size (In.) And Shape	Frequency Response (Hertz)	Power Handling Capacity (Watts)	Voice Coil Imp. (Ohms)	Depth (In.)	Shipping Weight (Lbs.)	EACH
897-1197	30A05Z45	3 SQ	130 Hz to 14K Hz	2	45	13/16	1/4	6.39
897-1198	3A07Z450T	3 1/2	150 Hz to 10K Hz	2 1/2	45	17/16	1/2	7.22
897-1199	4A1Z45	4	180 Hz to 12K Hz	3	45	1 13/1	3/4	6.94
897-1200	8C6Z45	8PC	70 Hz to 12K Hz	12	45	3	2 1/2	13.15

Miniature Speakers



Stock No.	Mfr.'s Type	Size (In.) And Shape	Frequency Response (Hertz)	Power Handling Capacity (Watts)	Voice Coil Imp. (Ohms)	Depth (In.)	Shipping Weight (Lbs.)	EACH
897-1192	2A05Z8	2 RD	300 Hz to 6K Hz	1	8-10	7/8	1/4	6.11
897-1193	2A05Z45	2 RD	300 Hz to 6K Hz	1	45	7/8	1/4	6.39
897-1194	22A05Z8	2 1/4	300 Hz to 10K Hz	1	8-10	1	1/4	6.20
897-1195	25A07Z8	2 1/2 SQ	150 Hz to 12K Hz	1 1/2	8	1 1/4	1/4	6.11
879-1196	25A07Z45	2 1/2 SQ	150 Hz to 12K Hz	1 1/2	45	1 1/4	1/4	6.39

Transformers



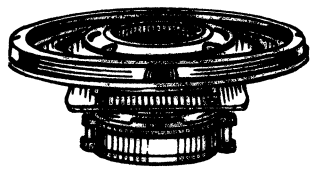
Stock No.	Mfr.'s Type	Power Rating	Primary Volts	Primary Tape	Mounting Centers	Core Size	Secondary Load	Shipping Weight	EACH
897-1207	TBL25	4W	25.0	1/4-1/2-1-2-4W	2"	1/2 x 5/8	8	1/2	6.19
897-1208	TCH25	8W	25.0	1/2-1-2-4-8W	23/8"	5/8 x 5/8	8	1/2	10.83
897-1209	TBL70	4W	70.7	1/4-1/2-1-2-4W	2"	1/2 x 5/8	8	1/2	6.19
897-1210	TCL70	8W	70.7	1/2-1-2-4-8W	23/8"	5/8 x 5/8	8	3/4	7.41

9

Background Music Public Address Speakers

X = Dual cone OT = Outdoor treated FEX = Dual cone, foam edge CO = Coaxial

Stock No.	Mfr.'s Type	Size (In.) And Shape	Frequency Response (Hertz)	Power Handling Capacity (Watts)	Voice Coil Imp. (Ohms)	Depth (In.)	Shipping Weight (Lbs.)	EACH
897-1201	8C5PAX	8 PC	70 Hz to 18K Hz	8	8-10	2 3/4	2	11.76
897-1202	8C6PAX	8 PC	75 Hz to 19K Hz	12	8-10	3	1 1/2	13.43
897-1203	8C10PAOT	8 PC	80 Hz to 8K Hz	12	8	2 7/8	2 1/2	15.09
897-1204	8C10PAX	8 PC	75 Hz to 20K Hz	15	8-10	3	2 3/4	12.96
897-1205	8C10FEX	8 RD	40 Hz to 15K Hz	18	8-10	3 1/8	3	14.72
897-0200	8C10CO	8 RD	65 Hz to 30K Hz	20	8-10	3 1/4	3	24.50
897-1206	12C12PAX	12 RD	50 Hz to 12K Hz	25	8-10	4 1/2	5 1/2	28.24
897-1150	8C20FE	8 RD	40 Hz to 65K Hz	50	8-10	3 3/16	5	26.94
897-1160	10C20FE	10 RD	20 Hz to 35K Hz	50	8-10	4 1/16	4 3/4	32.13
897-0300	12C20CO	12 RD	50 Hz to 30K Hz	75	8-10	5	6 3/4	59.17
897-1170	12C20FE	12 RD	20 Hz to 4K Hz	50	8-10	5 1/8	6 1/4	33.33
897-1180	15C20FE	15 RD	20 Hz to 4K Hz	50	8-10	6	6 3/4	46.30



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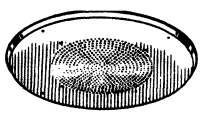
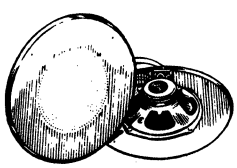


BR8W

Ceiling Baffles

Stock No.	Mfr.'s Type	Type	Speaker Size (In.)	Baffler Diameter	Material	Finish	Ceiling Proj. (In.)	Shipping Weight (Lbs.)	EACH
897-1211	BR8W	One-step contour	8	12 7/8	22-ga. steel (Zincrometal)	White epoxy	3/8	1 1/2	6.57
897-1212	BR8A	One-step contour	8	12 7/8	22-ga. aluminum	Brushed aluminum	3/8	1	8.33
897-1213	BR8WP	One-step contour	8	11 1/2 Square	22-ga. steel (Zincrometal)	White epoxy	1/8	1 1/2	6.30
897-1214	BS8W	Two-step contour	8	12 3/4	White plastic	—	5/16	1	6.02

C5 Series Loudspeaker Assemblies



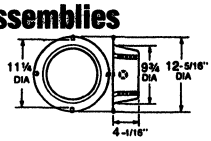
3-piece assemblies: Model 8c5PAX 8" dual cone loudspeaker (with 5oz. ceramic magnet), baffle, and transformer. Completely wired and factory tested. Includes complete hardware for mounting.

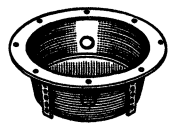
Stock No.	Mfr.'s Type	Baffle Finish	Baffle Diameter	Contour	Transformer Volts	EACH
897-0130	C5/B70/A	Brushed alumn.	12 7/8"	one-step	70	19.26
897-0140	C5/B70/W	White steel	12 7/8"	one-step	70	16.18
897-0150	C5/B70/WP	White plastic	12 3/4"	lvd two-step	70	26.38
897-0110	C5/B25/W	White steel	12 7/8"	one-step	25	16.18
897-0120	C5/B25/WP	White plastic	12 3/4"	lvd two-step	25	18.20
897-0100	C5/B25/A	Brushed alumn.	12 7/8"	one-step	25	19.80

Enclosures For Above Assemblies

Mounting straps, where used, are flexible, perforated steel bands that permit mounting the enclosure in virtually any ceiling.

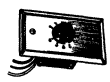
Model ERD-8. Round Backbox.
897-1216.....EACH 7.04





Wall Mount Autotransformer Attenuators

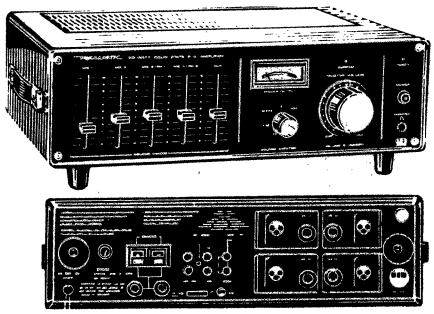
QC-10



QC-45

The Quam wall mount autotransformer controls the output level of a single or group of loudspeakers totaling wattage shown without the high power dissipation of resistive devices. QC-10 offers 10 steps of attenuation. QC-45 has 14 steps plus an 'off' position. Units feature silver-plated switch contact, brushed stainless wall plates.

897-1218. Model QC-10. 10 watt.....**EACH 12.25**
897-1219. Model QC-45. 45 watt.....**EACH 16.50**



100-Watt Amplifier with Anti-Feedback Control

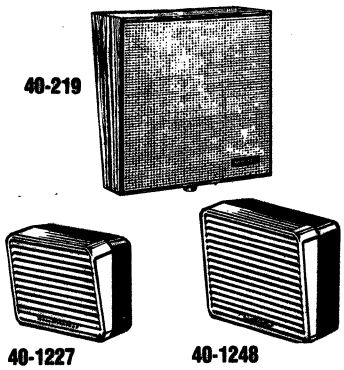
- ► Features 1/4" Mike Jacks and XLR-Type Connectors for Using "Pro" Mikes
- ► Power Meter Monitors Output Level
- ► In/Out Jacks for Equalizer and Reverb
- ► Monitor Overall Mix from Headphones
- ► Mix Bus Jack for Stacking Extra Amps
- ► Spring-Loaded Speaker Terminals
- ► Convenient Cord Storage Posts

Model MPA-90. The performance, portability and power you want in a professional PA amplifier! Perfect for large, spacious auditoriums— great for live bands. Four hi/lo impedance mike inputs, each with aux input and Glide-Path® level controls. Two magnetic phono inputs let you mix and fade two turntables. Anti-feedback control eliminates speaker squeals and howls. Master volume control with memory ring, lighted power meter, LED clipping indicator. Overload protected. Metal Case. U.L. listed. **Specifications. Frequency Response:** 30-20,000 Hz. **Power:** 100 watts rms at 4 ohms. **Outputs:** Mix bus, EQ in/out, quick-connect terminals, two 1/4" jacks for 4 to 16-ohm speakers, 1/4" headphone jack. **Power Requirement:** 120VAC, 60 Hz, 200W. **Size:** 4 3/8 × 12 1/2 × 10 1/2".
910-2120. Type 32-2024 ..... **EACH 199.95**

35-Watt PA Power AMP with Built-In EQ

- ► Remote Priority Override for Easy Paging in Businesses and Warehouses
- ► Three-Band Graphic EQ
- ► Built-In Mixer

Realistic MPA-40. Superb performance at low cost! Three Glide-Path faders control inputs for two mikes and phono/aux. Built-in equalizer for tailoring sound to room acoustics and reducing feedback. Priority terminals permit Channel-1 to override all other channels, really handy for interrupting music for paging or emergencies. Built-in preamp for magnetic cartridge phono. Features master volume control with 'memory ring' for marking desired level, LED power 'on' indicator and ventilated metal case. UL listed AC. **Specifications. Frequency Response:** 70-15,000 Hz + 1/ – 3 dB. **Power:** 35 watts rms at 8 ohms. **Outputs:** 4, 8, 16 ohms; 70 V line; terminals for adding optional SPST switch for remote priority switching. **Power Requirement:** 120VAC, 60 Hz, 120 W. **Size:** 4 1/2 × 10 1/2 × 7 1/2".
910-9014. 32-2032 ..... **EACH 99.95**



Speakers

8" Speaker and Baffle

High quality 8" (203.2mm) speaker, attractively mounted in a sleek walnut, vinyl finished wall mounting baffle. Delivers good sound reproduction without the bother of a separate speaker installation. Completely assembled, including a pre-wired L-pad volume control. 10 3/4 × 10 3/4 × 4 3/4". **Wt.:** 4 lbs. (113.3gms).
910-7111. Type 40-219 ..... **EACH 19.95**

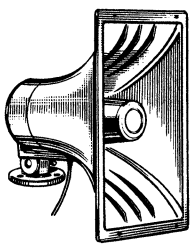
Indoor/Outdoor

Keyhole slots and hardware for easy wall mounting. Moisture-proof. 8 ohms.
4" Speaker. 4 3/4 × 5 1/2 × 3".
910-7090. Type 40-1227 ..... **EACH 11.95**
6 1/2" Speaker. 4 1/4 × 8 1/4 × 3 7/8".
910-2121. Type 40-1248 ..... **EACH 21.95**

Multi-Purpose Powerhorns

These weatherized PA, music and paging speakers are waterproof, dustproof, shockproof and resist rust with years of quality performance, indoors or out. Choose the size that's right for your application, either 4", 5", or 8". All 8 ohms, includes mounting bracket.
8" Horn. 15 watts.
910-2123. Type 40-1239 ..... **EACH 32.95**
5" Horn. 8 watts.
910-7097. Type 40-1236 ..... **EACH 19.95**
4" Horn. 5 watts.
910-2124. Type 40-1244 ..... **EACH 15.95**

Super Powerhorn® Speaker



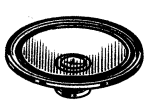
Extra-Wide 275-14,000 Hz Frequency Response

Model 40-1307. High-efficiency design for maximum sound fidelity for speech and music. Engineered for years of reliability. Weatherized molded housing, metal swivel base. 40 watts. SPL: 110 dB (1W/1M). 11 × 6 1/2 × 8 1/2".
910-1307 ..... **EACH 41.95**

Realistic 8" General-Purpose Replacement Speaker

Super-value 8" replacement speaker offers good bass response and fine highs. Has 6-ounce ceramic magnet. Perfect for TV, phono or console use. Impedance 8 ohms. An excellent general-purpose replacement speaker by Realistic, at an extraordinary low price. **Wt.:** 3 lbs.
910-7109. Type 40-1272 ..... **EACH 8.95**

Wide Range Speakers



A

B

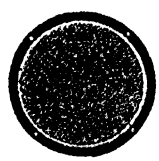
For all kinds of new or replacement use. 8 ohms.

Stock No.	Mfr.'s Type	Fig.	Size	Power Cap. (Watts)	Eff Range (Hz)	Magnet Wt. In. Oz.	EACH
910-0112	40-248	A	3"	2.0	—	0.4	2.79
910-2126	40-246	A	2 1/4"	0.5	—	0.4	2.49
910-2125	40-245	A	2"	0.5	—	0.4	2.19
910-2128	40-1285	B	6" w/Whizzer	20.0	55-12K	9.8	15.95
910-2127	40-1242	—	6"	5.0	90-12K	2.8	5.95

Speaker Grilles

White Enamel

(1) Black 8"



(2) Black 12"

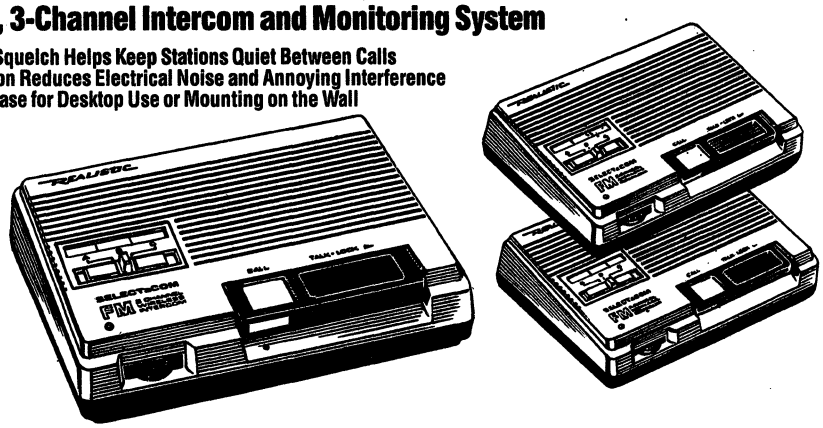
White Enamel Finish
Model 40-1223. For mounting 8" speakers in ceiling. With hardware. Use with model 40-1272 Replacement Speaker, sold this page.
910-2122 ..... **EACH 5.49**
910-1345. (1) Black 8" Round. With mounting screws. 40-1345 ..... **EACH 7.95**
910-1346. (2) Black 12" Round. With mounting screws. 40-1346 ..... **EACH 9.95**

For other Radio Shack Products call your nearest Allied Facility.

Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

3-Station, 3-Channel Intercom and Monitoring System

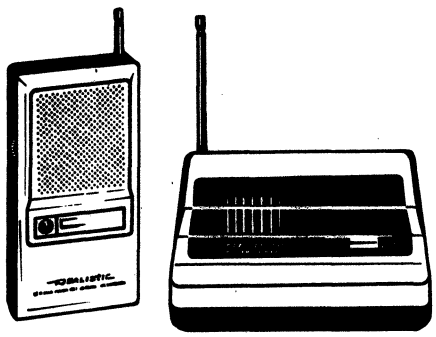
- **Automatic Squelch Helps Keep Stations Quiet Between Calls**
- **FM Operation Reduces Electrical Noise and Annoying Interference**
- **Universal Base for Desktop Use or Mounting on the Wall**



Model 43-218. Plug 'n talk FM wireless intercoms. Three station intercom system for room-to-room communication or continuous monitoring. Enjoy hands-free conversation in the home or office—from kitchen to bedroom, or office to boardroom—wherever you desire. Each station has three channels to select from—talk to one station without disturbing the third. Has call-tone button to signal other stations. Automatic squelch helps to keep the stations quiet between calls. No extra wiring necessary; simply plug into AC outlet at desired locations. The FM operation reduces electrical noise and annoying interference. Each station comes equipped with volume control, locking talk-bar, channel selector, and power-on LED indicator. Designed for desktop use or mounting on the wall. **Dimensions:** $1^{5}/_{8} \times 5^{13}/_{16} \times 4^{1}/_{8}$". U.L. listed. 120VAC.

910-0187. Model 43-218 ..... **3-Station Set/99.95**

Portable FM Cordless Room Monitor



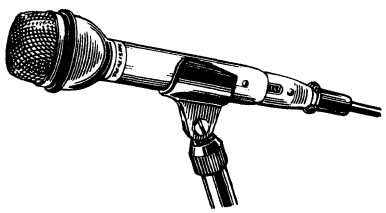
Battery-powered receiver clips to your belt or pocket, or save battery power and use the U.L. listed AC adapter included. Switchable 2-channel operation helps eliminate noise and interference. **Transmitter:** $2 \times 5^{1}/_{4} \times 4^{3}/_{8}$". **Receiver:** $5 \times 2^{1}/_{2} \times 1^{1}/_{8}$"; requires 9V battery for portable operation.

910-9000. 43-202 ..... **EACH 39.95**

Type 43-189. Flexible antenna for handset

910-9001. ..... **EACH 5.49**

Microphones and Accessories

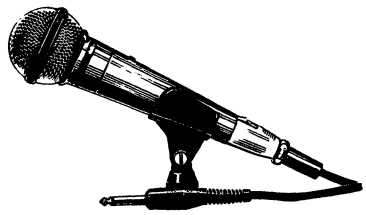


Super Omni Dynamic Mike

Model 33-1070. Wide 40-17,000 Hz ± 3dB response mike is perfect for music recordings or hand-held vocals. Rugged all-metal body with built-in windscreen. Rubber shock ring, XLR-type connector, low impedance (500 ohms) balanced or unbalanced. 16.4" cable with 1/4" phone plug. Includes carry case and stand adapter.

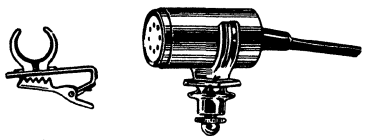
910-0021 ..... **EACH 44.95**

Highball Dynamic Mike



Model 33-984. Rugged, high-performance mike has 80-15,000 Hz response with emphasis on "presence" for clean, articulate, natural sound. Ball windscreen minimizes breath "pops" and rubber anti-shock ring withstands rough handling. Unidirectional pattern helps control unwanted sounds and feedback. On/Off switch. High (10K) and low (600 ohm) impedances with balanced low Z capability. With XLR-type connector, 16' heavy-duty cable, and stand adapter.

910-0017 ..... **EACH 57.95**

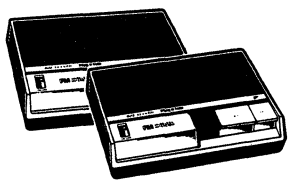


Electret Omnidirectional Tie-Pin Microphone

Model 33-1063. Professional ultra-mini size is ideal for uses when your hands must remain free. Clips to necktie, and the omnidirectional pickup pattern lets you turn your head without loss of audio pickup. Great for TV, interviews, stage work. Wide 30-12,000 Hz frequency response. Impedance, 600 ohms. With 10-foot cord. 1/4" phone plug, mini-plug adapter, battery. **Size:** $^{9}/_{16} \times 1^{1}/_{2}$". 1 lb.

910-8053 ..... **EACH 27.95**

Wireless 2-Station FM Intercom System



Just plug them into AC and talk. Press lighted Talk-bar to speak or lock for hands-free monitoring.

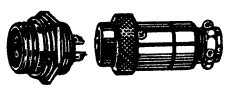
910-0012. 43-212 ..... **PAIR 69.95**

Chassis Mount Socket and Mike Plug

Chassis Mount Socket

Type 274-002. Mates with 4-pin plug.

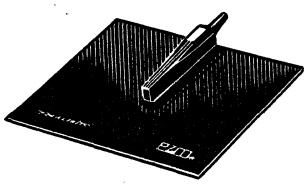
910-2070 ..... **EACH1.29**



Mike Plug

Type 274-001. Many communications uses. Cable strain relief. Solder terminals.

910-2116 ..... **EACH 1.69**

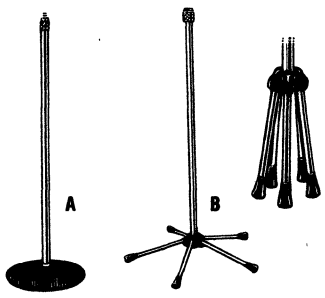


PZM Microphone

- **Eliminates "Echo" Effects Caused by Reflected Sound**
- **Dramatically Increases Clarity and Range**

Radio Shack's Pressure Zone Mike reacts to sound in much the same way as the human ear. Just put the PZM where you hear the best sound and you'll capture it! Provides superior coverage in large rooms and on stages. 20 to 18,000 Hz. 600 ohms. On/standby/off switch lets you go from "standby" to "on" without producing a "pop". Electret element is mounted on a metal plate, $5^{1}/_{2} \times 4^{7}/_{8}$". Includes 18 ft. cord with 1/4" plug. Requires "AA" battery.

910-2119. Model 33-1090 ..... **EACH 49.95**



Portable Folding and Cast-Base Mike Stands

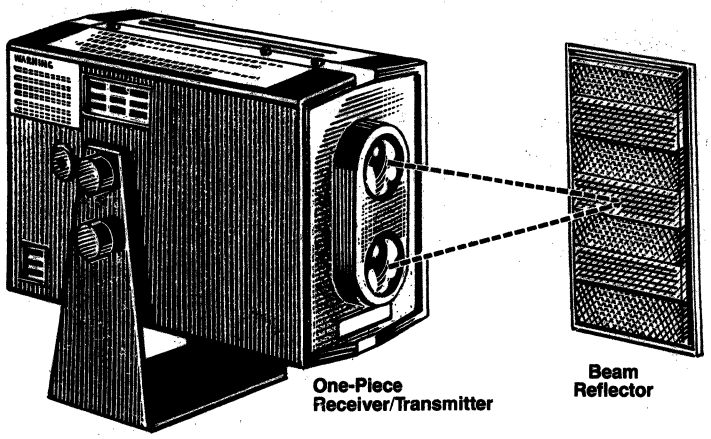
A. Type 33-320. Heavy-duty chromed tube adjusts quickly from 34" to 64". Low-profile black cast-iron base has protective rubber feet. Standard $^{5}/_{8}$"-27 thread.

910-2117 ..... **EACH 19.95**

B. Type 33-325. Ideal for portable PA or recording mikes. Positive action clutch adjusts instantly from 32" to 57". Folding legs with protective rubber feet. Standard $^{5}/_{8}$"-27 thread.

910-2118 ..... **EACH 21.95**

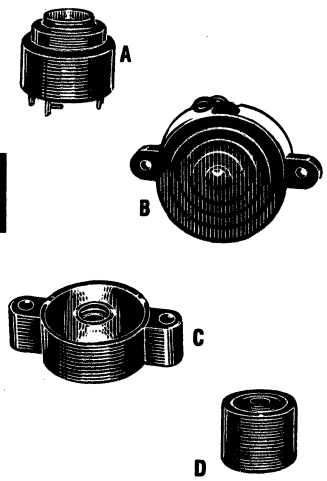
Announcer with Invisible Infrared Pulse Beam



Works as an Announcing System for People Entering a Given Area — Activates Built-in Buzzer When Beam is Broken

Round-the-clock protection at a low price! Shoots a beam of invisible infrared light across a space of up to 50 feet to the reflector, which bounces back. When the beam is interrupted, the alarm is triggered. Alarm can be set to sound momentarily, continuously with manual reset, or sound for ten seconds after beam is broken, then reset. Features LED test alignment indicator and built-in buzzer plus output for connection of optional 12VDC bell or siren. 4 1/8 × 3 × 7 1/4". With adjustable mounting bracket. U.L. listed AC operation.
910-2110. Model 49-307 ..... **EACH 69.95**

Efficient Piezo Buzzers and Elements

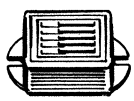


A. Pulsing/Continuous Piezo Buzzer. Great for alarm systems, vehicle backup alerts. May be panel mounted. Three screwdriver terminals, one is common positive. Negative terminals select mode. Approx. 2800 Hz pulsed at 1.2 Hz. **Output:** 90 dB at 12VDC. 4 to 28VDC, only 10mA at 12VDC. Fits 11/16" diameter hole. With threaded mounting ring.
910-2105. Type 273-068 ..... **EACH 7.95**
B. Pulsing Piezo Buzzer. Approx. 2800 Hz. 95 dB. 3 to 28VDC: 12mA at 12 volts. Mounting hole centers 1 15/16" apart.
910-2104. Type 273-066 ..... **EACH 3.99**
C. Pulsing Piezo Buzzer With Leads. Piercing 3.6 kHz signal. 4 to 38VDC. 5mA at 12V. Mounting hole centers 1 3/4" apart.
910-2101. Type 273-060 ..... **EACH 3.29**
D. PC Board-Mount Piezo Buzzer. 3 to 20 VDC. 11/16 × 15/16" dia.
910-2103. Type 273-065 ..... **EACH 2.49**
Fixed-Frequency Piezo Element. Three-wire type. Up to 90 dB at 6.5 kHz. Requires external driver circuit. 1 1/8" mounting centers. With data.
910-2102. Type 273-064 ..... **EACH 1.79**

Buzzers

DC Buzzer in Metal Case

Type 273-051. Low current—ideal for battery circuits. 1 1/2" dia. by 1 3/8". With leads. 12VDC.
910-5245 ..... **EACH 2.19**

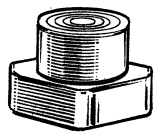


Mini DC Buzzers

Small enough to hide, loud enough to demand attention! 1 1/16" mounting centers. With leads.

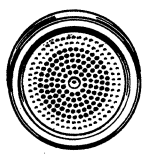
Stock No.	Mfr.'s Type	DC Voltage	EACH
910-2089	273-053	1.5 to 3	2.19
910-2099	273-054	6	2.19
910-2100	273-055	12	2.19

Mini Pulsing Buzzer



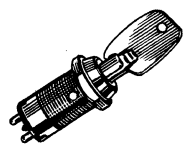
Type 273-058. Extra-loud 80 dB output with 2 Hz pulse rate. Requires 12VDC at 20mA. **Mounting holes:** 1 1/4" apart. 4 3/4" leads.
910-2107 ..... **EACH 3.49**

Two-Sound Indoor Siren

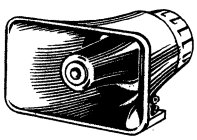


Type 49-490. Super loud steady or rise-fall sound. Ceiling or wall mount. 12VDC, 1/2 amp.
910-2109 ..... **EACH 14.95**

High-Security Round Lock Switch

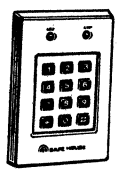


Type 49-511. Key removes in 'on' or 'off'. Two keys.
910-2111 ..... **EACH 9.95**
Type 49-523. As above, but momentary contact.
910-2112 ..... **EACH 9.95**



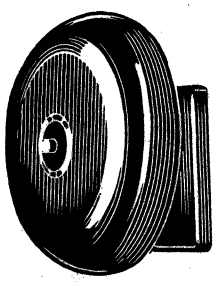
Hi-Power Two-Sound Siren

Type 49-525. Loud rise-fall or steady sound. 1A at 6 to 12VDC. Adjustable base. Weatherproof.
910-2108 ..... **EACH 41.95**



Digital Key Switch

Type 49-535. Secret code arms or disarms system. Red and green LEDs show status. 10,000 combinations you can set. Use as a panic button. Requires 10-16VDC at 70mA. For use with most alarm systems, indoors only.
910-2113 ..... **EACH 22.95**

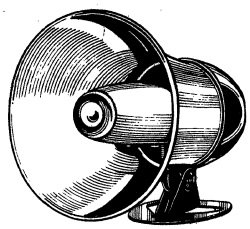


8" Underdome Alarm Bell

- **Ringing Can Be Heard for Blocks**
- **For Burgular and Fire Alarm Systems**
- **Operates on 6 Or 12 VDC**

Type 49-498. Ideal heavy-duty underdome bell has a variety of applications. Can be used in homes, schools, factories, boats, or cars. Produces a loud shrill ringing noise, which really gets attention and can be heard for blocks. Great for burglar or fire alarm systems. For 6 or 12VDC-low current drain. Weatherproof. 8" dia. mounting bracket.
910-5295 ..... **EACH 31.95**

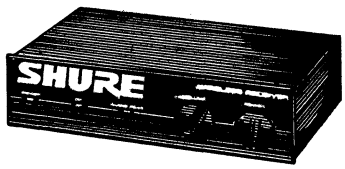
Electronic Whooper

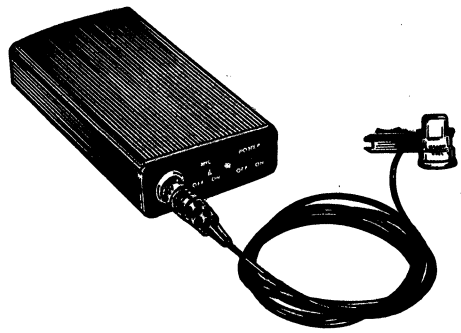


Type 49-488. Produces rousing, repetitive 'yelping' or 'whooping' sound that can be heard for blocks. Similar to that used in police and fire vehicles. Ideal for fire alerts, alarms in schools, businesses, and industrial plants. Can be used indoors and outdoors. It's weatherproof and waterproof. Perfect for boats, cars, homes. Attaches to swivel steel mtg. base. Mounting is quick and easy. Draws less than 750 mA, 12VDC low power drain. Of spun-aluminum construction. Includes hardware and screws. **Size:** 6 × 5 1/4 × 5 1/4" (152.4 × 133.3 × 133.3mm).
910-5265 ..... **EACH 19.95**

Wireless Microphone System LS 13/839

New





L1 Body-Pack Transmitter.
- ► **Extended dynamic range.**
- ► **Precise system compatibility.**
- ► **Rugged durability.**
- ► **Freedom from interference.**
- ► **Noiseless muting.**
- ► **LED status indicator.**
- ► **High power.**

L3 Non-Diversity Receiver.
- ► **Sensitive, interference-free operation.**
- ► **Noise-reduction circuitry.**
- ► **Superior ultimate quieting.**
- ► **Rack-mountable with optional kit.**
- ► **Professional antenna, removable.**

839W Condenser Microphone.

Wide-range frequency response makes it ideal for lavalier/wireless systems.
- ► **Outstanding 'natural' sound.**
- ► **Detachable from transmitter.**
- ► **Inconspicuous.**

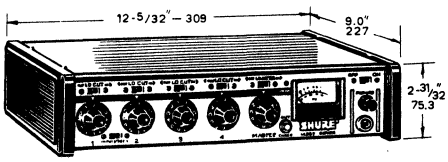
944-3839. Model LS 13/839 ..... **EACH 445.00**

Microphones

Stock No.	Mfr.'s Type	Fig.	Polar Pattern	Description	Frequency Response (Hz)	Load Impedance (Ohms)	Output Level	EACH
944-7700	SM11	A	Omnidirectional	Dynamic Miniature Lavalier or Instrument	50-15,000	150	0.06mV (– 85.0 dB)	**98.00**
944-4830	SM63	B	Omnidirectional	Dynamic Professional Studio	50-20,000	150	0.16mV (– 76.0 dB)	**120.00**
944-4831	SM63L	B	Omnidirectional	Dynamic Professional Studio With Long Handle	50-20,000	150	0.16mV (– 76.0 dB)	**140.00**
944-4825	587SB-LC	C	Cardioid (Unidirectional)	Dynamic Vocal	—	150	0.13mV (– 77.5 dB)	**94.50**
944-4600	570	D	Omnidirectional	General Purpose/Lavalier	50-12,000	150	0.08mV (– 81.5 dB)	**160.50**
944-4826	SM48-LC	E	Cardioid (Unidirectional)	Dynamic Vocal	55-14,000	150	0.13mV (– 77.5 dB)	**120.00**
944-4827	579SB	F	Omnidirectional	Dynamic All Purpose	50-14,000	150	0.13mV (– 78.0 dB)	**88.00**
944-4828	SM57CN	G	Cardioid (Unidirectional)	Dynamic Instrument/Vocal With Cable	40-15,000	150	0.17mV (– 75.5 dB)	**186.50**
944-4829	SM57-LC	G	Cardioid (Unidirectional)	Dynamic Instrument/Vocal	40-15,000	150	0.17mV (– 75.5 dB)	**134.00**
944-4842	520D	H	Omnidirectional	Controlled Magnetic R Harmonica	100-5,000	150/High	0.22mV (– 73.0 dB)/1.6mV(-56.0 dB)	**96.00**
944-4832	SM7	J	Cardioid (Unidirectional)	Dynamic Vocal	40-16,000	150	0.11mV (– 79.0 dB)	**542.00**
944-4833	565D-LC	K	Cardioid (Unidirectional)	Dynamic Vocal	50-15,000	150	0.11mV (– 79.0 dB)	**118.50**
944-4834	565SD-LC	K	Cardioid (Unidirectional)	Dynamic Vocal With On/Off Switch	50-15,000	150/High	0.16mV (– 76.0 dB)/2.0mV (– 54.0 dB)	**121.50**
944-4835	565SD-CN	K	Cardioid (Unidirectional)	Dynamic Vocal With On/Off Switch and Cable	50-15,000	150/High	0.16mV(– 76.0 dB)/2.0mV(– 54.0 dB)	**143.25**
944-4836	SM58-CN	L	Cardioid (Unidirectional)	Dynamic Vocal With Cable	50-15,000	150	0.18mV (– 75.0 dB)	**199.00**
944-4837	SM58-LC	L	Cardioid (Unidirectional)	Dynamic Vocal	50-15,000	150	0.18mV (– 75.0 dB)	**173.00**
944-4838	515SD-LC	M	Cardioid (Unidirectional)	Dynamic All-Purpose, Dual Impedance	80-13,000	150/High	0.08mV (– 82.05 dB)*/1.12mV (– 59.0 dB)	**47.25**
944-4839	515SBG-18	M	Cardioid (Unidirectional)	Dynamic All-Purpose, Gooseneck, Low Impedance	80-13,000	150	0.08mV (– 82.0 dB)	**61.50**
944-4840	545D-LC	N	Cardioid (Unidirectional)	Dynamic All-Purpose	50-15,000	150/High	0.13mV (– 78.0 dB)/1.76mV (– 55.0 dB)	**106.50**
944-4841	545SD-CN	N	Cardioid (Unidirectional)	Dynamic All-Purpose With On/Off Switch and Cable	50-15,000	150/High	0.13mV (– 78.0 dB)/1.76mV(-55.0 dB)	**131.25**
944-4843	SM94-LC	P	Cardioid (Unidirectional)	Condenser Instrument/Recording	40-16,000	150	0.35mV (– 69.0 dB)	**250.00**
944-4844	838	R	Omnidirectional	Condenser Lavilier/Instrument	80-20,000	600	0.22mV(– 73.0 dB)	**115.00**
944-4845	809	S	Omnidirectional	Condenser Surface; Omnidirectional Above Mounting Surface	50-20,000	600	0.4mV (– 68.0 dB)	**200.00**
944-4846	819	S	Unidirectional	Condenser Surface; Half-Cardioid Pattern	60-20,000	600	0.28mV (– 71.0 dB)	**200.00**
944-0546	545SH-LC	—	Cardioid (Unidirectional)	Dynamic All-Purpose, Dual Impedance	50-15,000	150/High	0.13mV (– 78.0 dB)/1.76mV (– 55.0 dB)	**121.50**

* High Z/Low Z

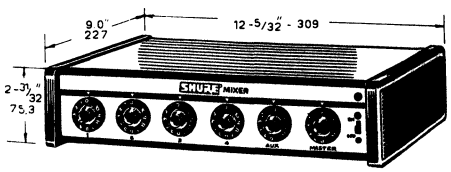
M267 Microphone Mixer



Compact, lightweight professional microphone mixer. Features include peak program limiter, simplex (phantom) power (30 VDC open-circuit 3.3 kilohms series resistance, input switches in MIC position only), built-in battery pack (uses 9V batteries), LED peak indicator, headphone level control, gold contact headphone amp/line switch, automatic muting circuit, active gain controls, electronic power supply regulation, gold contact Mic/Line switches on each XLR supply input/output, battery check function, low distortion (under 0.35% THD from 30 to 20,000 Hz at + 15 dBm output), low noise, front panel headphone jack, gold contact tone oscillator switch, transformer balanced inputs and outputs, mix bus, VU meter, low cut filters, and low RFI and line noise susceptibility. **Specifications. Frequency Response:** ± 2 dB from 30-20,000 Hz. **Operating Voltage:** 120 or 240V, 50/60 Hz, internally switchable. **Dimensions:** 2 31/32 × 12 5/32 × 9″ (75.3 × 309 × 227mm). **Weight:** 5 lbs., 2 oz. (2.3kg). UL Listed, CSA Certified.

944-4870. Model M267 ..... **EACH 475.00**

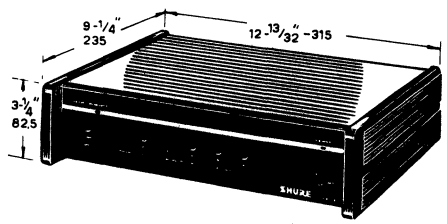
M268 Microphone Mixer



5-channel microphone mixer. Features include mix bus, simplex (phantom) power (30VDC open-circuit, 3.3 kilohms series resistance), automatic muting circuit, active gain controls, electronic power supply regulation, low distortion (under 0.2% THD from 40-20,000 Hz at 18 dBv output), wide gain and dynamic range, low hum and noise, 4 transformer coupled low impedance balanced line microphone inputs, 4 high impedance phone jack input, high level auxiliary input, individual volume controls, and master volume control. Ideal as an add-on unit to the M267 Mixer. **Operating Voltage:** 105-125V, 50/60 Hz. **Dimensions:** 2 31/32 × 12 5/32 × 9″ (75.3 × 309 × 227mm). **Weight:** 4 lbs., 2 oz. (1.9kg). UL Listed, CSA Certified.

944-4871. Model M268 ..... **EACH 257.00**

FP16 Distribution Amplifier



1-input, 6-output self-contained unit. Features include wide-range frequency response (± 2dB from 30-20,000 Hz), low noise and hum (output is -75 dBv), low distortion (under 0.40% THD from 30-20,000 HZ at + 15 dBm output), transformer-coupled input/outputs, phantom power (30VDC nominal, 3.3k series resistance) at input for condenser microphones, and link input/output jacks. All inputs/outputs are individually switchable to microphone or line level. **Operating Voltage:** AC 120 or 240 VAC, 50/60 Hz; DC 3 internal 9V batteries. **Dimensions:** 3 1/4 × 12-13/32 × 9 1/4″ (82.5 × 315 × 235mm). **Weight:** 6 lbs. 1 oz., (2.75kg).

944-4868. Model FP16 ..... **EACH 456.00**

PA Amplifier

PAT-120. Output Power: 120 Watts Music Power, 50 Watts RMS @ 5% THD. **Frequency Response:** 50-20,000 Hz. **Output Impedance:** 4, 8, 16 Ohms, 25 and 70 Volt Line. **Power Source:** 117 V AC 50/60 Hz, 220/240 V AC. **Inputs:** Mic-2, (LO-Z) 2 mV/600 Ohms, Mic-3, Mic-4 (HI-Z) 2 mV/50K Ohms, Aux-1 200 mV/100K Ohms, Aux-2 200 mV/100K Ohms. **Controls:** Mic-1, Mic-2, Mic-3, Mic-4, Volume (Master), Bass, Treble, Aux, On/Off Power. **Size:** 5½" (H) × 17" (W) × 14" (D). **Weight:** 22 lbs. **Features:** 117 V AC or 220 V AC applications, headphone jack for monitoring, fused AC line, fused output protection, inputs for microphones-tuners-phonos-tape decks-etc., very attractive silver panel with black accents, dark grey cabinet, output impedances for all applications and installations.
958-0120. PAT-120 ..... **EACH 399.95**

Wall Mount Line Alternators

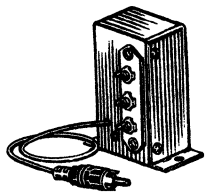
Model WAT-10. 10 Watt, 10-Step Speaker Line Alternator, Single gang plate mounting alternator for 25 V and 70 V line transformer.
958-8037. 1-24 ..... **EACH 17.45**
25-Up ..... **EACH 14.45**

Model WAT-35. 35 Watt, 10-Step Speaker Line Alternator. Dual gang plate mounting alternator for both 25 V and 70 V line transformers.
958-8038. 1-24 ..... **EACH 22.95**
25-Up ..... **EACH 18.90**

Amplified Extension Speaker

Model AES-4. Amplified Communications Speaker. An economical extension speaker with 10 Watts of amplified power. Ideal for mobile or base 2-way. ABS plastic enclosure with soft-padded grille and all-angle swivel bracket. Includes 10' cord and 3.5 mm mini plug. **Specifications. Voltage:** 12 VDC. **Input Impedance:** 4 to 80. **Wattage:** 10 W amplified.
958-8036 ..... **EACH 48.28**

TLT-1 Input Matching Transformer



Input Matching Transformer to connect telephone systems to aux. input of SPECO Public Address Amplifiers for telephone paging. It also allows you, when used with the SPECO PAFM-45, to put a "Music on Hold System" to your telephone system. Resistance ohms 500/600 (line). It can be used with any 25 volt terminal of P.A. Amplifier.
958-0010 ..... **EACH 19.95**

Ready-to-Install, Quality 8" Speakers

G810CPP 25-Watt, 10-oz. Magnet
- **Weatherproof 8"**
- **Polypropylene**
- **With 3" Tweeter**
- **Air Suspension Coaxial**

Model G8CF6W. 10 Watt Dual-Cone, Full-Range Speaker. Ideal for office music systems and paging. Ready for transformer installation (pre-drilled). **Specifications. Frequency Response:** 85-15,000 Hz. **Magnet Weight:** (ceramic) 6 oz. **Power:** 10 W max. **Voice Coil:** 1" high-temp. **Impedance:** 8 ohms. Good performance at an economical price.
958-8041. 1-19 ..... **EACH 11.95** **20-Up** ..... **EACH 9.95**

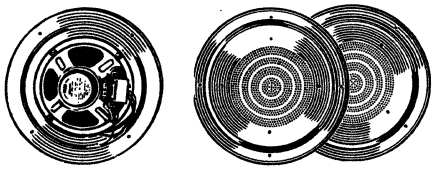
Model G810CPP. 25 Watt Weatherproof, Coaxial, Air-Suspension, High-Compliance Speaker. Superior performing polypropylene speaker for outdoor or high-humidity applications. Has 3" tweeter. Pre-drilled for easy line transformer installation. **Specifications. Frequency Response:** 50-50,000 Hz. **Magnet Weight:** (ceramic) 10 oz. **Power:** 25 W max. **Voice Coil:** 1" high-temp. **Impedance:** 8 ohms.
958-8043. 1-19 ..... **EACH 24.75** **20-Up** ..... **EACH 21.95**

Model G8CA10W. 10 Watt Air-Suspension, High-Compliance Speaker. Built to deliver continuous dependability in sound installations. **Specifications. Resonance Frequence:** 108 Hz. **Frequency:** 50-15,000 Hz. **Magnet Weight:** (ceramic) 10 oz. **Power:** 10 W max. **Voice Coil:** 1" high-temp. **Impedance:** 8 ohms.
958-1020. 1-19 ..... **EACH 15.95** **20-Up** ..... **EACH 13.95**

Model G8CA10C. 15 Watt Moaxial, 2-Way, Air-Suspension, High-Compliance Speaker. High-quality for Hi-Fi installations. Has 3" tweeter and capacitor crossover. **Specifications. Frequency Response:** 50-15,000 Hz. **Magnet Weight:** (ceramic) 10 oz. **Power:** 15W max. **Voice Coil:** 1" high-temp. **Impedance:** 8 ohms.
958-8039. 1-19 ..... **EACH 19.95** **20-Up** ..... **EACH 17.60**

Model G8CA20C. 40-Watt Coaxial, 2-Way, Air Suspension, High-Compliance Speaker. Suitable for heavy-duty Hi-Fi applications requiring superior performance. Has 3" tweeter and capacitor crossover. **Specifications. Frequency Response:** 50-18,000 Hz. **Magnet Weight:** (ceramic) 20 oz. **Power:** 40 W max. **Voice Coil:** 1" high-temp. **Impedance:** 8 ohms. A good system speaker for build-in entertainment installations.
958-8040. 1-19 ..... **EACH 26.50** **20-Up** ..... **EACH 22.95**

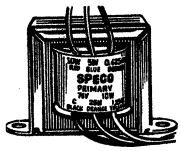
8" Speaker and 12" Speaker Grilles



Model G12W. White round metal grille. Fits within 12" ceiling tile for an attractive flush-mount speaker assembly. Fits 8" speaker. Dispersed concentric perforation pattern. All mounting hardware furnished.
958-8017. 1-9 ..... **EACH 5.75**
10-24 ..... **EACH 6.30** **25-Up** ..... **EACH 4.60**

Model G86FT70GW. 8" speaker with 70-volt watt 5-tap line transformer mounted and wired. Ready for mounting in ceiling installations using G12W white grille. Dual cone 8 ohm speaker with 6 oz. ceramic magnet. Has 70 V, 10 W transformer, 1" voice coil. 15-15,000 Hz.
958-8018. 1-9 ..... **EACH 24.60**
10-24 ..... **EACH 22.40** **25-Up** ..... **EACH 17.95**

10-Watt 70-Volt Line Transformer with Color-Coded Leads

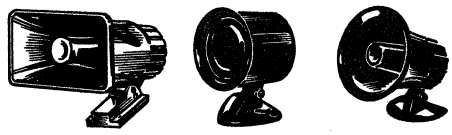


Type 17010. 10-watt primary. Taps at 10, 5, 2.5, 1.25 and .62 watts. **Secondary impedance:** 4 or 8 ohms. For driving speakers at various power levels from the same 70-volt line, simply charge the transformer taps to achieve the power level you desire. **Size:** 1.6 × 1.6 × 1.0". **Shipping weight:** 1½ lbs.
958-0013 ..... **EACH 5.75**

Deluxe Megaphone with Siren

Model ER-370. 16 Watt Megaphone/Siren. Efficient solid-state amplifier for a maximum effective range of 800'. Built-in, switch selectable electronic alarm siren. Pistol grip with trigger press-to-talk switch. Convenient volume control and shoulder strap. Durable weatherproof construction. Uses 6 "C" cell batteries (not included). **Size:** 7⅞ × 13⅞"; 3 lbs.
958-8009. 1-5 ..... **EACH 124.95**
6-Up ..... **EACH 96.50**

Alarm Sirens



SA-15RP **SA-3P** **SA-5P**

Model SA-15RP. 5 × 8", 30 Watt DC Siren. Made of weatherproof ABS plastic. Tamperproof, concealed cable. Dual tone—warbling and steady; 120 dB. Operates on 6 to 12 VDC.
958-8010. 1-5 ..... **EACH 38.50** **6-Up** ..... **EACH 34.50**

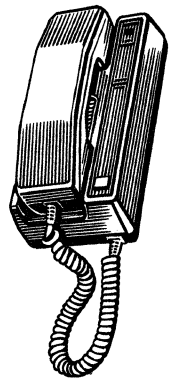
Model SA-3P. 3", 15 Watt DC Siren. Electronic Piezo type—provides warbling tone; 120 dB. Black all-weather ABS plastic. Concealed cable. Operates on 6 to 12 VDC.
958-8011. 1-5 ..... **EACH 14.95** **6-Up** ..... **EACH 12.95**

Model SA-5P. 5", 20 Watt DC Siren. Provides sharp, loud warbling tone; 115 dB. Black weatherproof ABS plastic with horn design. Operates on 6 to 12 VDC.
958-8012. 1-5 ..... **EACH 15.95** **6-Up** ..... **EACH 13.95**

Communications Extension Speaker

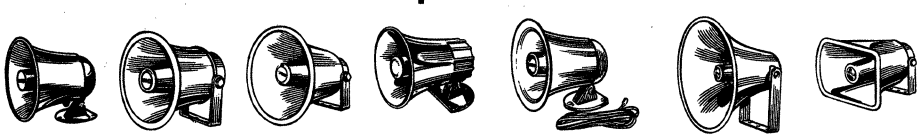
Model CBS-240. 4", 5 Watt 8 Ohms, enclosed extension voice communication speaker. Multi-angle 180° mounting bracket; 10' cord and 3.5 mm mini plug. ABS plastic enclosure.
958-7090 ..... **EACH 13.95**

FMTD Telephone Type FM Wireless Interphone



Model FMTD. FM wireless interphone with built-in paging feature. Allows full duplex-simultaneous conversation. Just plug into AC outlet. Ideal in home, office, factory, hospital, restaurant, school, store, etc. Specially designed interference rejecting circuitry reduces noise on line. "Hang-Up" style receiver/mike provides full privacy in conversation. Use on desk top or wall mounted (bracket included). Operates on 110-115 VAC, 50 to 60 Hz standard AC line. UL listed.
958-8014. 1-5 ..... **PER PAIR 99.95**
6-Up ..... **PER PAIR 85.64**

ABS Plastic and Aluminum Series Speakers



SPC-8 **SPC-10** **SPC-15** **SPC-6P** **SPC-5P** **SPC-30** **SPC-15R**

All the SPC-series aluminum and ABS plastic PA speakers are fully weatherproof and of rugged design to assure durability. All are furnished with hookup wires and mounting bracket. The SPC-10 is also available in 4 Ohms (SPC-10/4) at the same prices shown below. Frequency response and sensitivity may vary slightly with each individual speaker.

Model SPC-8. 5" Aluminum Weatherproof PA Speaker. **Specifications. Frequency Response:** 30-15,000 Hz. **Power Rating:** 12 W Nom. 15 W Max. **Sensitivity:** 105 dB/1 W/1 M. **Impedance:** 8 ohms. **Size:** 5 × 5".
958-8005. 1-5 ..... **EACH 14.95**
6-Up ..... **EACH 11.89**

Model SPC-10. 6" Aluminum Weatherproof PA Speaker. **Specifications. Frequency Response:** 250-15,000 Hz. **Power Rating:** 10 W Nom. 15 W Max. **Sensitivity:** 105 dB/1 W/1 M. **Impedance:** 8 Ohms. **Size:** 6 × 6".
958-7098. 1-5 ..... **EACH 28.95**
6-Up ..... **EACH 24.95**

Model SPC-15. 8" Aluminum Weatherproof PA Speaker. **Specifications. Frequency Response:** 200-15,000 Hz. **Power Rating:** 15 W Nom. 25 W Max. **Sensitivity:** 110 dB/1 W/1 M. **Impedance:** 8 Ohms. **Size:** 8 × 8".
958-8006. 1-5 ..... **EACH 34.95**
6-Up ..... **EACH 29.95**

Model SPC-6P. 5" White ABS Weatherproof PA Speaker. **Specifications. Frequency Response:** 300-15,000 Hz. **Power Rating:** 15 W Max. **Sensitivity:** 105 dB/1 W/1 M. **Impedance:** 8 Ohms. **Size:** 5¼ × 6".
958-8015. 1-5 ..... **EACH 13.95**
6-Up ..... **EACH 11.20**

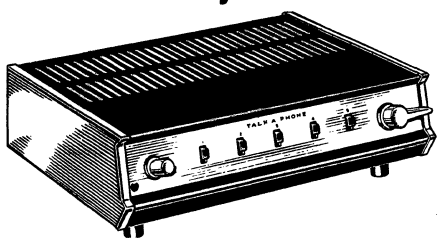
Model SPC-5P. 5" White ABS Indoor/Outdoor PA Speaker with 10' cord and mini plug and stainless steel hardware. **Specifications. Frequency Response:** 300-15,000 Hz. **Power Rating:** 8 W Nom. 12 W Max. **Sensitivity:** 105 dB/1 W/1 M. **Impedance:** 8 Ohms. **Size:** 5 × 5".
958-7097. 1-5 ..... **EACH 13.95**
6-Up ..... **EACH 11.20**

Model SPC-30. 15" Aluminum Weatherproof PA Speaker. **Specifications. Frequency Response:** 130-15,000 Hz. **Power Rating:** 40 W Nom. 75 W Max. **Sensitivity:** 120 dB/1 W/1 M. **Impedance:** 8 Ohms. **Size:** 15 × 13".
958-8007. 1-5 ..... **EACH 87.95**
6-Up ..... **EACH 68.50**

Model SPC-15R. 5 × 8" Aluminum Weatherproof PA Speaker. **Specifications. Frequency Response:** 200-15,000 Hz. **Power Rating:** 15 W Nom. 25 W Max. **Sensitivity:** 110 dB/1 W/1 M. **Impedance** 8 Ohms. **Size:** 5 × 8 × 8".
958-8008. 1-5 ..... **EACH 36.95**
6-Up ..... **EACH 28.50**

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

Deluxe Intercom Systems



All Master System. Allows several separate conversations without interference. Complete privacy. Stations can be located up to 1000′ apart. Operates on 110-120 Volts AC-DC. Instructions included. Transistorized. **Finish:** Charcoal Gray and brushed chrome. Size: 10 1/2 × 8 3/4 × 3 1/8″; 7 lbs.

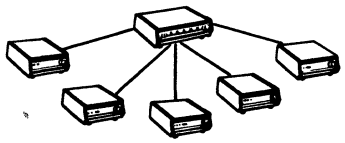
Model K-LS-5. For 5 stations.
734-1025 ..... **EACH 161.00**

Model K-LS-10. For 10 stations.
734-1030 ..... **EACH 194.00**

Hi-Volume Master. Same as the All Master System but with 10 times the volume output. 120 VAC. Can't be intermixed with other Masters.

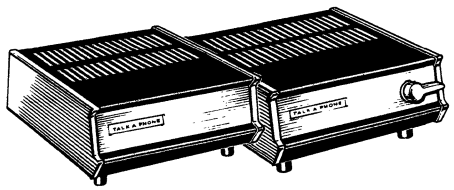
Model K-AC-505. 5 stations.
734-1075 ..... **EACH 199.00**

Interconnecting Cable



Type 5506. 6-conductor. For K-LS-5 or K-AC-505.
734-1080. Per foot ..... **EACH .21**

Type 9911. 11-conductor. For K-LS-10.
734-1085. Per foot ..... **EACH .38**



2-Station System. Master Station (10 1/2 × 8 3/4 × 3 1/8″) and substation (7 1/2 × 8 3/4 × 2 7/8″) with 50′ cable. Transistorized. For 110-120 Volts AC-DC. **Shipping Weight:** 12 lbs.

Model K-LC-2-System.
734-1035 ..... **EACH 168.50**

Type 6303. 3-conductor shielded cable.
734-1045. Per foot ..... **EACH .10**

Master Selective Station. One Master station and one to ten substations. Master plugs into electrical outlet. Transistorized. For 110-120 Volts AC-DC. Operates on 120 Volts, AC only. **Size:** Master 10 1/2 × 8 3/4 × 3 1/8″ 7 lbs; Substations 7 1/2 × 8 3/4 × 2 7/8″, 4 1/2 lbs. **NOTE:** Only one Master can be used in each system.

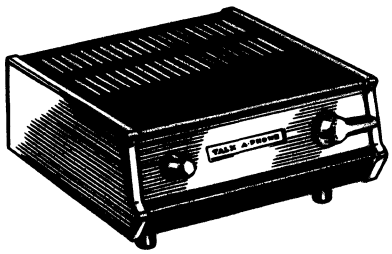
Model K-ML-5. Master for up to 5 substations.
734-1105 ..... **EACH 161.00**

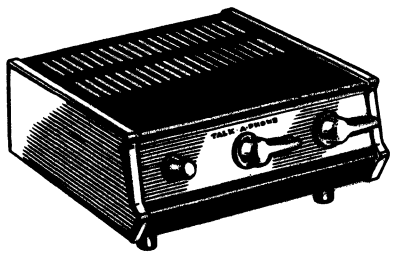
Model K-ML-10. Master for up to 10 substations.
734-1190 ..... **EACH 194.00**

Model K-LR-3M. Substation.
734-1110 ..... **EACH 56.20**

Model K-LR-3W. Substation for flush wall mounting. Hermetically sealed push-button origination switch. Indoor/Outdoor. **Wall Opening:** 4 1/8 × 6 1/2 × 2″. Stainless steel front panel measures 4 13/16 × 7 3/16″.
734-1185. ..... **EACH 67.40**

Combination Systems





For using 1 or more Masters. Substations need not originate cells. Master to Master, and Master to Sub communication, as well as Master to one or more substations. Instructions included. Transistorized. Masters operate on 110-120 Volts AC-DC electrical current. **Size:** Master—10 1/2 × 8 3/4 × 3 1/8″, 7 lbs.; Sub—7 1/2 × 8 3/4 × 2 7/8″, 5 lbs.

Model K-CL-5. Master for 5 stations.
734-1090 ..... **EACH 186.00**

Model K-CL-10. Master for 10 stations.
734-1095 ..... **EACH 229.00**

Model K-LR-2. Substation in matching finish.
734-1100 ..... **EACH 67.00**

Model K-LR-2M. Substation; ingrained baked enamel finish.
734-1050 ..... **EACH 52.50**

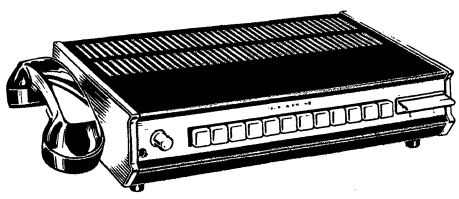
Model K-LR-2R. Substation for flush wall mounting.
734-1055 ..... **EACH 52.50**

Type 6210. 5-pair cable for K-CL-5.
734-1060. Per foot ..... **EACH .35**

Type 6226. 13-pair cable for K-CL-10.
734-1065. Per foot ..... **EACH .85**

Type 6202. 1-pair cable for substations; overall jacket. For KLR-2, KLR-2M, KLR-2R.
734-1070. Per foot ..... **EACH .09**

Chief Master Station

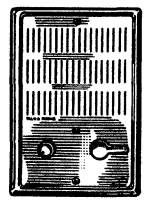


Model K-C-4906. 6 stations, full intermix of masters and remotes. Master to Master communication and to Staff stations. Staff can reply to all Masters; call one or two private Masters. No AC power needed for Staff stations. All stations can override busy signal. Masters operate on 120 VAC. Built-in power supply. **Master Size:** 14 1/2 × 3 1/8 × 8 1/2″. **Shipping Weight:** 15 lbs. UL Listed.

Model K-C-4906
734-1000 ..... **EACH 282.00**

Model K-C-4912. 12 station capacity.
734-1180 ..... **EACH 317.00**

Chief Staff Stations



Model K-C-42. Staff originates call to 2 Masters. Gray leatherette and brushed chrome. 7 1/2 × 8 3/4 × 2 7/8″; 5 lbs.
734-1010 ..... **EACH 104.00**

Model K-C-41R. Originates to 1 Master. Gray leatherette and brushed chrome. For flush wall mounting. **Wall Opening:** 4 1/8 × 6 1/2 × 2″. Stainless steel front panel measures 4 13/16 × 7 3/16″. **Weight:** 5 lbs.
734-1020 ..... **EACH 71.50**

Model K-C-41. Originates calls to 1 Master. Gray leatherette and brushed chrome. 7 1/2 × 8 3/4 × 2 7/8″; 5 lbs.
734-1005 ..... **EACH 83.00**

Staff stations may be connected privately or nonprivately. Does not require electrical outlets.

Additional Accessories For Combination, Chief, and Master Selective Systems

Model K-HP-3. Hi-power staff station for wallmounting. 2 times the volume of standard substations. Charcoal gray metal case. 9 lbs.
734-1135 ..... **EACH 68.50**

Model K-HP-3V. Same as K-HP-3 with added feature of built-in volume control.
734-1140 ..... **EACH 81.00**

Model K-C-20. 9″ weather re-entrant horn. Charcoal gray. Over 4 times the volume of standard substations.
734-1145 ..... **EACH 88.00**

Model K-C-20V. Same as K-C-20 but with added feature of built-in weather resistant volume control.
734-1150 ..... **EACH 107.50**

Model K-S-100. Wall switch for call origination through K-C-20 or K-HP-3 with Master Selective System.
734-1155 ..... **EACH 19.79**

Model K-LR-3R. Substation for flush wall mounting in Master Selective System.
734-1160 ..... **EACH 56.20**

Model K-SM-L. Surface mounting accessory for K-LR-3R, K-LR-3W, or K-C-41R.
734-1165 ..... **EACH 16.30**

Model K-SM. Surface mounting accessory for K-LR-2R.
734-1195 ..... **EACH 14.40**

Type 6303. 3-conductor shielded cable.
734-1175. Per foot ..... **EACH .10**

Cable and Accessories For Chief Series

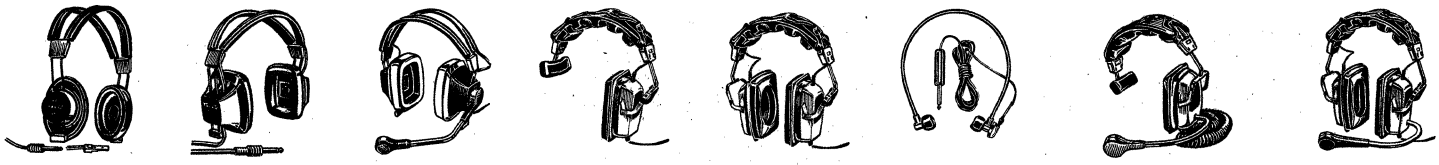
Type 6202. 3-pair cable for connecting K-C-20, K-C-41, K-C-42, and K-HP-3 with call originating.
734-1115. Per foot ..... **EACH .18**

Type 6214. 7-pair cable to interconnecting K-C-4906 Masters.
734-1120. Per foot ..... **EACH .38**

Type 6226. 13-pair cable for interconnecting K-C-4912 Masters.
734-1065. Per foot ..... **EACH .85**

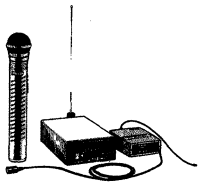
Model K-W-1. Wall mounting brackets for K-C-41 and K-C-42.
734-1130. Per pair ..... **EACH 1.50**

Headsets



A B C D E F G H

Stock No.	Mfr.'s Type	Fig.	Description	EACH
969-3100	610-1	A	Dual-Sided, Magnetic Mono	12.50
969-3000	510-1	B	Dual-Sided, 600 Ohms, Dynamic Mono	14.50
969-2100	500-1	C	Dual-Sided, 130 Ohms, Dynamic Mono	50.75
969-2030	PH-11	D	Single-Sided, Monaural	71.50
969-0400	PH-7	E	Dual-Sided,Monaural	105.00
969-2040	HFR-91	F	Under-the-Chin Style, Monaural	23.00
969-0300	PH-78	G	Single Muff, 50 Ohm Carbon Mic	120.00
969-0200	PH-75	G	Single Muff, 150 Ohm Noise Cancelling Dynamic Microphones	120.00
969-0600	PH-45	H	Dual Muff, Dynamic Microphone	131.25

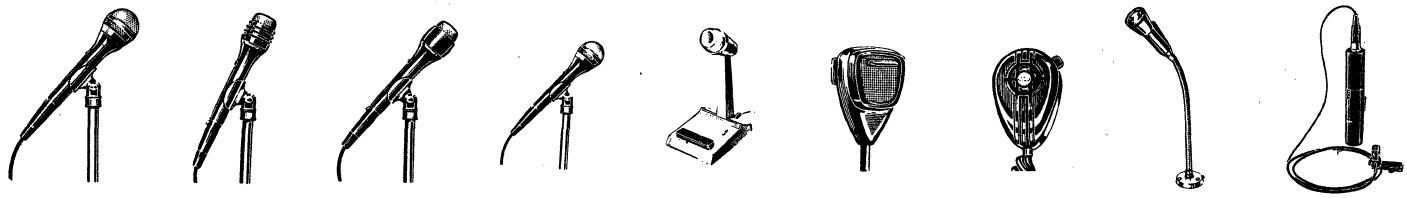


FMR-25 Wireless Microphone System

FMR-25 system includes Model HT-100/10 handheld mic/transmitter, Model FMR-25 single antenna receiver, Model WT-25 beltpack transmitter with attached condenser lapel microphone. The FMR-25 is rugged, compact and rack mountable. System is AC/DC so it can be remotely powered by a DC power pack. Model HT-100/10 features power switch, mic mute switch, internal compander switch and battery condition light. WT-25 beltpack transmitter has wired-in microphone with mic mute. FMR-25 receiver features multiple system operation, single antenna with 500 feet system range. 4 stock frequencies available (171.905, 171.045, 170.245, 169.505) 9 volt battery required on HT100/10. Specify frequency when ordering.

969Q5000. Model FMR-25 System ..... **EACH 600.00**

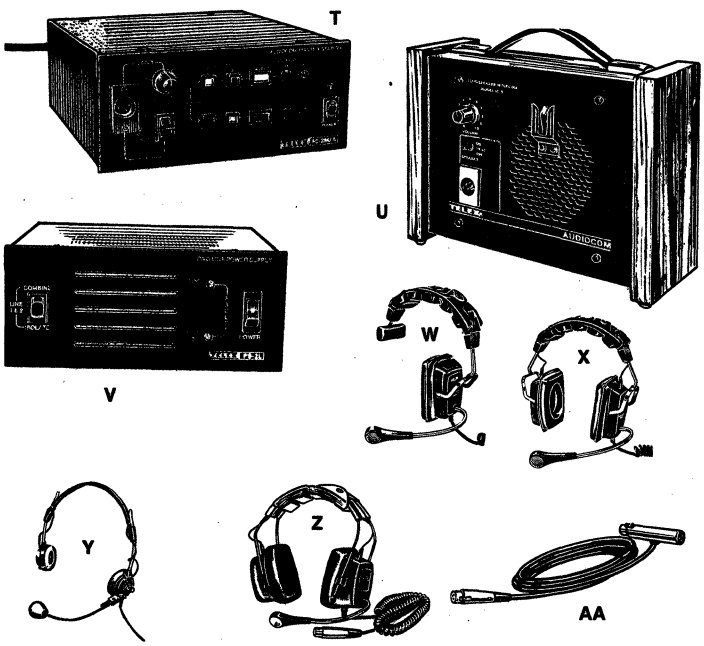
Professional Microphones



J K L M N O P R S

Stock No.	Mfr.'s Type	Fig.	Description	Frequency Response (Hz)	EACH
969-1040	TD-11	J	Dynamic Cardioid (Unidirectional)	50-16000	163.00
969-1045	TD-13	K	Dynamic Cordioid (Unidirectional)	50-16000	168.00
969-1050	TD-14	L	Dynamic Omnidirectional	50-15000	90.00
969-1055	TE-10	M	Condenser Cardioid (Unidirectional)	30-20000	135.00
969-1065	752	N	Dynamic Cardioid Desk-Top	60-10000	160.00
969-1070	NC450D	O	Dynamic Low-Impedance, Noise-Cancelling	100-8000	54.00
969-1075	350D	P	Dynamic Low-Impedance	100-8000	42.00
969-1080	SR785L/NO	R	Dynamic Gooseneck	100-10000	70.00
969-1120	LM-300	S	Lapel Microphone System Consists of WLM-60 Miniature Cardioid Mic, and PS-10 In-Line Power Supply	—	220.00
—	—	—	—	—	—

Intercom Systems



T

T IC-2MAX Master Station. A two channel master station with full duplex audio system for simultaneous talk and receive functions. Interrupt feedback button allows live broadcast cueing during on-air program monitoring. Includes 20 KHz light signaling and built-in power supply.

969-1105. Model IC-2MAX ..... **EACH 665.00**

U

U IC-S/LS Single-Channel Portable Speaker Station. 2 Watt speakers for paging or 2-way communication. Hooks up with microphone, handsets, or headsets. Features include volume control, automatic mute, and selection switch for On, Off, or dB attenuation. Comes with male connectors (XLR-4M) and microphone hanging bracket, and both male and female intercom line connectors (XLR-3 type) for "daisy chaining". Operates on power from intercom system line or separate power supply.

969-4040. Model IC-S/LS ..... **EACH 350.00**

V

V PS-2L. Audiocom Power Supply. Two line power supply powers up to 100 belt-pack headset stations per line, enabling isolated or "party line" communications. Includes short circuit and overload LED for each line.

969-1110. Model PS-2L ..... **EACH 335.00**

W

W PH-1 Headset. Single-sided. Dynamic, monaural earphone — foam-filled, polyurethane covering. Dynamic microphone attached to adjustable ball joint boom. Coil cord, female (XLR-4 type) plug.

969-1015. Model PH-1 ..... **EACH 120.00**

X

X PH-2 Headset. Dual muff. Circummuaral foam ear cushions. Dynamic monaural earphones, dynamic microphone on ball joint boom. Coil cord, female (XLR-4 type) plug.

969-1020. Model PH-2 ..... **EACH 147.00**

Y

Y PH-4 Headset. Lightweight, dual-sided. Monaural dynamic earphones. Condensor microphone on pliable boom. Straight cord, female (XLR-4 type) plug.

969-1025. Model PH-4 ..... **EACH 150.00**

Z

Z HD-3A Headset. High noise attenuating dual muff dynamic headset.

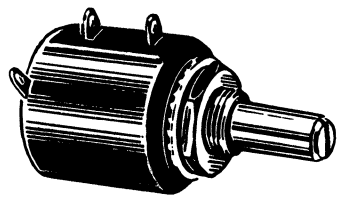
969-1115. Model HD-3A ..... **EACH 157.00**

AA

AA ME-25 Cable. For intercom connections between portable and flush mount stations. 25' (7.6m), black. Male and female (XLR-3 type) connectors.

969-1030. Model ME-25 ..... **EACH 42.00**

MW22-10 Turn or 3 Turn Pots (2 Watts)



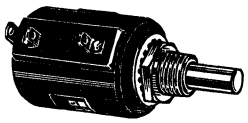
1,000,000 turns life, 2 watts, 7/8" diameter × 3/4" long. Features extremely smooth rotation, long life. **Resistance range:** 100 ohms to 100 K ohms— ± 5%. **Independent Linearity:** ± .25%. **Operating temperature range:** – 55°C to + 105°C. Wirewound. **Temperature Coefficient:** ± 20 PPM/°C. Slotted shaft.

Stock No.	Mfr.'s Type	No. of Turns	Standard Resistance Ohms (See Table A)	EACH		
				1-9	10-24	25-49
522-20XX	MW22-10	10	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	9.58	9.13	8.71
522-21XX	MW22-3	3	100, 200, 500, 1K, 2K, 5K, 10K, 20K	9.58	9.13	8.71

Table A — Important Ordering Information

To Order: Complete the Stock Number shown by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available. **All Multi-Turn Pots Listed Have 3/8"-32 Threaded Bushing Mounting With 1/4" Shaft.**

Value	XX	Value	XX	Value	XX	Value	XX	Value	XX
100	21	500	26	2K	32	10K	41	50K	53
200	22	1K	29	5K	38	20K	44	100K	59



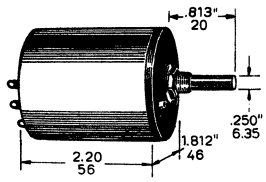
MW20-10 Ten-Turn Potentiometer (2 Watts)

Ten-Turn Potentiometer. **Power rating:** 2 watts at 70°C ambient. Ribbon welded multi wire gold plated terminals. High temperature plastic with stainless steel shaft. **Operating temperature:** – 55°C to + 105°C. **Life shaft revolutions:** 2,000,000. **Resistance tolerance:** ± 3.0%. **Independent linearity:** ± .25%. **Electrical travel:** 3600° ± 5°. **Mechanical travel:** 3600° (+ 10° – 0°). **Dielectric strength:** 1000 VDC. **Insulation resistance:** 1000 megaohms at 500 VDC. **Running torque:** 0.6 oz.-in. maximum. **Stop strength:** 48 oz.-in. minimum. **Shpg. wt.:** 1.7 oz.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
522-5121	MW20-10	100	20.50	18.93	17.75
522-5126	MW20-10	500	20.50	18.93	17.75
522-5129	MW20-10	1K	20.50	18.93	17.75
522-5132	MW20-10	2K	20.50	18.93	17.75
522-5138	MW20-10	5K	20.50	18.93	17.75

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
522-5141	MW20-10	10K	20.50	18.93	17.75
522-5144	MW20-10	20K	20.50	18.93	17.75
522-5153	MW20-10	50K	20.50	18.93	17.75
522-5159	MW20-10	100K	20.50	18.93	17.75
—	—	—	—	—	—

MR46-10 Precision Ten-Turn Potentiometers ±.1% Zero-Based Linearity (5 Watts)

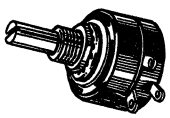


Features ± .1% zero-based linearity. Ten-Turn precision pot., long life, with all metal case. Rated 5 watts at 40°C. **Resistance tolerance:** ± 5%. **Operating temperature range:** – 55°C to + 105°C. Stainless steel shaft. Life shaft revolutions, 2,000,000. **Electrical travel:** 3600° ± 5°C. **Mechanical travel:** 3600° (+ 10°C – 0°C). **Insulation resistance:** 1000 megohms minimum at 500 VDC. **Dielectric strength:** 1000 VDC minimum. **Running torque:** 2.2 oz.-in. maximum. **Stop strength:** 125 oz.-in. minimum. **Av. shpg. wt.:** 4.2 oz.

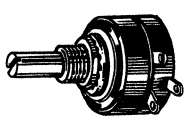
Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
522-8221	MR46-10	100	50.85	47.62	44.12
522-8226	MR46-10	500	50.85	47.62	44.12
522-8229	MR46-10	1K	50.85	47.62	44.12
522-8232	MR46-10	2K	50.85	47.62	44.12

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-9	10-24	25-49
522-8238	MR46-10	5K	50.85	47.62	44.12
522-8241	MR46-10	10K	50.85	47.62	44.12
522-8253	MR46-10	50K	50.85	47.62	44.12
522-8259	MR46-10	100K	50.85	47.62	44.12

Single Turn Potentiometers, .5 and 1 Watt



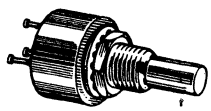
Model SP22E. Conductive plastic potentiometer features 10,000,000 turns life, ± 10% resistance tolerance, ± 1.0% independent linearity. All metal housing. 7/8" diameter × 1/2" long. 320° electrical angle; mechanical stops. 1 W at 40°C, .56 oz.-in. max. running torque. 3/8"-32 threaded bushing, 1/4" dia. shaft.



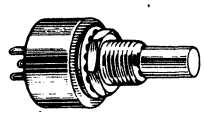
Model SW22E. Wirewound potentiometer features 1,000,000 turns life, ± 5% resistance tolerance, ± 0.5% independent linearity. 7/8" diameter × 1/2" long. 320° electrical angle; mechanical stops .5 W at 40°C, .56 oz.-in. max. running torque. 3/8"-32 threaded bushing, 1/4" dia. shaft.

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table B)	EACH		
			1-9	10-24	25-49
522-16XX	SP22E	100, 200, 500, 1K, 2K, 5K, 10K	11.67	10.77	10.00
522-15XX	SW22E	100, 200, 500, 1K, 2K, 5K, 10K	11.67	10.77	10.00

Single-Turn Potentiometers, 1 Watt



Model SP22D. Conductive Plastic. All metal housing. 7/8" diameter × 1/2" long. 10,000,000 turns life. ± 15% resistance tolerance, ± 1.5% independent linearity. 320° electrical angle; mechanical stops. 1 watt at 40°C. .7 oz.-in. max. starting torque, .56 oz.-in. max. running torque. 3/8"-32 threaded bushing, 1/4" dia. shaft.



Model SW22D. Wirewound. 7/8" diameter × 1/2" long. 1,000,000 turns life ± 5% resistance tolerance, ± .5% independent linearity. 320° electrical angle; mechanical stops 1 watt at 40°C. .7 oz.-in. maximum starting torque, .56 oz.-in. maximum running torque. 3/8"-32 threaded bushing, 1/4" dia. shaft.

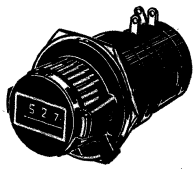
Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table B)	EACH		
			1-9	10-24	25-49
522-26XX	SP22D	100, 200, 500, 1K, 2K, 5K, 10K	21.70	20.30	18.60
522-25XX	SW22D	100, 200, 500, 1K, 2K, 5K, 10K	21.70	20.30	18.60

Table B—Important Ordering Information

To Order: Complete the Stock Number by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available.

Value	XX	Value	XX	Value	XX	Value	XX	Value	XX	Value	XX	Value	XX
100	21	200	22	500	26	1K	29	2K	32	5K	38	10K	41

Combination 10-Turn Dial/Pot



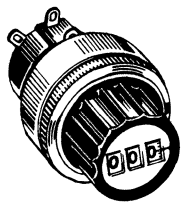
10-Turn Dial/Pot combination mounts in 1 1/8" dia. hole in panel up to 3/16" thick. ±5% resistance tolerance. 2 watts. Gold plated terminal lugs. Over the center positive lock. High temp. black plastic housing. Uses DC27 dial with MW22B pot.

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table B)	EACH		
			1-9	10-24	25-49
522-29XX	DC22	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 100K	50.00	45.45	41.67

Model DC27 Turns Counting Dial

1 1/16" dia. concentric dial counts 1 to 10 turns. Over the center positive lock. Accepts 1/4" shaft dia. High temp. black plastic housing. Other shaft size bushing available on special order.

522-0027. DC27. **1-9**.....**EACH 22.92**
10-24.....**EACH 21.15**
25-49.....**EACH 19.64**



Combo® 3 — 10-Turn Dial/Pot Combination

Reduce assembly costs by eliminating the time-consuming mounting and calibrating of dial to pot. The COMBO 3 is a pre-mounted and pre-calibrated precision digital dial mounted to an ETI Systems Model MW22-10 precision multi-turn potentiometer. Gold plated terminal lugs. ± 5% resistance tolerance. ± 0.5% read-out accuracy. 1,000,000 turns life, 2 watts.

Stock No.	Mfr.'s Type	Standard Resistance Ohms (See Table B)	EACH		
			1-9	10-24	25-49
522-24XX	DW22-10	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K	49.50	45.69	42.43

Table B — Important Ordering Information

To Order: Complete the Stock Number Shown by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available.

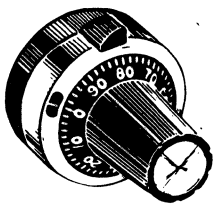
Value	XX	Value	XX	Value	XX	Value	XX
100	21	1K	29	10K	41	100K	59
200	22	2K	32	20K	44	—	—
500	26	5K	38	50K	53	—	—

Digital Counting Dial

Type DA10. An excellent choice in a precision-made digital counting dial. Gear driven numbers. Counting dial is equipped with a magnifying lens for easy readability, with lock. Black finish. Made for potentiometers with 1/4" or 6 mm shafts. Mounting hardware is supplied.
522-1010. 1-9.....**EACH 19.53**
10-24.....**EACH 18.03**
25-49.....**EACH 16.74**

10

MGA22 (Black)



MG22 (Satin Black)

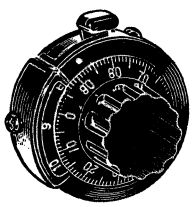
MGA22 (Black) and MG22 (Satin/Black) Turns Counting Dials

Super Value

Low cost. 7/8" diameter. Counts 1 to 20 turns. Over the center patented lock. Anti-rotation pin for easy mounting. Fits 1/4" diameter shaft.

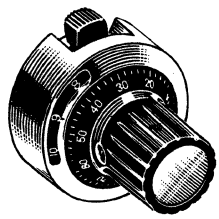
Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-49
522-2853	MGA22	Black	9.58	9.13	8.71
522-2855	MG22	Satin Black	9.56	9.13	8.71

1 13/16" Diameter Turns Counting Dial



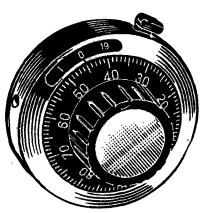
Type MD30. Counts 1 to 10 turns. Low cost, precision turns counting dial. Easy to read numbers which can be seen from longer distances. Lock is easy to apply with red and green indicators of lock position. Numbered wheels progress smoothly without flip action, to avoid misreadings. For shaft diameters of 1/4". Black finish. Hex wrench not required.
522-1001. 1-9.....**EACH 17.35**
10-24.....**EACH 16.02**
25-49.....**EACH 14.87**

1" Diameter Turns Counting Dial



Type MB25. 1" (25.4 mm) diameter counts 1 to 10 turns. Satin finish aluminum body. Black plastic finger tip knob with white filled, easy-to-read numbers. Over the center lock for positive locking action. Fits 1/4" shaft.
522-1025. MB25. **1-9**.....**EACH 13.83**
10-24.....**EACH 12.76**
24-49.....**EACH 11.95**

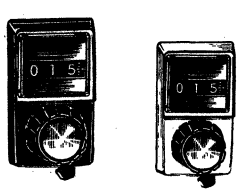
522-1026. MBA25. Black. **1-9**.....**EACH 16.43**
10-24.....**EACH 15.16** **25-49**.....**EACH 14.09**



1 13/16" Diameter Turns Counting Dial For 3, 5, 10, 15, or 20 Turn Pots

Type MF46. 1 13/16" diameter black plastic knob, aluminum base. Large, easy to read numbers. Over the center lock for positive locking action. Fits 1/4" shafts. For all multi-turn potentiometers.
522-1370. 1-9.....**EACH 14.11**
10-24.....**EACH 13.00**

MFA46. Black
522-1371. 1-9.....**EACH 17.75**
10-24.....**EACH 16.38** **25-49**.....**EACH 12.50**

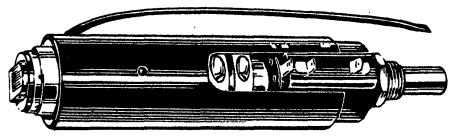


DB10, DBA10 Turns Counting Dials

Heavy-duty construction. Clear dust-proof window over numbers protects internal mechanism. Precision, gear driven numbers. 1 × 1.75" (2.54 cm × 4.45 cm). Counts up to 10-turns. For 1/4" diameter shafts. Over the center lock.

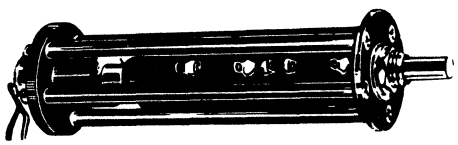
Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-49
522-2850	DB10	Satin Finish	20.33	18.77	17.43
522-2851	DBA10	Black	20.33	18.77	17.43

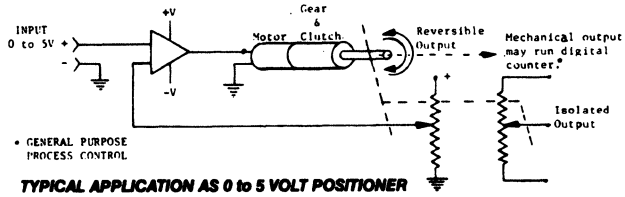
Model MC20-1 Motor-Controlled 10-Turn Potentiometers



Type MC20-1 (Formerly Model 9). Motor-Controlled 10-Turn Potentiometer gives the design engineer new latitudes in speed controls and temperature and valve positioning. This single-ganged, ten-turn pot operates from 6 or 12 VDC input, from an operational amplifier or external power supply. Some of the more common and readily available Op-Amp types are: 301, 741, 748; and, where dual amplifiers are needed, 1458. The Model MC20-1 may be knob-adjusted during motor off time. Panel mounts in a .407″ diameter mounting hole. **Operating Current:** approx. 12 mA. **Clutching Current:** approx. 20 mA. **Potentiometer RPM:** 1, 3, 10 and 18, obtained by a precision gear train driven by an 11,000 to 20,000 RPM motor depending upon input voltages. **Potentiometer Power Rating:** 3 watts at 70°C. **Rotational Life:** 2,000,000 turns. **Additional units available in both 6 and 12 volts with different speed and resistance values. Allow 2-8 weeks delivery. Call for pricing.**

Stock No.	Mfr.'s Type	Required Voltage	Motor Speed	Resistance	EACH		
					1-9	10-24	25-49
522-9505	MC20-1	6 VDC	10 RPM	5 K	137.37	124.88	114.47
522-9510	MC20-1	6 VDC	1 RPM	10 K	137.37	124.88	114.47
522-9520	MC20-1	12 VDC	3 RPM	5 K	137.37	124.88	114.47
522-9525	MC20-1	12 VDC	18 RPM	5 K	137.37	124.88	114.47
522-9530	MC20-1	12 VDC	3 RPM	10 K	137.37	124.88	114.47
522-9535	MC20-1	12 VDC	18 RPM	10 K	137.37	124.88	114.47
522-9500	MC20-1	6 VDC	10 RPM	1K	137.37	124.88	114.47
522-9502	MC20-1	6 VDC	10 RPM	2K	137.37	124.88	114.47
522-9506	MC20-1	6 VDC	10 RPM	10K	137.37	124.88	114.47
522-9507	MC20-1	6 VDC	1 RPM	1K	137.37	124.88	114.47
522-9508	MC20-1	6 VDC	1 RPM	2K	137.37	124.88	114.47
522-9509	MC20-1	6 VDC	1 RPM	5K	137.37	124.88	114.47
522-9515	MC20-1	12 VDC	3 RPM	1K	137.37	124.88	114.47
522-9517	MC20-1	12 VDC	3 RPM	2K	137.37	124.88	114.47
522-9527	MC20-1	12 VDC	18 RPM	1K	137.37	124.88	114.47
522-9528	MC20-1	12 VDC	18 RPM	2K	137.37	124.88	114.47





TYPICAL APPLICATION AS 0 to 5 VOLT POSITIONER

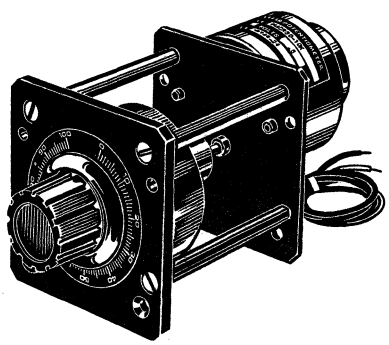
Model MC20-2 Dual-Ganged, Ten-Turn Motorized Potentiometer

Model MC20-2. 10-turn, dual-ganged for feedback to your control circuit. Features manual override plus slip clutch to prevent stop breakage. Can be panel mounted. 2,000,000 revolutions life. **Operating Current:** approximately 11 mA. **Clutching Current:** approximately 20 mA. 6 or 12 VDC precision fractional hp motors, with output rpms of 3, 10, 18 or 35. **Potentiometer Power Rating:** 3 watts each gang. **Resistance Tolerance:** ±3%. **Independent Linearity:** ±.25%. 3/8″-32 threaded mounting bushing, 1/4″ diameter shaft. **Additional units available in both 6 and 12 volts with different speed and resistance values. Allow 2-8 weeks delivery. Call for pricing.**

Stock No.	Mfr.'s Type	Resistance	Motor Volt	Output RPM	EACH		
					1-9	10-24	25-49
522-2800	MC20-2	5 K/5 K	6 VDC	3	200.00	181.82	166.67
522-2801	MC20-2	10 K/10 K	6 VDC	3	200.00	181.82	166.67
522-2802	MC20-2	5 K/5 K	6 VDC	10	200.00	181.82	166.67
522-2803	MC20-2	10 K/10 K	6 VDC	10	200.00	181.82	166.67
522-2804	MC20-2	5 K/5 K	12 VDC	10	200.00	181.82	166.67
522-2805	MC20-2	10 K/10 K	12 VDC	10	200.00	181.82	166.67
522-2806	MC20-2	5 K/5 K	12 VDC	18	200.00	181.82	166.67
522-2807	MC20-2	10 K/10 K	12 VDC	18	200.00	181.82	166.67
522-2808	MC20-2	5 K/5 K	12 VDC	35	200.00	181.82	166.67
522-2809	MC20-2	10 K/10 K	12 VDC	35	200.00	181.82	166.67
522-2810	MC20-2	1 K/1 K	6 VDC	3	200.00	181.82	166.67
522-2811	MC20-2	2 K/2 K	6 VDC	3	200.00	181.82	166.67
522-2812	MC20-2	1 K/1 K	6 VDC	10	200.00	181.82	166.67
522-2813	MC20-2	2 K/2 K	6 VDC	10	200.00	181.82	166.67
522-2814	MC20-2	1 K/1 K	12 VDC	10	200.00	181.82	166.67
522-2815	MC20-2	2 K/2 K	12 VDC	10	200.00	181.82	166.67
522-2816	MC20-2	1 K/1 K	12 VDC	18	200.00	181.82	166.67
522-2817	MC20-2	2 K/2 K	12 VDC	18	200.00	181.82	166.67
522-2818	MC20-2	1 K/1 K	12 VDC	35	200.00	181.82	166.67
522-2819	MC20-2	2 K/2 K	12 VDC	35	200.00	181.82	166.67

Model MACR Motorized Rheostat

These Motorized Rheostats have a friction clutch for manual adjustment. The Rheostat is all porcelain vitreous-enameled, silicon-ceramic for smooth action and electrical control. Cannot smoke, char, shrink, or shift. 1/4″ shaft. Mounts on panels up to 1/4″ thick. Furnished with nut and lockwasher. 3/8-32 threaded bushing. Unit has 115 VAC reversible motor furnished with starting capacitor. Requires 5″ behind panel spacing. Other Resistance values available. **Allow 8-10 weeks delivery on special order items. Call for pricing.**

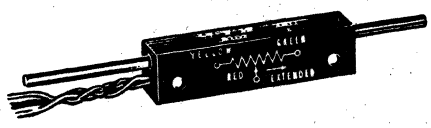


Stock No.	Mfr.'s Type	Watts	RPM	Standard Resistance Ohms (See Table Below)	EACH	
					1-9	10-49
522-84XX	MACR 25	25	1.5	10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K	158.33	130.00
522-85XX	MACR 25	25	4.0	10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K	158.33	130.00
522-86XX	MACR 50	50	1.5	10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K, 10K	160.00	132.00
522-87XX	MACR 50	50	4.0	10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K, 10K	160.00	132.00
522-88XX	MACR 100	100	1.5	10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K, 10K	162.15	134.10
522-89XX	MACR 100	100	4.0	10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K, 10K	162.15	134.10

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	10	50	18	250	25	1.0 K	29	5 K	38
25	15	100	21	500	26	2.5 K	35	10 K	41

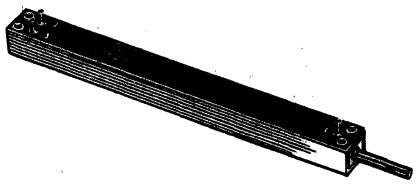
Linear Motion Potentiometer—Conductive Plastic

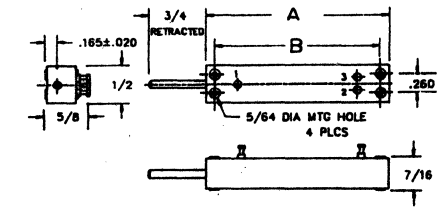
"Mini-Lini" LCP8-10. Conductive Plastic. .472" mechanical, .433" electrical stroke. 20,000,000 shaft reciprocating motions. Resistance tolerance ±15%, independent linearity ±2%. .1 watt. **Operating temperature range:** –30°C to +105°C. Only .287" square by 1.26" long.

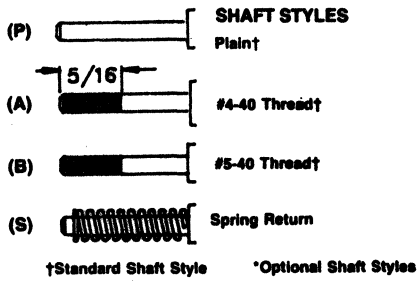


Stock No.*	Mfr.'s Type	Std. Resistance Ohms	EACH		
			1-9	10-24	25-49
522-27XX	LCP8-10	1K, 2K, 5K, 10K, 20K, 50K	25.00	23.08	21.43

*See Table B below for ordering information.







Linear Motion Potentiometer—Conductive Plastic 1/2" to 4"

Series LCP12 conductive plastic linear motion potentiometers feature essentially infinite resolution and long life, and electrical strokes from 1/2 to 4". Choice of 4 standard shaft styles. Also features high precision, output smoothness less than 0.1% input voltage, and contact resistance variation less than 2%. Wirewound or hybrid elements also available.

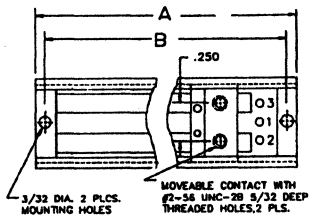
Mfr.'s Type	Standard Resistance Values	Resistance Tolerance Linearity (Ind.)	Power Rating	Stroke Mech. +.1-.0" Elect. ±.02"	Dimensions "A" ±0.04"	Dimensions "B" ±0.02"
LCP12-12	500, 1K, 2K, 5K, 10K	±20%, ±1.5%	0.2W	1/2"	1.50"	1.26"
LCP12-25	500, 1K, 2K, 5K, 10K	±20%, ±1.0%	0.4W	1"	2.00"	1.77"
LCP12-50	500, 1K, 2K, 5K, 10K	±20%, ±0.7%	0.7W	2"	3.00"	2.75"
LCP12-100	1K, 2K, 5K, 10K, 20K	±20%, ±0.5%	1.2W	4"	5.00"	4.76"

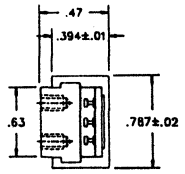
Stock No.*	Mfr.'s Type	Shaft Type	Stroke	EACH 1-9	EACH 10-24
522-01XX	LCP12P-12	P	1/2"	66.67	62.69
522-02XX	LCP12A-12	A	1/2"	66.67	62.69
522-03XX	LCP12B-12	B	1/2"	66.67	62.69
522-05XX	LCP12S-12	S	1/2"	96.16	88.89
522-31XX	LCP12P-25	P	1"	88.83	82.00
522-32XX	LCP12A-25	A	1"	88.83	82.00
522-33XX	LCP12B-25	B	1"	88.83	82.00
522-35XX	LCP12S-25	S	1"	112.90	103.86
522-61XX	LCP12P-50	P	2"	98.13	90.58
522-62XX	LCP12A-50	A	2"	98.13	90.58
522-63XX	LCP12B-50	B	2"	98.13	90.58
522-65XX	LCP12S-50	S	2"	125.94	116.02
522-91XX	LCP12P-100	P	4"	116.62	112.15
522-92XX	LCP12A-100	A	4"	116.62	112.15
522-93XX	LCP12B-100	B	4"	116.62	112.15
522-95XX	LCP12S-100	S	4"	156.33	135.72

See Table B below for ordering information.

Linear Motion Open Frame Potentiometer

Series LCPL open frame linear motion potentiometers feature high resolution conductive plastic elements and 10,000,000 strokes life. Also features excellent high-speed tracking ability, ±0.5 independent linearity, and power ratings from 2 to 6 watts (depending on size).





Mfr.'s Type	Dimensions "A" ±.04"	Dimensions "B" ±.02"	Stroke Electrical ±04	Stroke Mechanical ±04
LCPL200	9.843"	9.450"	7.874"	8.000"
LCPL300	13.780"	13.386"	11.811"	11.929"
LCPL400	17.716"	17.323"	15.748"	15.866"
LCPL500	21.654"	21.260"	19.685"	19.882"
LCPL1000	41.338"	40.944"	39.370"	39.567"

Stock No.*	Mfr.'s Type	Standard Resistance Values	EACH 1-9	EACH 10-24
522-10XX	LCPL200	2K, 5K, 10K	79.22	69.00
522-11XX	LCPL300	5K, 10K, 20K	85.71	74.98
522-12XX	LCPL400	5K, 10K, 20K, 50K, 100K	102.86	98.65
522-13XX	LCPL500	5K, 10K, 20K, 50K, 100K, 200K	292.86	276.21
522-14XX	LCPL1000	10K, 20K, 50K, 100K, 200K, 500K	493.24	460.36

See Table B below for ordering information.

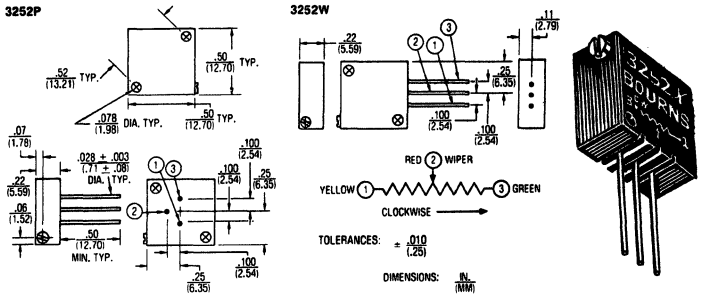
Table B—Important Ordering Information

To Order: Complete the Stock Number by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. For example, LCP12 potentiometer with 1/2" Stroke, type P shaft, and desired Resistance of 2K would appear as 522-0132.

Value	XX	Value	XX	Value	XX	Value	XX
100	21	1K	29	10K	41	100K	57
200	22	2K	32	20K	44	200K	61
500	23	5K	38	50K	53	500K	65

Please contact Allied for available application assistance, custom and special designs.

Models 3252 Multi-Turn, Cermet



Stable, infinite resolution cermet element. Listed on the DESC QPL for style RJ22 per MIL-R-22097. Low Temperature coefficient ±100 ppm/°C over entire temperature and resistance range. High temperature, all plastic case. Superior humidity-proof performance under the most severe conditions. **Temperature Range:** – 65°C to + 150°C. **Power Rating:** 1 watt at 70°C. **Resistance Tolerance:** ± 10%.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-16XX*	3252P-1-	**8.68**	**7.23**	**6.51**	**5.90**
754-17XX*	3252W-1-	**8.68**	**7.23**	**6.51**	**5.90**
754-09XX*	3252X-1-	**8.68**	**7.23**	**6.51**	**5.90**

*Using OHM Chart below, replace 'XX' in stock no. with number which corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	50K	10
200	02	2K	05	20K	08	100K	11
500	03	5K	06	25K	09	—	—

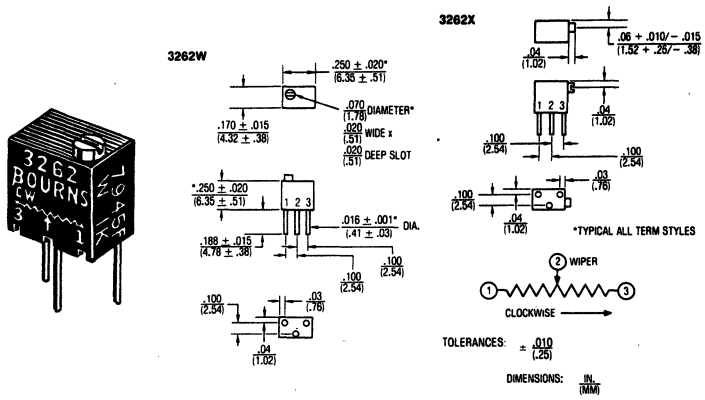
Model 3262 Multi-Turn Cermet

Listed on DESC QPL for style RJ26 per MIL-R-22097 and RJR26 per High-Rel MIL-R-39035. 0.25 watt @ + 80°C. Low Temperature coefficient ± 100 ppm/°C. Outstanding humidity resistance and low contact resistance. **Temperature Range:** – 65°C to + 150°C. Stable, infinite resolution cermet element. **Resistance Tolerance:** ± 10%.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-18XX*	3262W-1-	**9.22**	**7.68**	**6.92**	**6.28**
754-19XX*	3262X-1-	**9.22**	**7.68**	**6.92**	**6.28**

*Using the OHM Chart below, replace 'XX' in Stock No. with numbers which correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
50	01	1K	05	20K	09	1Meg	13
100	02	2K	06	25K	10	—	—
200	03	5K	07	50K	11	—	—
500	04	10K	08	100K	12	—	—



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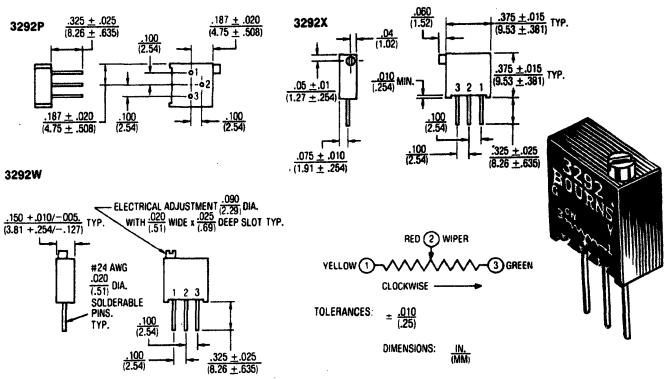
Model 3292 Multi-Turn Cermet



Infinite resolution cermet element is listed on DESC QPL for style RJ24 per MIL-R-22097 and RJR24 per High-Rel MIL-R-39035. Reliable wiper idling mechanism with audible 'Click' at end of rotation. Double chevron shaft seal; plasma etched body. **Temperature Range:** – 65°C to + 150°C. **Temperature Coeficient:** ± 100 ppm/°C. **Power:** 0.5 watts at + 85°C. **Tolerance:** ± 10%.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-23XX*	3292P-1-	**9.84**	**8.20**	**7.38**	**6.70**
754-24XX*	3292W-1-	**9.84**	**8.20**	**7.38**	**6.70**
754-25XX*	3292X-1-	**9.84**	**8.20**	**7.38**	**6.70**

*Using OHM Chart below, replace 'XX' in stock no. with numbers which corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	200	05	5K	09	100K	13
20	02	500	06	10K	10	500K	14
50	03	1K	07	20K	11	1Meg	15
100	04	2K	08	50K	12	—	—

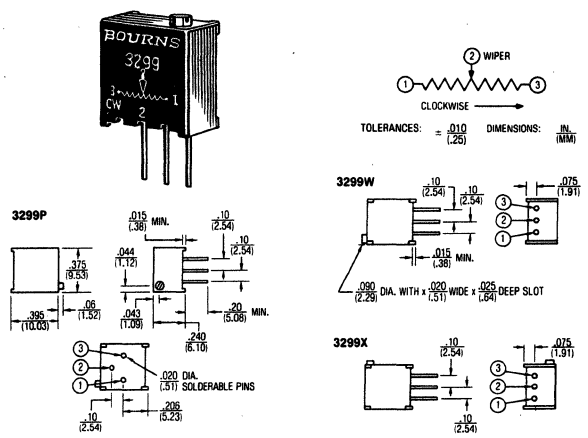
Model 3299 Multi-Turn Cermet

Low noise, high performance square trimmer. **Power Rating:** 0.50 Watt at + 70°C. Infinite resolution cermet element. Low temperature coefficient ± 100 ppm/°C over entire temperature and resistance range. Sealed to withstand wave soldering and cleaning processes. **Temperature Range:** – 55°C to + 125°C. **Resistance Tolerance:** ± 10%.

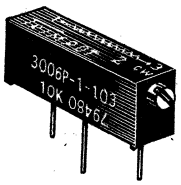
Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-26XX*	3299P-1-	**2.00**	**1.67**	**1.50**	**1.36**
754-27XX*	3299W-1-	**2.00**	**1.67**	**1.50**	**1.36**
754-28XX*	3299X-1-	**2.00**	**1.67**	**1.50**	**1.36**

*Using OHM Chart below, replace 'XX' in stock no. with numbers which corresponds with desired OHM value.

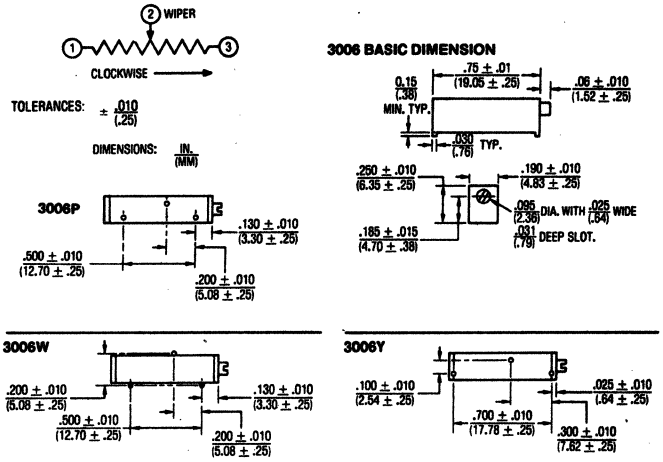
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	200	05	5K	09	50K	13	500K	17
20	02	500	06	10K	10	100K	14	1M	18
50	03	1K	07	20K	11	200K	15	2M	19
100	04	2K	08	25K	12	255K	16	5M	20



Model 3006 15-Turn/Cermet



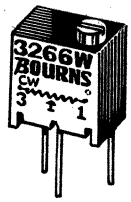
1/4" high, low cost cermet trimmer offers infinite resolution, low temperature coefficient 100 PPM/°C over −55°C to +125°C. Sealed to withstand wave soldering and immersion cleaning. **Load Life:** 1000 hours, 0.75 Watt at 70°C. ±10% tolerance. 15 turn nominal travel. **Suffix:** P,W and Y styles. **Dimensions:** 3/4 × 0.19 × 0.25". See drawings below for pin configurations. **Weight:** .04 oz.



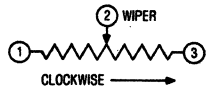
Stock No.*	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-Up
754-100X	3006 (P, W or Y)	10	**1.35**	**1.03**	**0.95**	**0.84**
754-101X	3006 (P, W or Y)	20	**1.35**	**1.03**	**0.95**	**0.84**
754-102X	3006 (P, W or Y)	50	**1.35**	**1.03**	**0.95**	**0.84**
754-103X	3006 (P, W or Y)	100	**1.35**	**1.03**	**0.95**	**0.84**
754-104X	3006 (P, W or Y)	200	**1.35**	**1.03**	**0.95**	**0.84**
754-105X	3006 (P, W or Y)	500	**1.35**	**1.03**	**0.95**	**0.84**
754-106X	3006 (P, W or Y)	1K	**1.35**	**1.03**	**0.95**	**0.84**
754-107X	3006 (P, W or Y)	2K	**1.35**	**1.03**	**0.95**	**0.84**
754-108X	3006 (P, W or Y)	5K	**1.35**	**1.03**	**0.95**	**0.84**
754-109X	3006 (P, W or Y)	10K	**1.35**	**1.03**	**0.95**	**0.84**
754-110X	3006 (P, W or Y)	20K	**1.35**	**1.03**	**0.95**	**0.84**
754-111X	3006 (P, W or Y)	50K	**1.35**	**1.03**	**0.95**	**0.84**
754-112X	3006 (P, W or Y)	100K	**1.35**	**1.03**	**0.95**	**0.84**
754-113X	3006 (P, W or Y)	200K	**1.35**	**1.03**	**0.95**	**0.84**
754-114X	3006 (P, W or Y)	1M	**1.35**	**1.03**	**0.95**	**0.84**
754-115X	3006 (P, W or Y)	2M	**1.35**	**1.03**	**0.95**	**0.84**

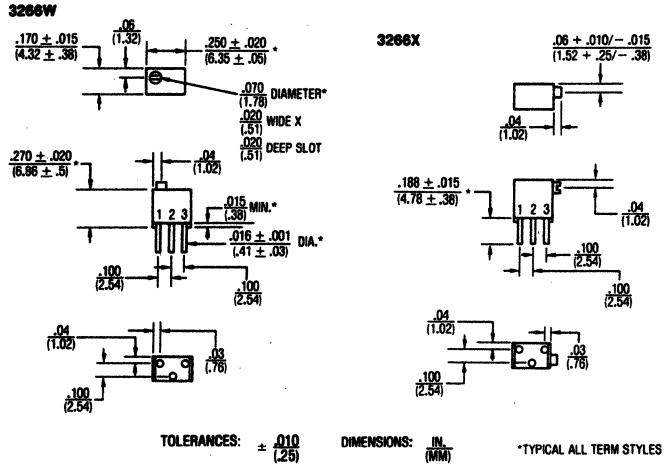
* Insert #1 for P suffix, #2 for W suffix, #3 for Y suffix, where X appears in stock number.

Model 3266 12-Turn/Cermet



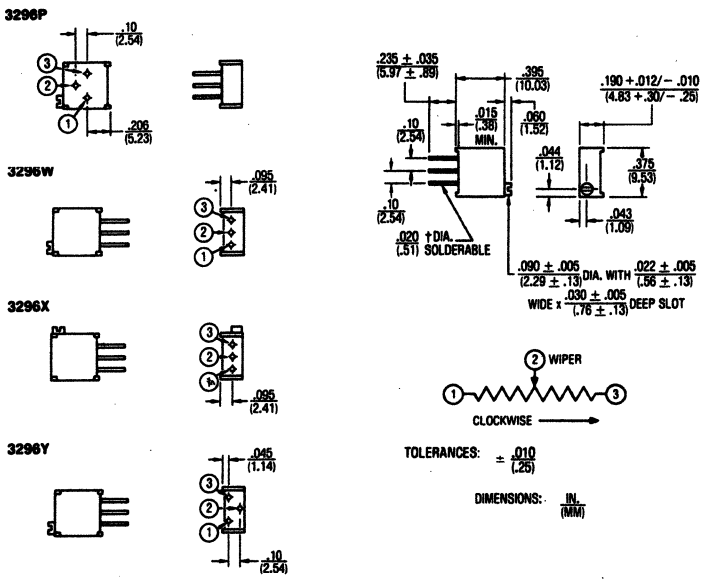
Low cost 1/4" square multi-turn trimmer. Sealed to withstand wave soldering and boardwash process. Infinite resolution. 1/4 Watt power at 70°C. **Low Temperature Coefficient:** ±100 PPM/°C. **Temperature Range:** −55°C to +125°C. 12 Turn nominal travel. **Suffix:** W = Vertical Mount; X = Offset Vertical Mount. **Dimensions:** 1/3" square × 0,185. **Weight:** 0.015 oz.



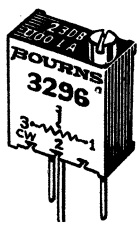


Stock No.*	Mfr.'s Type	Ohms	EACH		
			1-99	100-499	500-Up
754-216X	3266 (W or X)	50	**2.83**	**2.17**	**2.00**
754-217X	3266 (W or X)	100	**2.83**	**2.17**	**2.00**
754-218X	3266 (W or X)	200	**2.83**	**2.17**	**2.00**
754-219X	3266 (W or X)	500	**2.83**	**2.17**	**2.00**
754-220X	3266 (W or X)	1K	**2.83**	**2.17**	**2.00**
754-221X	3266 (W or X)	2K	**2.83**	**2.17**	**2.00**
754-222X	3266 (W or X)	5K	**2.83**	**2.17**	**2.00**
754-223X	3266 (W or X)	10K	**2.83**	**2.17**	**2.00**
754-224X	3266 (W or X)	20K	**2.83**	**2.17**	**2.00**
754-225X	3266 (W or X)	50K	**2.83**	**2.17**	**2.00**
754-226X	3266 (W or X)	100K	**2.83**	**2.17**	**2.00**
754-227X	3266 (W or X)	1M	**2.83**	**2.17**	**2.00**

*Insert #2 for W suffix, #4 for X suffix where X appears in stock number.



Model 3296 25-Turn/Cermet



Thin body profile, low cost square multi-turn trimmer with infinite resolution. Wiper idling mechanism clicks at end of rotation. Sealed to withstand wave soldering and boardwash process. 0.5 Watt at 70°C ± 10% tolerance. **Temperature Range:** −55°C to +125°C. **Suffix:** P = Offset PC pins, W = Vertical Mount; X = Inline Vertical Mount; Y = Offset PC pins. **Dimensions:** 3/8 square × 0.16" thick. **Weight:** .03 oz.

Stock No.*	Mfr.'s Type	Ohms	EACH		
			1-99	100-499	500-Up
754-310X	3296 (W, X, Y or P)	500	**1.93**	**1.48**	**1.37**
754-311X	3296 (W, X, Y or P)	1K	**1.93**	**1.48**	**1.37**
754-312X	3296 (W, X, Y or P)	2K	**1.93**	**1.48**	**1.37**
754-313X	3296 (W, X, Y or P)	5K	**1.93**	**1.48**	**1.37**
754-314X	3296 (W, X, Y or P)	10K	**1.93**	**1.48**	**1.37**
754-315X	3296 (W, X, Y or P)	20K	**1.93**	**1.48**	**1.37**
754-316X	3296 (W, X, Y or P)	50K	**1.93**	**1.48**	**1.37**
754-316X	3296 (W, X, Y or P)	100K	**1.93**	**1.48**	**1.37**

*Insert #1 for P suffix, #2 for W suffix, #3 for Y suffix and #4 for X suffix where X appears in stock number.

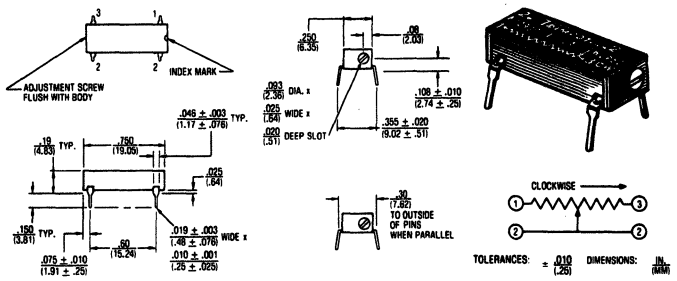
Model 3099KP Multi-Turn Cermet

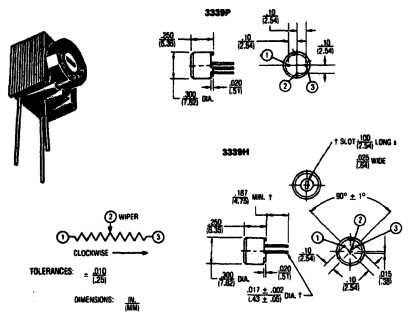
Listed on DESC QPL for style RJR323 per MIL-R-39035. Standard DIP size (TO-116) compatible with DIP automatic insertion equipment. Sealed to withstand wave soldering and immersion cleaning process. Low temperature coefficient ± 100 ppm/°C max. Infinite resolution cermet element. **Temperature Range:** – 55°C to + 150°C. **Tolerance:** ± 10%. **Load Life:** 1000 hrs., 1 watt @ + 70°C.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-71XX*	3099P-1-	5.58	4.30	3.80	3.49

* Using OHM Chart below, replace 'XX' in Stock No. with numbers which correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX
50	01	1K	05	20K	09
100	02	2K	06	50K	10
200	03	5K	07	100K	11
500	04	10K	08	200K	12





Model 3339 Multi-Turn Cermet

Unique planetary drive offers precise wiper setting in a single turn size package. Space-saving 0.30″ dia. × 0.25″ H. Rated 0.5 watt @ 85°C. Sealed to withstand wave soldering and immersion cleaning process. **Temperature Range:** – 55°C to + 150°C. **Temperature Coefficient:** ± 100 ppm/°C max. **Resistance Tolerance:** ± 10%.

Stock No.	Mfr.'s Type	EACH	
		1-99	100-Up
754-72XX*	3339H-1-	3.50	2.92
754-73XX*	3339P-1-	3.50	2.92
754-74XX*	3339W-1-	5.00	4.17

* Using OHM Cart below, replace 'XX' in Stock No. with numbers which correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	200K	11
200	02	2K	05	50K	09	1Meg	13
500	03	5K	06	100K	10	—	—

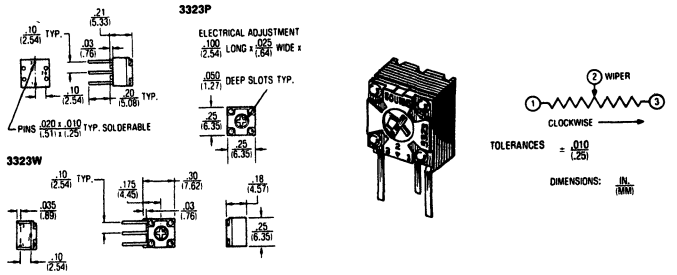
Model 3323 Single-Turn Cermet

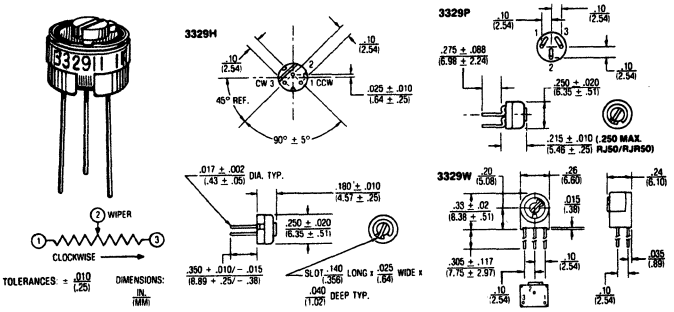
Low cost, industrial grade trimmer with infinite resolution ceremet element. Sealed to withstand wave soldering and immersion cleaning process. 0.5 watt power rating @ + 70°C. Rotor designed for automatic machined adjust interface. **Temperature Coefficient:** ± 100ppm/°C max. **Temperature Range:** – 55°C to + 125°C. **Resistance Tolerance:** ± 20%.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-75XX*	3323P-1-	1.10	0.92	0.83	0.75
754-76XX*	3323W-1-	1.10	0.92	0.83	0.75

* Using OHM Chart below, replace 'XX' in Stock No. with numbers which correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	100K	10
200	02	2K	05	20K	08	—	—
500	03	5K	06	50K	09	—	—





Model 3329 Single-Turn Cermet

Listed on DESC QPL for style RJ50 per MIL-R-22097 and RFR50 per High-Rel MIL-R-39035. Infinite resolution cermet element. Space saving 0.25″ dia. Low temperature coefficient ± 100 ppm/°C max. **Power Rating:** 0.5 watt @ 85°C. **Temperature Range:** – 55°C to + 150°C. **Resistance Tolerance:** ± 10%.

Stock No.	Mfr.'s Type	EACH	
		1-99	100-Up
754-77XX*	3329H-1-	1.76	1.47
754-78XX*	3329P-1-	1.76	1.47
754-79XX*†	3329W-1-	1.96	1.63

* Using OHM Chart below, replace 'XX' in Stock No. with numbers which correspond with desired OHM value. † 10 Ohms not stocked.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	200	05	5K	09	100K	13
20	02	500	06	10K	10	200K	14
50	03	1K	07	20K	11	500K	15
100	04	2K	08	50K	12	1M	16

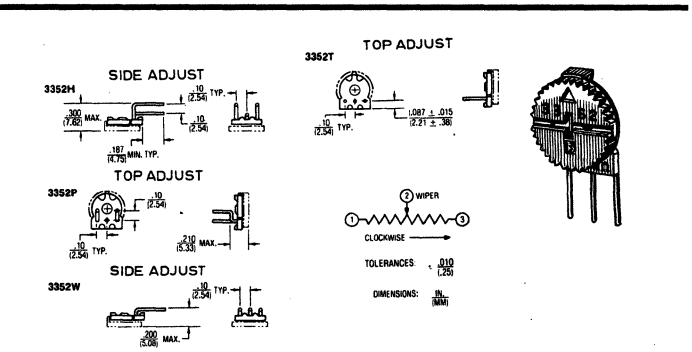
Model 3352 Single-Turn Cermet

Adjustability of + 0.1% voltage ratio. Low temperature coefficient of ± 100ppm/°C. **Power Rating:** 0.75 watt @ 40°C. **Temperature Range:** – 55°C to + 125°C. Stable cermet element offers infinite resolution. **Resistance Tolerance:** ± 20%.

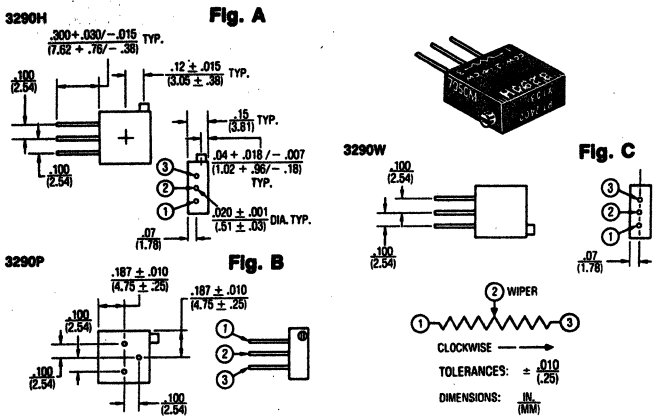
Side Adjust		Top Adjust		EACH	
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	1-99	100-Up
754-80XX*	3352W	754-81XX*	3352T	0.60	0.50
754-82XX*	3352H	754-83XX*	3352P	0.60	0.50

* Using OHM Chart below, replace 'XX' in Stock No. with numbers which correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
50	01	1K	05	20K	09	200K	13
100	02	2K	06	25K	10	500K	14
200	03	5K	07	50K	11	1M	15
500	04	10K	08	100K	12	2M	16



Model 3290P Multi-Turn, Wirewound



This 3/8" square wirewound potentiometer is listed on DESC QPL for style RT24 per MIL-R-27208 and RTR24 per High-Rel-MIL-R-39015. **High performance:** 1 watt @ +70°C. **Temperature Range:** −65°C to +150°C. All plastic case provides sealing against liquids and potting compounds. **Resistance Tolerance:** ±5%. **Dielectric Strength:** 1000VAC @ sea level. Moisture resistance. **Mechanical Life:** 200 cycles. Solder PC pin terminals.

Other Resistance Values Available. Call for Pricing.

Stock No.	Mfr.'s Type	Fig.	EACH			
			1-99	100-499	500-999	1000-Up
754-06XX*	3290H-1-	A	12.96	9.98	8.83	8.10
754-07XX*	3290P-1-	B	12.96	9.98	8.83	8.10
754-08XX*	3290W-1-	C	12.96	9.98	8.83	8.10

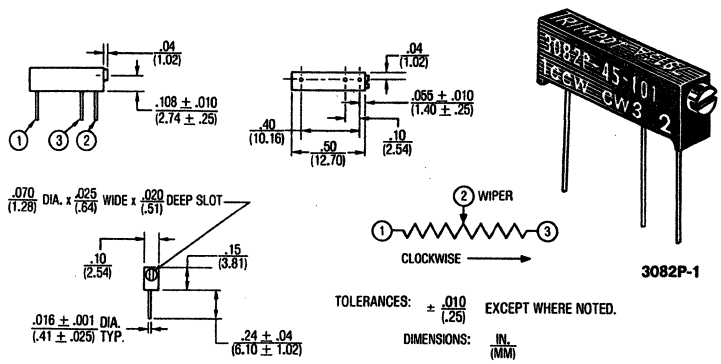
* Using OHM chart below, replace 'XX' in Stock No. with numbers that correspond with desire OHM value.

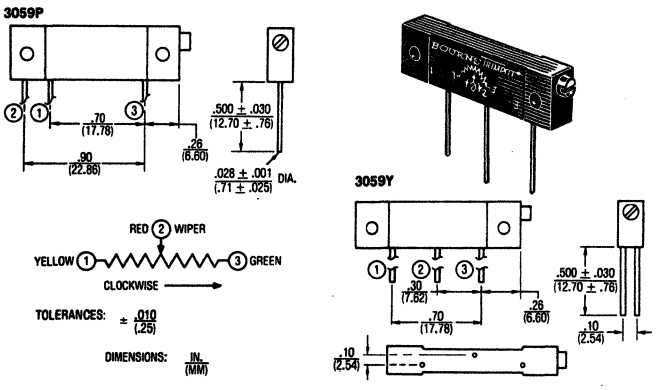
Ohms	XX	Resolution Percent
1K	05	0.33
2K	06	0.26
20K	09	0.14

Model 3082P-1 Multi-Turn, Cermet

Multi-turn industrial type. Sealed to withstand wave soldering and immersion cleaning process. Mounts on 0.100" grid. 10-Turn Cermet Trimmer with infinitely variable resistance and resolution. **Small space saver size:** 0.100" × 0.150" × 0.500". **Resistance Tolerance:** ±10%. **Power Rating:** 0.6 Watt @ 25°C (400 volts max). **Extended Temperature Range:** −65°C to +150°C. **Temperature Coefficient over entire Temperature & Resistance Range:** ±100 ppm/°C. **Torque:** 2.0 oz-in max. **Mechanical Stops:** Wiper Idels. **Mechanical Life:** 200 Cycles. **Weight:** .01 oz. approx.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-99	100-499	500-999	1000-4999
754-2901	3082P-1-101	100	12.00	9.24	8.17	7.50
754-2902	3082P-1-201	200	12.00	9.24	8.17	7.50
754-2903	3082P-1-501	500	12.00	9.24	8.17	7.50
754-2904	3082P-1-102	1K	12.00	9.24	8.17	7.50
754-2905	3082P-1-202	2K	12.00	9.24	8.17	7.50
754-2906	3082P-1-502	5K	12.00	9.24	8.17	7.50
754-2907	3082P-1-103	10K	12.00	9.24	8.17	7.50
754-2908	3082P-1-203	20K	12.00	9.24	8.17	7.50
754-2909	3082P-1-503	50K	12.00	9.24	8.17	7.50
754-2910	3082P-1-104	100K	12.00	9.24	8.17	7.50
754-2911	3082P-1-204	200K	12.00	9.24	8.17	7.50





Model 3059 Multi-Turn Cermet

Listed on the DESC QPL for style RF12 per MIL-R-22097 and RFR12 per High-Rel-MIL-R-39035. Infinite resolution cermet element. **Adjustability:** ±0.01% (V.R. Mode). **High Power Dissipation:** 1.0 Watt @ 70°C. **Resistance Tolerance:** ±10%. **Temperature Range:** −55°C to +150°C. **Low Temperature Coefficient:** ±100ppm/°C.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-12XX*	3059P-1-	4.28	3.57	3.21	2.91
754-13XX*	3059Y-1-	4.28	3.57	3.21	2.91

* Using OHM Chart below, replace 'XX' in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	100K	10	1M	13
200	02	2K	05	20K	08	200K	11	—	—
500	03	5K	06	50K	09	500K	12	—	—

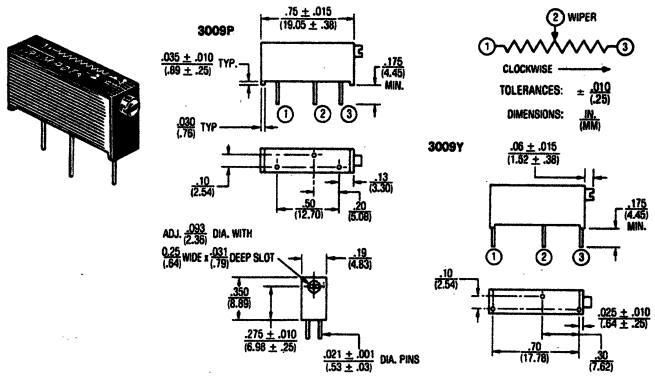
Model 3009 Multi-Turn Cermet

Sealed to withstand wave soldering and board wash process. **Low Temperature Coefficient:** ±100ppm/°C. Stable, infinite resolution cermet element. CRV 1.0% or 1 ohm. **Temperature Range:** −55°C to +125°C. Meet humidity requirements of MIL-STD-202, method 106. **Power Rating:** 1.25 Watt at +25°C. **Resistance Tolerance:** ±10%.

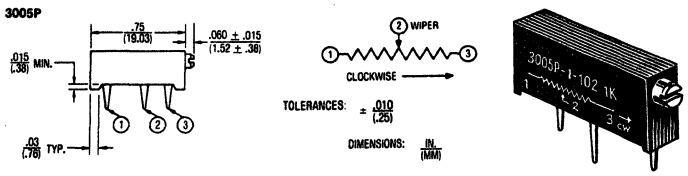
Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-14XX*	3009P-1-	1.80	1.50	1.35	1.22
754-15XX*	3009Y-1-	1.80	1.50	1.35	1.22

* Using OHM Chart below replace 'XX' in Stock No. with numbers that correspond with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	100	04	1K	07	10K	10	100K	13	1M	16
20	02	200	05	2K	08	20K	11	200K	14	2M	17
50	03	500	06	5K	09	50K	12	500K	15	—	—



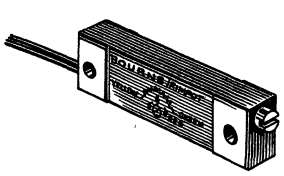
Model 3005P Multi-Turn

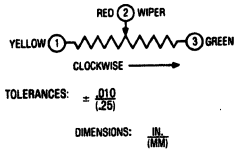


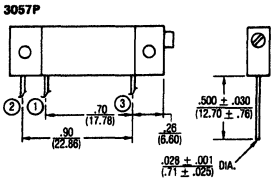
Wirewound resistance element, 3/4" long. Sealed to prevent contamination from fluxing, soldering and cleaning. **Power Rating:** 1 watt @ 40°C. **Adjustment Travel:** 20 turns nominal. **Temperature Range:** – 65°C to + 125°C. **Load Life:** 1000 hrs. at 40°C. **Mechanical Life:** 200 cycles. Solderable PC pins. **Tolerance:** ± 10%. **Dimensions:** 3/4 x 0.16 x 0.31". **Weight:** .045 oz.

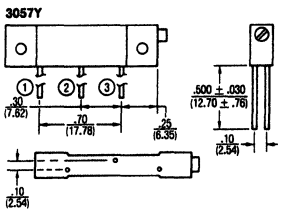
Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0005	3005P-1-100	10	1.7	**4.48**	**3.45**	**3.05**	**2.80**
754-0015	3005P-1-101	100	0.8	**4.48**	**3.45**	**3.05**	**2.80**
754-0020	3005P-1-201	200	0.7	**4.48**	**3.45**	**3.05**	**2.80**
754-0025	3005P-1-501	500	0.5	**4.48**	**3.45**	**3.05**	**2.80**
754-0030	3005P-1-102	1K	0.5	**4.48**	**3.45**	**3.05**	**2.80**
754-0035	3005P-1-202	2K	0.4	**4.48**	**3.45**	**3.05**	**2.80**
754-0040	3005P-1-502	5K	0.3	**4.48**	**3.45**	**3.05**	**2.80**
754-0045	3005P-1-103	10K	0.3	**4.48**	**3.45**	**3.05**	**2.80**
754-0050	3005P-1-203	20K	0.2	**4.48**	**3.45**	**3.05**	**2.80**

Model 3057 Multi-Turn





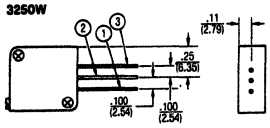


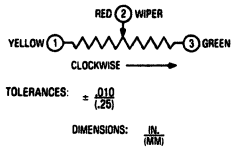


Listed on the DESC QPL for style RT12 per MIL-R-27208 and RT12 per High-Rel MIL-R-39015. 1 1/4" long; power rated 1 watt at + 70°C. High power dissipation; operates at temperature up to 150°C. Sealed to protect against humidity, liquids and potting compounds. **Resistance Tolerance:** ± 5%. **Dielectric Strength:** 1500 VAC. **Temperature Range:** – 55°C to + 150°C. **Load Life:** 1000 hrs. **Power Rating:** 1 watt @ 70°C. **Mechanical Life:** 200 cycles.

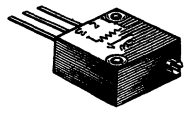
Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0120	3057P-1-202	2K	0.58	**9.56**	**7.96**	**7.17**	**6.50**
754-0130	3057P-1-103	10K	0.34	**9.56**	**7.96**	**7.17**	**6.50**
754-0205	3057Y-1-201	200	0.86	**9.56**	**7.96**	**7.17**	**6.50**
754-0210	3057Y-1-501	500	0.89	**9.56**	**7.96**	**7.17**	**6.50**
754-0215	3057Y-1-102	1K	0.72	**9.56**	**7.96**	**7.17**	**6.50**
754-0220	3057Y-1-202	2K	0.58	**9.56**	**7.96**	**7.17**	**6.50**
754-0225	3057Y-1-502	5K	0.43	**9.56**	**7.96**	**7.17**	**6.50**
754-0230	3057Y-1-103	10K	0.34	**9.56**	**7.96**	**7.17**	**6.50**
754-0235	3057Y-1-203	20K	0.31	**9.56**	**7.96**	**7.17**	**6.50**

Model 3250W Multi-Turn



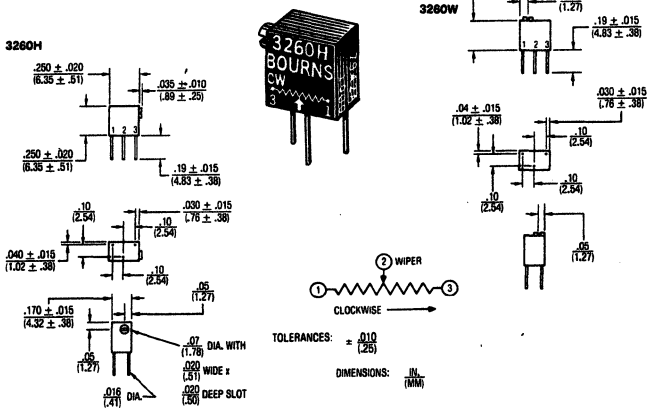


Sealed, wirewound, Listed on DESC QPL for style RTR22 per High-Rel MIL-R-39015. 1/2" square. **Power Rating:** 1.0 watt at 70°C. High power dissipation in high temperature plastic case for operations up to + 150°C. Humidity proof performance. **Resistance Tolerance:** ± 5%. **Dielectric Strength:** 1000 VAC. **Temperature Range:** – 65°C to + 150°C. **Load Life:** 100 hrs. terminals.



Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0305	3250W-1-201	200	0.44	**5.50**	**4.58**	**4.13**	**3.74**
754-0310	3250W-1-102	1K	0.36	**5.50**	**4.58**	**4.13**	**3.74**
754-0315	3250W-1-202	2K	0.26	**5.50**	**4.58**	**4.13**	**3.74**
754-0320	3250W-12-502	5K	0.20	**5.50**	**4.58**	**4.13**	**3.74**
754-0325	3250W-1-103	10K	0.16	**5.50**	**4.58**	**4.13**	**3.74**
754-0330	3250W-1-203	20K	0.14	**5.50**	**4.58**	**4.13**	**3.74**

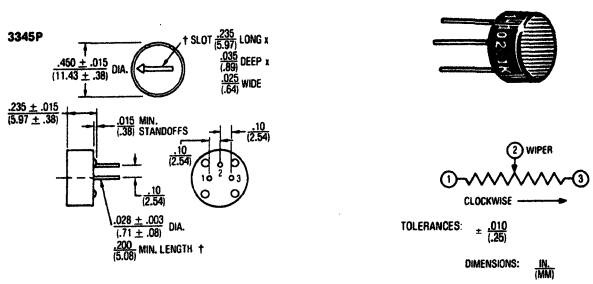
Model 3260 Multi-Turn



Reliable, wirewound. Listed on DESC QPL for style RT26 per MIL-R-27208. 1/4" square. **Power Rating:** .25 watt at + 85°C. All plastic case provides sealing against liquids and potting compounds. **Resistance Tolerance:** ± 5%. **Dielectric Strength:** 600 VAC. **Temperature Range:** – 65°C to + 150°C. **Load Life:** 1000 hrs. **Mechanical Life:** 200 cycles. Solder PC pin terminals. Moisture resistant.

Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0405	3260H-1-101	100	0.77	**14.00**	**11.56**	**10.50**	**9.52**
754-0410	3260H-1-201	200	0.79	**14.00**	**11.56**	**10.50**	**9.52**
754-0412	3260H-1-501	500	0.59	**14.00**	**11.56**	**10.50**	**9.52**
754-0414	3260H-1-102	1K	0.46	**14.00**	**11.56**	**10.50**	**9.52**
754-0415	3260H-1-202	2K	0.40	**14.00**	**11.56**	**10.50**	**9.52**
754-0425	3260H-1-103	10K	0.25	**14.00**	**11.56**	**10.50**	**9.52**
754-0430	3260H-1-203	20K	0.21	**14.00**	**11.56**	**10.50**	**9.52**
754-0435	3260W-1-501	500	0.59	**14.00**	**11.56**	**10.50**	**9.52**
754-0440	3260W-1-102	1K	0.46	**14.00**	**11.56**	**10.50**	**9.52**
754-0445	3260W-1-202	2K	0.40	**14.00**	**11.56**	**10.50**	**9.52**
754-0450	3260W-1-502	5K	0.31	**14.00**	**11.56**	**10.50**	**9.52**
754-0455	3260W-1-103	10K	0.25	**14.00**	**11.56**	**10.50**	**9.52**
754-0460	3260W-1-203	20K	0.21	**14.00**	**11.56**	**10.50**	**9.52**

Model 3345P Single-Turn

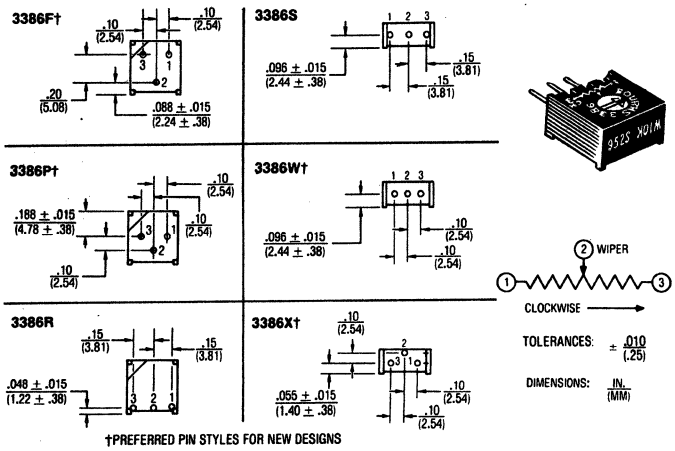


Single turn, 1/2" dia. with top adjustment. **Power Rating:** 1 watt @ + 70°C. Compact .50" dia. x .25" H. Sealed for PC applications. **Standard Resistance Range:** 10 to 50K ohms. **Resistance Tolerance:** ± 5%. **Dielectric Strength:** 900 VAC. 300 adjustment angle nominal. **Temp. Range:** – 55°C to + 150°C. **Load Life:** 1000 hrs. **Mech. Life:** 200 cycles. Solder PC pin terminals.

Stock No.	Mfr.'s Type	Ohms	Resolution Percent	EACH			
				1-99	100-499	500-999	1000-Up
754-0510	3345P-1-500	50	0.58	**3.84**	**3.20**	**2.88**	**2.61**
754-0515	3345P-1-101	100	0.49	**3.84**	**3.20**	**2.88**	**2.61**
754-0520	3345P-1-201	200	0.49	**3.84**	**3.20**	**2.88**	**2.61**
754-0525	3345P-1-501	500	0.38	**3.84**	**3.20**	**2.88**	**2.61**
754-0530	3345P-1-102	1K	0.30	**3.84**	**3.20**	**2.88**	**2.61**
754-0535	3345P-1-202	2K	0.24	**3.84**	**3.20**	**2.88**	**2.61**
754-0540	3345P-1-502	5K	0.18	**3.84**	**3.20**	**2.88**	**2.61**
754-0545	3345P-1-103	10K	0.14	**3.84**	**3.20**	**2.88**	**2.61**
754-0550	3345P-1-203	20K	0.13	**3.84**	**3.20**	**2.88**	**2.61**

10

Model 3386 Single-Turn, Cermet



Infinite resolution cermet element. **Power Rating:** 0.5 watt at +85°C. **Resistance Tolerance:** ±10%. **Adjustability:** ±0.05% voltage ratio. **Temperature Range:** −55°C to +125°C. **Low Temperature Coefficient:** ±100ppm/°C. Sealed to withstand wave soldering and immersion cleaning process. **Dielectric Strength:** 900VAC at sea level. **Mechanical Life:** 200 cycles.

Top Adjust

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-32XX*	3386F-1-	.92	.77	.69	.63
754-33XX*	3386P-1-	.92	.77	.69	.63
754-34XX*	3386R-1-	.92	.77	.69	.63

Side Adjust

754-35XX*	3386S-1-	.92	.77	.69	.63
754-36XX*	3386W-1-	.92	.77	.69	.63
754-37XX*	3386X-1-	.92	.77	.69	.63

*Using 'Ohm Chart' below, replace 'XX' in Stock No. with numbers that correspond with desired ohm value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
10	01	100	04	1K	07	10K	10	100K	13	1 Meg	16
20	02	200	05	2K	08	20K	11	200K	14	2 Megs	17
50	03	500	06	5K	09	50K	12	500K	15	—	—

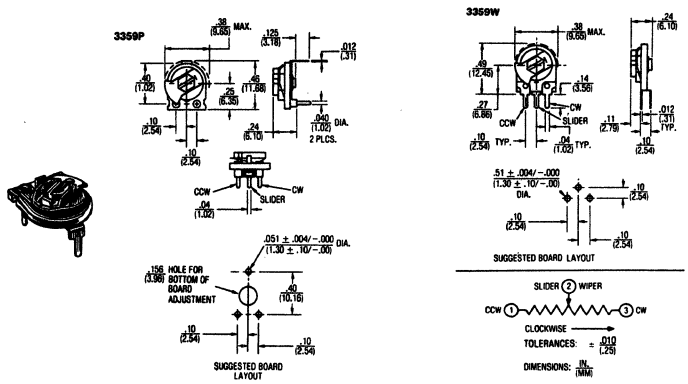
Model 3359 Single-Turn, Cermet

Small size. 0.75 watt at 40°C power rating. Infinite resolution, low temperature coefficient element. Adjustable from front, rear, top or bottom. Carbon tip wiper. **Temperature Range:** −65°C to +125°C. **Resistance Tolerance:** ±20%. Performance not guaranteed after exposure to PC Board cleaning.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-499	500-999	1000-Up
754-38XX*	3359P-1-	.74	.62	.56	.50
754-39XX*	3359W-1-	.74	.62	.56	.50

*Using 'Ohm Chart' below, replace 'XX' in Stock No. with numbers that correspond with desired ohm values.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	10K	07	100K	10	1M	13
200	02	2K	05	20K	08	200K	11	—	—
500	03	5K	06	50K	09	500K	12	—	—



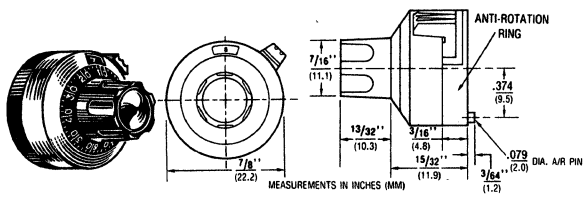
H-800 Trim Bin™ Kit

- **Multiturn, Wirewound and Cermet**
- **Multiturn, Cermet, Square**
- **Single-Turn, Cermet and Wirewound**
- **Open Frames, Cermet**

This kit contains over 125 parts representing 50 varieties of resistance and pin styles. You are able to select the size, shape, type of element and method of adjustment to suit your applications from these popular styles of trimming potentiometers. Also included in the package are adjustment tools and the latest product literature.

754-0001. Model H-800 .....**EACH 104.95**

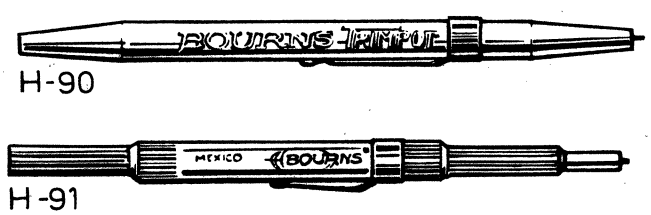
Model H-507-6, Turns Counting Dial



Model H-507-6. Used with precision potentiometers or other rotating devices for up to 15 turns. 50 dial divisions per turn. 2 parts in 1000 readability. White on black marking; clear finish. 7/8" dia.; fits 1/4" shaft. Fits panel thickness; 3/32" (2.0mm) min. 3/16" (5.0mm) max. High quality, rugged construction.

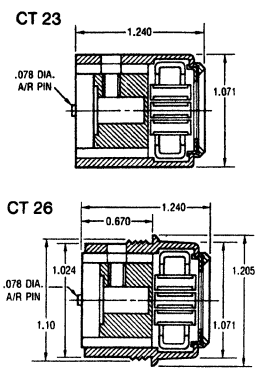
754-0004. 1-24 .....**EACH 8.72** **25-49** .....**EACH 7.83**
50-99 .....**EACH 7.49** **100-Up**.....**EACH 7.14**

Trimmer Adjustment Tools

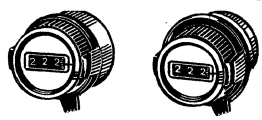


These glass-filled nylon body trim tools have corrosion resistant stainless steel blades which are extended as well as recessed for critical adjustments. Designed to adjust all sizes of trimmers. 5 inches long, .255 inches diameter.

754-0002. Model H-90 .....**EACH 1.10**
754-0003. Model H-91 .....**EACH 1.10**



CT23/CT26, Turns Counting Dials

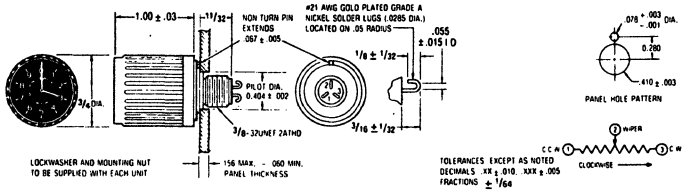


These highly accurate dials enhance the machine interface of any control panel. Excellent readability. White on black numerals. Accurate within 1/500 of a turn. White finish. Fits 1/4" shaft. #CT23, rear panelmount; #CT26 Recessed mount. 0-10 turns.

Stock No.	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
754-0006	CT23	16.89	15.16	14.50	13.16
754-0007	CT26	17.10	15.35	14.68	13.99

Model 3600S KNOBPOT®

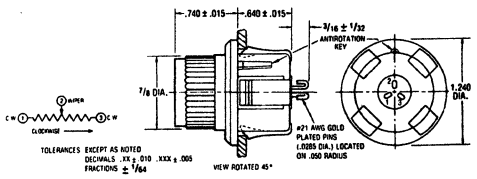
10 turn; 1.5 watt; 3/4" dia. Highly readable integral clock face readout. Cost saving, pre-phased. Easy mounting; drill two holes, install and secure with lock washer and nut. **Power Rating:** 1.5 watts @ +25°C. **Tolerance:** ±5%. **Temperature Range:** −65°C to +85°C. **Temperature Coefficient:** ±20 ppm/°C.



Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-Up
754-7550	3600S-1-501	500	37.04	33.34	29.63	27.78
754-7555	3600S-1-102	1K	37.04	33.34	29.63	27.78
754-7560	3600S-1-202	2K	37.04	33.34	29.63	27.78
754-7565	3600S-1-502	5K	37.04	33.34	29.63	27.78
754-7570	3600S-1-103	10K	37.04	33.34	29.63	27.78
754-7575	3600S-1-203	20K	37.04	33.34	29.63	27.78
754-7580	3600S-1-503	50K	37.04	33.34	29.63	27.78
754-7585	3600S-1-104	100K	37.04	33.34	29.63	27.78

Model 3610S KNOBPOT®

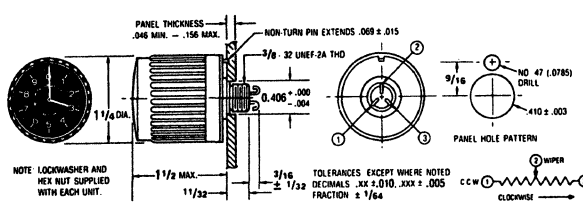
10 turn; 1.5 watt, 7/8" dia. Cost saving; space saving; easy one-hole, snap-in mounting with integral digital readout. **Temperature Range:** −25°C to +85°C. **Power Rating:** 1.5 watts @ +25°C. **Temperature Coefficient:** ±20 ppm/°C. **Tolerance:** ±5%. **Accuracy:** ±0.5%.



Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-Up
754-7650	3610S-1-501	500	38.90	35.01	31.12	29.18
754-7655	3610S-1-102	1K	38.90	35.01	31.12	29.18
754-7660	3610S-1-202	2K	38.90	35.01	31.12	29.18
754-7665	3610S-1-502	5K	38.90	35.01	31.12	29.18
754-7670	3610S-1-103	10K	38.90	35.01	31.12	29.18
754-7675	3610S-1-203	20K	38.90	35.01	31.12	29.18
754-7680	3610S-1-503	50K	38.90	35.01	31.12	29.18
754-7685	3610S-1-104	100K	38.90	35.01	31.12	29.18

Model 3640S KNOBPOT®

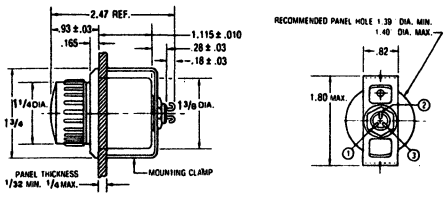
10 turn; 2.5 watt; 1 1/4" dia. Integral clock face readout. Cost saving; pre-phased; Highly readable. Easy mounting; drill two holes, install and secure with lock washer and nut. **Temperature Range:** −65°C to +85°C. **Power Rating:** 2.5 watts @ +25°C. **Tolerance:** ±3%. **Temperature Coefficient:** ±20 ppm/°C.



Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-Up
754-7750	3640S-1-102	1K	72.91	65.62	58.33	54.68
754-7755	3640S-1-202	2K	72.91	65.62	58.33	54.68
754-7760	3640S-1-502	5K	72.91	65.62	58.33	54.68
754-7765	3640S-1-103	10K	72.91	65.62	58.33	54.68

Model 3650S KNOBPOT®

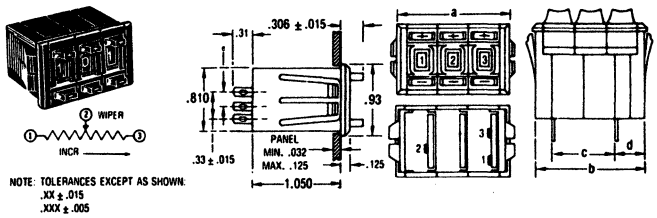
10 turn; 2.5 watt; 1 1/4" dia. Easy one-hole mounting with recessed cup furnished. Integral digital readout; cost saving; pre-phased; excellent readability. **Temperature Range:** −25°C to +85°C. **Temperature Coefficient:** ±20 ppm/°C. **Power Rating:** 2.5 watts @ +25°C. Output accuracy within 0.1% of total applied voltage. **Tolerance:** ±3%.



Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-Up
754-7850	3650S-1-102	1K	95.85	86.27	76.68	71.89
754-7855	3650S-1-202	2K	95.85	86.27	76.68	71.89
754-7860	3650S-1-502	5K	95.85	86.27	76.68	71.89
754-7565	3650S-1-103	10K	95.85	86.27	76.68	71.89

Models 3682 and 3683 KNOBPOTS®

Rear solder terminals fit standard interconnections. In-line digital readout. Convenient snap-in mounting with bezel. Rectangular to match other panel components. **Power Rating:** 2.5 watts @ +25°C. **Temperature Range:** −25°C to +85°C. **Temperature Coefficient:** ±100 ppm/°C. **Dielectric Strength:** 1000VAC @ sea level. **Resistance Tolerance:** ±3%.



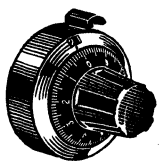
Two Decades

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-Up
754-7950	3682S-1-102	1K	20.24	18.22	14.71	13.80
754-7955	3682S-1-103	10K	20.24	18.22	14.71	13.80
754-7960	3682S-1-104	100K	20.24	18.22	14.71	13.80

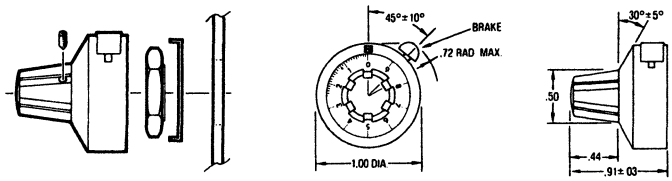
Three Decades

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-Up
754-7965	3683S-1-102	1K	30.15	27.14	21.92	20.56
754-7970	3683S-1-502	5K	30.15	27.14	21.92	20.56
754-7975	3683S-1-103	10K	30.15	27.14	21.92	20.56
754-7980	3683S-1-104	100K	30.15	27.14	21.92	20.56

H-490 Series Turns Counting Dials

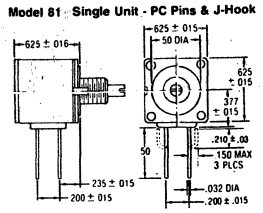


1" dia. turn counting dials for use with precision potentiometers or other rotating devices up to 30 turns. Simplified mounting, no special holes required, uses only 1" dia. panel space. No backlash, mounted directly to shaft. Excellent legibility. Available with or without brake. Two set screws standard on all models. **Temperature Range:** −15°C to +85°C.

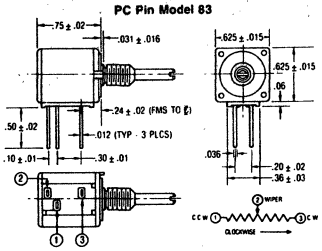


Stock No.	Mfr.'s Type	Finish	Shaft Dia.	Brake	EACH			
					1-24	25-99	50-99	100-Up
754-8050	H-492-2	Clear	1/8"	Yes	15.66	14.09	11.43	10.65
754-8055	H-494-2	Black	1/8"	Yes	15.66	14.09	11.43	10.65
754-8060	H-491-3	Clear	1/4"	No	15.66	14.09	11.43	10.65
754-8065	H-492-3	Clear	1/4"	Yes	15.66	14.09	11.43	10.65
754-8070	H-493-3	Black	1/4"	No	15.66	14.09	11.43	10.65
754-8075	H-494-3	Black	1/4"	Yes	15.66	14.09	11.43	10.65

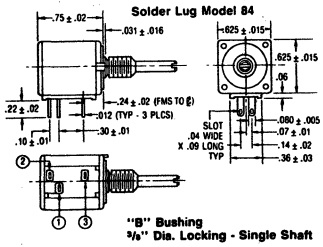
Model 81 Single Unit - PC Pins & J-Hook



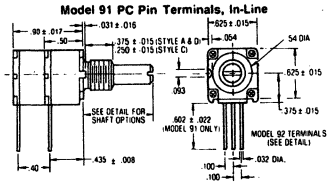
PC Pin Model 83



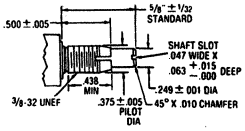
Solder Lug Model 84



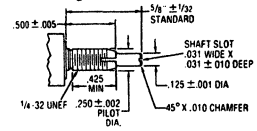
Model 91 PC Pin Terminals, In-Line



"B" Bushing
3/8" Dia. Locking - Single Shaft



"E" Bushing 1/4" Dia. Locking - Single Shaft



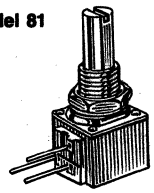
Stock No.*	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
754-87XX	81A1A-B28-A(RC)	6.85	6.17	4.04	3.08
754-88XX	81C1A-E28-A(RC)	6.85	6.17	4.04	3.08
754-89XX	81A1A-B28-B(RC)	6.85	6.17	4.04	3.08
754-90XX	81C1A-E28-B(RC)	6.85	6.17	4.04	3.08
754-91XX	83A1A-B28-J(RC)	10.44	9.40	7.62	7.10
754-92XX	84A1A-B28-J(RC)	10.44	9.40	7.62	7.10
754-93XX	84C1A-E20-J(RC)	10.44	9.40	7.62	7.10
754-94XX	91A1A-B24-B(RC)	4.22	3.81	3.07	2.30
754-95XX	91A1A-B28-B(RC)	4.22	3.81	3.07	2.30
754-96XX	91C1A-D20-B(RC)	4.22	3.81	3.07	2.30
754-97XX	91C1A-D24-B(RC)	4.22	3.81	3.07	2.30
754-98XX	91A1A-B24-D(RC)	4.22	3.81	3.07	2.30
754-99XX	91A1A-B28-D(RC)	4.22	3.81	3.07	2.30

* Using OHM Chart below, replace Stock No. with number that corresponds with desired OHM value.

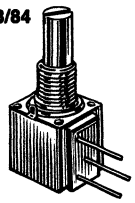
Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
250.0	07	5K	13	100K	20	2.5M	26
500.0	08	10K	15	250K	22	5.0M	27
1.0K	10	25K	17	500K	23	—	—
2.5K	12	50K	18	1M	25	—	—

10

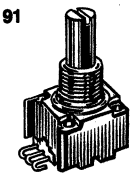
Model 81



Model 83/84



Model 91



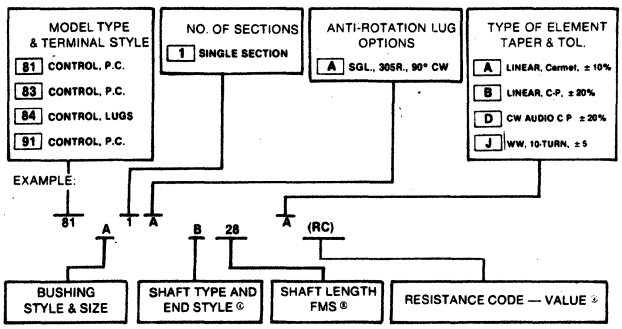
Modular Potentiometers

Model 81. Combines design versatility and advanced modular construction with factory assembeled reliability and quality assurance. The net result is a consistently high quality 5/8" square panel control. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ±1000ppm/°C. **Running Torque:** 0.3 to 1.502". 1000VAC dielectric with standing voltage @ sea level. **Minimum Resistance:** 2 Ohms. **Infinite resolution:** Single turn.

Model 83/84. The only 10 turn precision modular control in the industry. **Resistance Tolerance:** ±5%. 1000VAC dielectric withstanding voltage @ sea level. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ±55ppm/°C. **Load Life:** 1000 hrs. Moisture resistant. Infinite resolution. Compatible with all Model 80 Series.

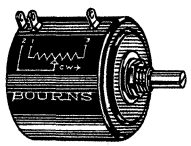
Model 91. Construction features include a one-piece molded shaft and rotor. The one-piece rotor shaft provides virtually infinite electrical circuit isolation. **Temperature Range:** -55°C to +125°C. **Temperature Coefficient:** ±1000ppm/°C. **Load Life:** 1000 hrs. 1000VAC dielectric wtihstanding voltage @ sea level.

Part Numbering System



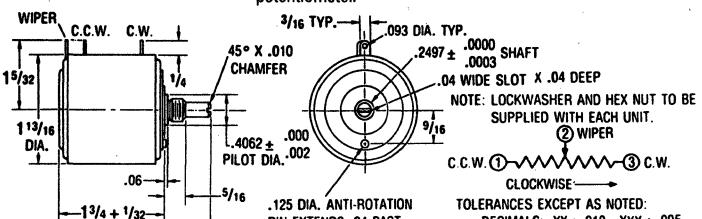
A— Plain 3/8"Dx3/8"L
B— Single, Slotted 1/4"D; Plain End 1/8"D
C— Plain 1/4"Dx1/4L
D— Single, Plain End 1/8"D

24—3/4"L	07—250	15—10K	23—500K	
28—7/8"L	08—500	17—25K	25—1 Meg	
16—1/2"L	10—1K	18—50K	26—2.5 Meg	
20—5/8"L	12—2.5K	20—100K	27—5 Meg	
24—3/4"L	13—5K	22—250K		



Model 3400S-1

10 turn, 5 Watt — 1 13/16" dia. **Oper. Temp.:** -55°C to +125°C. **Power Rating:** 5.0 Watts @ 70°C. **Resist. Tolerance:** ±3%. **End Volt.:** .15% max. sealable; ext. temp. range; high stop strength; excellent wiper stability; high power precision potentiometer.

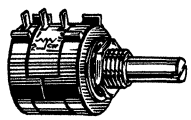


Stock No.*	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
754-84XX	3400S-1-	62.47	56.22	42.60	36.92

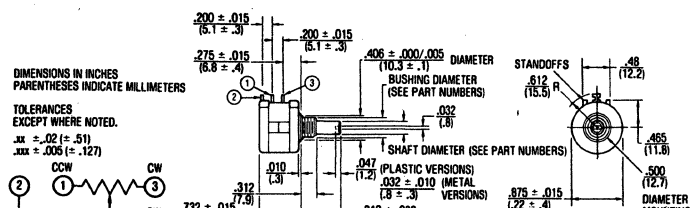
* Using OHM Chart below, replace Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	01	1K	04	20K	07	100K	10
200	02	2K	05	30K	08	200K	11
500	03	10K	06	50K	09	—	—

Model 3590



10 turn, 2 Watt, 7/8" dia. Bushing mount, wirewound element. **Oper. Temp.:** -55°C to +125°C. **Resist. Tolerance:** ±5%. **Power Rating:** 2 watts @ 40°C. 1500VAC dielectric withstanding voltage @ sea level. **Temp. Coefficient:** ±20ppm/°C.

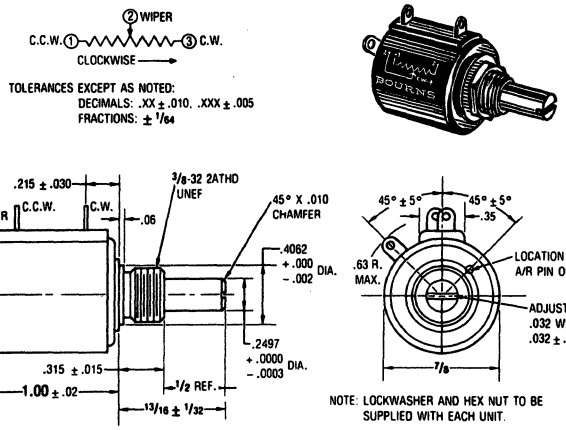


Stock No.*	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-Up
754-85XX	3590S-3	Plastic Shaft	9.39	8.45	8.13	7.31
754-86XX	3590S-4	Metal Shaft	9.83	8.85	8.51	7.65

* Using OHM Chart below, replace "XX" Stock No. with number that corresponds with desired OHM value. 50K and 100K pricing higher. PC pin terminals available. Call for pricing and minimums.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1K	01	5K	03	20K	05	100K	07
2K	02	10K	04	50K	06	—	—

Model 3500S and 3501H



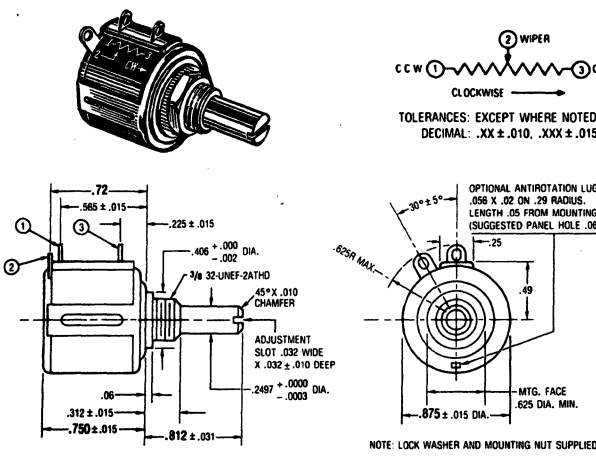
10 turn, 2 Watt, 7/8" Dia. Wirewound and Hybritron elements. Both models have power ratings of 2 Watts @ +70°C. **Model 3500S.** Wirewound. **Temperature Range:** −65°C to +125°C. **Temperature Coefficient:** ±20 ppm/°C. **Resistance Tolerance:** ±3%. **Model 3501H.** Hybritron. **Temperature Coefficient:** ±100 ppm/°C. **Resistance Tolerance:** ±10%.

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-Up
754-71XX*	3500S-2-	Wirewound	31.64	28.48	21.58	18.70
754-72XX*†	3501H-1-	Cond. Plastic	48.44	43.60	33.03	28.63

†1K, 5K and 10K only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1K	50	5K	52	20K	54	100K	56
2K	51	10K	53	50K	55	—	—

Models 3540S and 3541H



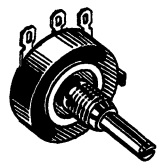
10 Turn, 2 Watt, 7/8" Dia. Wirewound and Hybritron elements. Both models have power ratings of 2 watts @ +70°C. **Model 3540S.** Wirewound. **Temperature Range:** −55°C to +125°C. **Temperature Coefficient:** ±20 ppm/°C. **Resistance Tolerance:** ±5%. **Model 3541H.** Hybritron. **Temperature Coefficient:** ±100 ppm/°C. **Resistance Tolerance:** ±10%.

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-Up
754-73XX*	3540S-1-	Wirewound	10.49	9.45	7.63	7.15
754-74XX*†	3541H-1-	Cond. Plastic	20.90	18.81	15.19	14.25

†1K to 20K only. *Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
100	50	500	52	2K	54	10K	56
200	51	1K	53	5K	55	20K	57

Model 3852
Panel Mount/Cermet Element Potentiometers



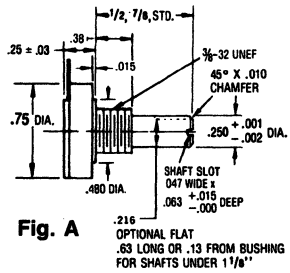


Fig. A

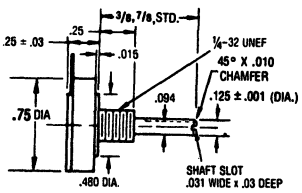


Fig. B

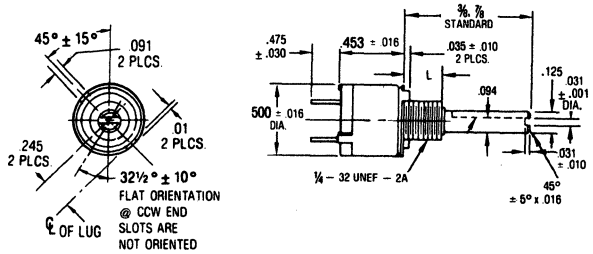
These high performance model potentiometers meet or exceed MIL-R-94 or MIL-R-23285 application requirements. **Power Rating:** 2 Watts @ +70°C. **Resistance Tolerance:** ±10%. **Contact Resistance:** Variation ±3%. **Temperature Range:** −65°C to +175°C. All are supplied with hardware. **Temperature Coefficient:** ±150 ppm/°C. **Model 3852A-162-.** 1/2" shaft length; 3/8" dia. plain bushing with 1/4" dia. shaft. **Model 3852A-282-.** 7/8" shaft length; 3/8" dia. plain bushing with 1/4" dia. shaft. **Model 3852C-122-.** 3/8" shaft length; 1/4" dia. plain bushing with 1/8" dia. shaft. **Model 3852C-282-.** 7/8" shaft length; 1/4" dia. plain bushing with 1/8" dia. shaft.

Stock No.	Mfr.'s Type	Fig.	EACH			
			1-24	25-49	50-99	100-Up
754-52XX*	3852A-162-	A	6.48	5.02	4.05	3.04
754-53XX*	3852A-282-	A	6.48	5.02	4.05	3.04
754-54XX*	3852C-122-	B	6.48	5.02	4.05	3.04
754-55XX*	3852C-282-	B	6.48	5.02	4.05	3.04

*Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1.0K	01	10K	04	100K	07	1.0M	10
2.5K	02	25K	05	250K	08	2.5M	11
5.0K	03	50K	06	500K	09	5.0M	12

Model 3862
Panel Mount/Cermet Element Potentiometer



Same features as Model 3852 except 1/2" dia. elongated body with power rating of 1 Watt @ +70°C. **Model 3862C-122-.** 3/8" shaft length; 1/4" plain bushing with 1/8" shaft dia. **Model 3862C-282-.** 7/8" shaft length; 1/4" plain bushing with 1/8" shaft dia. **Tolerance:** ±10%.

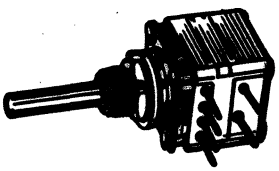
Stock No.	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
754-58XX*	3862C-122-	10.18	7.88	6.36	4.77
754-59XX*	3862C-282-	10.18	7.88	6.36	4.77

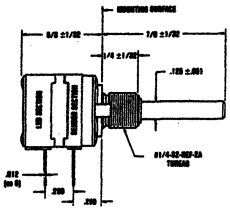
*Using OHM Chart below, replace "XX" in Stock No. with number that corresponds with desired OHM value.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1.0K	01	10K	04	100K	07	1.0M	10
2.5K	02	25K	05	250K	08	2.5M	11
5.0K	03	50K	06	500K	09	5.0M	12

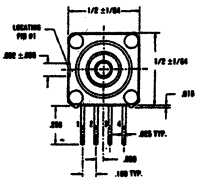
10

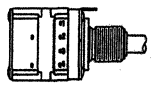
688 Encoder





OUTLINE DIMENSIONS





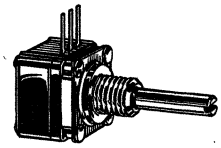
TERMINAL LAYOUT

DESCRIPTION	SECTION	
	SENSOR	LED
"B" OUT	1	-
+ 5 VOLTS	2	2
"A" OUT	3	-
GROUND	4	4

Series 688 Controls are manually-operated, rotary, incremental optical encoders that output two square waves in quadrature at a rate of 64 pulses per channel per revolution as standard with other resolutions down to 20 pulses available as special order items. The outputs are TTL compatible. Features 1/2 in. miniature, dust-free, modular size. 1 million revolutions minimum. Cost effective by eliminating A/D converters. Can be expanded to include push-push, push-pull, and/or momentary switches. Shaft rotation is continuous in either direction with 300 RPM maximum. **SPECIFICATIONS:** 5 VDC @ 30 Ma MAX; 64 pulses/revolution per channel; two separate output channels in quadrature, 90° ± 45°; High level output 2.4 volts minimum with 10K Ohm load to ground; Low level output .4 volt minimum. 1/8" dia. × 7/8" FMS plain round shaft.

753-0080. 688EN-64P ..... **EACH 51.03**

388E Mechanical Encoders



Only one half inch square, the Series 388E is a direct digital, contacting, mechanical encoder for low resolution limits in such applications as sensing, cursing, scanning or robotics. Meets those requirements for a digital output component for limited space applications. **Bushing:** 1/4 × 1/4 inches. **Shaft:** 1/8 dia. × 3/4 in. FMS lg., screwdriver slotted. **Terminals:** .875 in. lg., P.C. Pins. **Locating Pin:** 9 o'clock.

753-0070. 388EN-4. 4 Pulse/Rev/Chan. 16 Detent. 1/4 Pulse/Detent.

1-9 ..... **EACH 13.34**

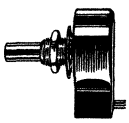
10-49 ..... **EACH 10.02**

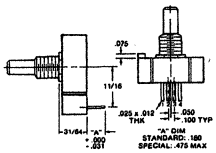
753-0075. 388EN-6. ,xk6 Pulse/Rev/Chan. 24 Detent. 1/4 Pulse/Detent.

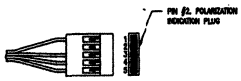
1-9 ..... **EACH 11.12**

10-49 ..... **EACH 8.35**

600 Encoders

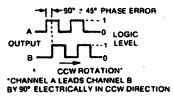


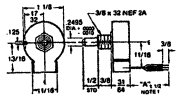




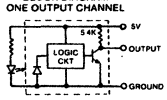
CABLE CODE		
COLOR	PIN NUMBER	FUNCTION
RED	1	5VDC ±5% @ 30ma MAX.
ORANGE	3	B CHANNEL
YELLOW	4	A CHANNEL
GREEN	5	GROUND

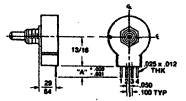
OUTPUT WAVEFORM





BLOCK DIAGRAM
ONE OUTPUT CHANNEL





- **Optical Incremental Encoders.**
- **Analog to Digital Converters.**
- **TTL Compatible All Models.**
- **Only 1.125" Diameter × .484" Deep.**

SPECIFICATIONS. Input Power: 5 volts DC ± 5% @ 30 MA max. plus external requirements. **Output Rate:** 128 pulses/revolution per channel-standard; Other pulses/revolution between 60 and 128 are available. **Channels:** Two separate output channels in quadrature, 90° ± 45°. **Output Voltage:** High level voltage – 2.4 volts min. with 10 KΩ load to ground. Low level voltage – .4 volt max. **Operating Temp:** – 20°C to + 65°. **Vibration:** 10 to 2000 Hz, 15 G peck; MIL-STD-202 method 204 test C. **Shock:** 100 G @ 6 ms MIL-STD-202 method 213 condition 1.

The series 600 controls are manually operated, rotary, optical encoders that output two square waves in quadrature at a rate of 128 pulses per channel per revolution as a standard with other resolutions down to 60 pulses available. The outputs are TTL compatible. The variation in this series is in the terminal configuration: either pin leads or cable leads.

MECHANICAL CHARACTERISTICS. Shaft Rotation: Continuous in either direction. **Operating Speed:** 300 rpm max. **Rotational Life:** 10 million revolutions. **Rotational Torque:** 1.5 oz. in max. **Shaft:** 1/4 diameter standard, stainless steel. **Bushing:** 3/8 diameter standard, brass, nickel plated. **Terminals:** P/C Type: 0.25 by 0.12 thick brass, gold plated to facilitate soldering. Cable Type: Four lead ribbon cables, color-coded, with .050 spacing, 28 AWG stranded copper wire, 0.39 diameter. **Strength:** Terminals withstand 2 lb. push and pull and a 90° bend. **Mounting Hardware:** For 3/8 bushing, hex mounting nut 3/8 × 32 thread, 1/2 across flats, 3/32 thick; internal tooth lockwasher 11/16 O.D. by .022 thick. **Seals:** Mounting seal and shaft seal available. Controls are not sealed for board washing. **Weight:** P/C type or cable type. 1 in. FMS shaft and 3/8 bushing-.046 lb. (21 G). **Loc. Pin (NOT STANDARD):** Single pin located 17/32 from center can be supplied.

No. 600EN-128-CBL (Cable Style) a four lead ribbon cable ± color coded with .050 spacing, 28 AWG stranded copper wire. 039 diameter. Length 7.5".

753-0060 ..... **EACH 25.00**

No. 600EN-128-CN1. As above except wire leads have connector.

753-0059 ..... **EACH 33.67**

No. 600EN-128-B66 employs PC mounting vertical plane. 160" long. Terminals are gold plated on .025 by .012 brass to facilitate soldering.

753-0061 ..... **EACH 23.58**

No. 600EN-128-C24 employs PC mounting horizontal plane .160" long. Terminals are gold plated on .025 by .012 brass to facilitate soldering.

753-0062 ..... **EACH 20.50**

Clarotrim Trimmers

- **Superior Setability and Stability**
- **Tempco of ±100% PPM/°C**
- **CRV of 3% or 3Ω**
- **Sealed for cleaning in common solvents**

SPECIFICATIONS. Per MIL-R-22097 where (para.) is noted. **SERIES 343P.** Low profile, .5 Watt. Rectilinear cermet. **Effective Travel:** 20 turns nominal. **Resistance Tolerance:** ± 10%. **Power Rating:** 0.75 Watt at 70°C. **Stops:** Wiper idles against stops. **Weight:** 0.04 oz. (1.2g) maximum. **SERIES 363.** 3/8", .5 Watt Cermet. **Effective Travel:** 270 nominal. **Resistance Tolerance:** 20% (± 10% available). **Power Rating:** 0.5 Watt at 70°C. **Stops:** Solid. **Weight:** 0.03 oz. (0.85g) maximum. **SERIES 364.** 3/8" square, .5 Watt. Multiturn cermet. **Effective Travel:** 25 turns nominal. **Resistance Tolerance:** 10%. **Power Rating:** 0.5 Watt at 85°C. **Stops** Contact idles at stops. **Weight:** 0.04 oz. (1.13g) maximum. **SERIES 367.** 1/4" square, 1/2 watt. Single turn cermet. **Effective Travel:** 240 nominal. **Resistance Tolerance:** 20% Std. **Power Rating:** 0.50 Watt at 70°C. **Stops:** Solid. **Weight:** 0.01 oz. (0.28g) maximum. **SERIES 370.** High stability, 1 Watt. Multiturn cermet. **Effective Travel:** 20 turns nominal (para. 3.8). **Resistance Tolerance:** 10% (para. 3.7.1.). **Power Rating:** 1.0 Watt at 85°C. **Stops:** Wiper idles against stops. **Weight:** 0.116 oz. (3.3g) maximum. 363, 364 and 367 have 0.10" line spacing.

Refer to Table A to complete Stock Number for ordering.

Stock No.	Mfr.'s Type	EACH			
		1-9	10-49	50-99	100-Up
753-40XX	343P	1.67	1.52	1.38	1.10
753-41XX	363M	1.48	1.28	1.13	.87
753-42XX	363P	1.48	1.28	1.13	.87
753-43XX	363X	1.48	1.28	1.13	.87
753-44XX	364P	2.36	2.05	1.86	1.61
753-45XX	364W	2.36	2.05	1.86	1.61
753-46XX	364X	2.36	2.05	1.86	1.61
753-47XX	364Y	2.36	2.05	1.86	1.61
753-48XX	367T	1.67	1.51	1.38	1.13
753-38XX	370L	5.58	4.80	4.08	3.53
753-39XX	370Y	5.58	4.80	4.08	3.53

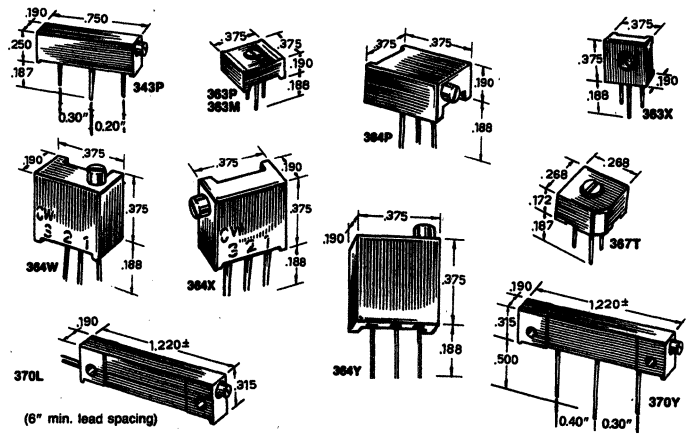
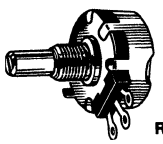
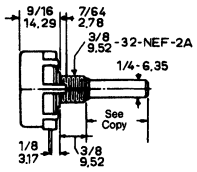


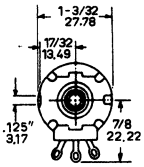
TABLE A: Select Ohms desired, and replace XX in Stock Number with corresponding number from chart.

Ohms	XX	Ohms	XX	Ohms	XX
100	10	2K	30	50K	50
200	15	5K	35	100K	55
500	20	10K	40	200K	60
1K	25	20K	45	500K	65
—	—	—	—	1M	70

MIL-R-94 RV4 2-Watt Conductive Plastic Potentiometer


RV4N





Crafted of the finest materials available to insure long, reliable service. Provides extra long life with very low noise level. Rated 2 watts. Precision construction is completely enclosed. Carbon-ceramic element. RV4L designates 5/8" screwdriver slotted shaft FMS with 1/2" split locking bushing provided. RV4N indicates 7/8" screwdriver slotted shaft FMS. 3/8" long bushing has 5/8-32-NEF-2A thread. **Av. shpg. wt.:** 4 oz. 1/4" diameter shaft.

Specifications. Resistance tolerance: 1 meg ±10% over 1 meg ±20%. **Rotation:** 312° ±3%. **End Resistance:** Per MIL-R-94. **Working Voltage:** 500 VDC across end terminals. Linear Taper. ±20% Tolerance. 1/4" Shaft.

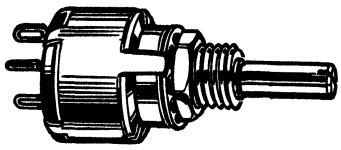
Stock No.—List—See Prices Below

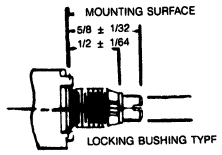
Stock No.	MIL Type RV4LAYSA-	Ohms	Stock No.	MIL Type RV4NAYSD-	Ohms
753-1001	101A	100	**753-1301**	101A	100
753-1075	251A	250	**753-1375**	251A	250
753-1140	501A	600	**753-1340**	501A	500
753-1005	102A	1000	**753-1305**	102A	1000
753-1055	202A	2000	**753-1355**	202A	2000
753-1080	252A	2500	**753-1380**	252A	2500
753-1145	502A	5000	**753-1445**	502A	5000
753-1010	103A	10K	**753-1310**	103A	10K
753-1085	253A	25K	**753-1385**	253A	25K
753-1050	503A	50K	**753-1450**	503A	50K
753-1015	104A	100K	**753-1315**	104A	100K
753-1090	254A	250K	**753-1390**	254A	250K
753-1155	504A	500K	**753-1455**	504A	500K
753-1020	105A	1meg	**753-1320**	105A	1meg
753-1160	505B	5meg	**753-1360**	505B	5meg

RV4 Pricing

MIL Type	EACH			
	1-9	10-49	50-99	100-249
RV4N	**9.34**	**6.54**	**5.81**	**3.89**
RV4L	**10.20**	**7.15**	**6.68**	**4.58**

RV6 Series 1/2-Watt MIL Potentiometers





Military Potentiometer—RV6 Series 1/2-Watt conductive plastic. The RV6 series is a high resolution, highly stable unit suitable for applications requiring miniaturization and reliability. 1/8" dia. shaft (7/8" long on STD; 3/8" long on locking).

Specifications. Resistance Tolerance: ±10%. **Power Rating:** 0.5 watt @ 70°C. Derated to zero power @ 120°C.. **Electrical & Mechanical Rotation:** 295° ±3°. **Effective Rotation:** 265° +0° −10°. **End Resistance:** 5 max. up to 750 10 max. above 750. **Functional Output:** Linear. **Dielectric Strength:** 750 VAC for 60 seconds @ ATM. 350 VAC for 60 seconds. 3.44 in H.G.. **Working Voltage:** 350 VDC maximum, but power not to exceed rating. Available with standard or locking type bushing. **RV6L:** locking bushing. **RV6N:** standard bushing.

Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	Value
753-2101	RV6NAYSD101A	**753-3101**	RV6LAYSA101A	100Ω
753-2251	RV6NAYSD251A	**753-3251**	RV6LAYSA251A	250Ω
753-2501	RV6NAYSD501A	**753-3501**	RV6LAYSA501A	500Ω
753-2102	RV6NAYSD102A	**753-3102**	RV6LAYSA102A	1000Ω
753-2502	RV6NAYSD502A	**753-3502**	RV6LAYSA502A	5000Ω
753-2103	RV6NAYSD103A	**753-3103**	RV6LAYSA103A	10,000Ω
753-2253	RV6NAYSD253A	**753-3253**	RV6LAYSA253A	25,000Ω
753-2503	RV6NAYSD503A	**753-3503**	RV6LAYSA503A	50,000Ω
753-2104	RV6NAYSD104A	**753-3104**	RV6LAYSA104A	100,000Ω
753-2504	RV6NAYSD504A	**753-3504**	RV6LAYSA504A	500,000Ω
753-2105	RV6NAYSD105A	**753-3105**	RV6LAYSA105A	1megΩ

RV6 Pricing

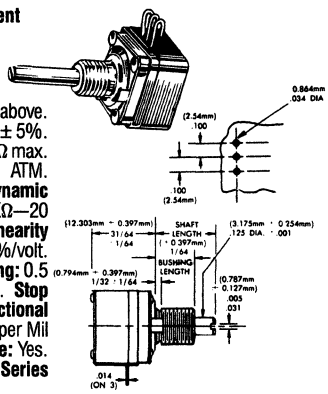
MIL Type	EACH			
	1-9	10-49	50-99	100-249
RV6N	**8.64**	**6.26**	**3.79**	**3.11**
RV6L	**9.26**	**6.43**	**4.06**	**3.34**

10

1/2" Square, Bushing Mounted Modular Potentiometers

1/2 Watt Series 388/408 Conductive Plastic Element

- **Free Interchange of Resistive Elements**
- **Meets MIL-R-94**
- **Mounts on 0.10" In-Line Pin Spacing**



Resistance Tolerance: ±10% up to 500 K, ±20% above. **Electrical and Mechanical Rotation:** 295° ±5%. **Effective Rotation:** 265° ±5%. **End Resistance:** 4Ω max. linear. **Dielectric Strength:** 750 VAC for 60 Sec. ATM. **Working Voltage:** 350 VDC across terminals. **Dynamic Noise:** 1.5% total resistance. **Static Noise:** to 30 KΩ—20 dB; 100 KΩ—12 dB; 1 Meg and over— +3 dB. **Linearity (Independent):** ±5%. **Voltage Coefficient:** .008%/volt. (max.). **Rotational Life:** 50,000 cycles. **Power Rating:** 0.5 watts at 70°C. **Torque Range:** .2 to 3.0 oz.-in. **Stop Torque:** 3 lb.-in. **Weight:** .018 lb. (typical). **Functional Output:** Linear. **Insulation Resistance:** 1,000 Meg per Mil std. 202. **Resolution:** Infinite. **Corrosion Resistance:** Yes. **Terminal Style:** Hook. **408N Series same as 388N Series except sealed and washable version.**

Stock No.*	Mfr.'s Type	Standard Resistance Values	EACH			
			1-9	10-49	50-99	100-249
753-90XX	388L	250, 500, 1K, 5K, 10K, 25K, 50K, 100K, 500K, 1M	**6.84**	**5.35**	**4.63**	**3.20**
753-91XX	388N	250, 500, 1K, 5K, 10K, 25K, 50K, 100K	**6.11**	**5.09**	**4.36**	**2.69**
753-53XX	408N	250, 500, 1K, 5K, 10K, 25K, 50K, 100K	**7.27**	**5.44**	**4.67**	**3.24**

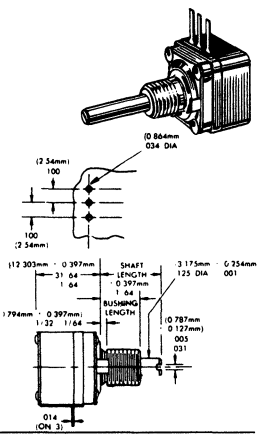
*Using Ohm Chart below, replace "XX" in Stock Number with numbers which correspond with desired Ohm Value.

Series 388 and 389 Available with P.C. Pins on Special Order—Minimum Quantity of 10 Pieces

Mfr.'s Type	Description
389N/388N	Plain Bushing (3/4" FMS screwdriver slotted shaft with 1/4" plain bushing)
389L/388L	Locking Bushing (7/16" FMS screwdriver slotted shaft with 3/8" locking bushing)

1 Watt Series 389/409 Cermet Element

- **Mounts on 0.10" In-Line Pin Spacing**



Resistance Tolerance: ±10%. **Electrical and Mechanical Rotation:** 295° ±5%. **Effective Rotation:** 250° ±5%. **End Resistance:** 4Ω max. linear. **Dielectric Strength:** 900 VAC for 60 Sec. ATM. **Working Voltage:** 350 VDC across terminals. **Dynamic Noise:** 3% total resistance. **Static Noise:** to 100Ω—25 dB; 10 KΩ—15 dB; 100 KΩ—10 dB. **Linearity (Independent):** ±5%. **Voltage Coefficient:** .008% volt (max.). **Rotational Life:** 25,000 cycles. **Power Rating:** 1 watt at 85°C. **Torque Range:** .2 to 3.0 oz.-in. **Operating Temperature:** 65°C to −150°C. **Stop Torque:** 3 lb.-in. **Weight:** .018 lb. (typical). **Functional Output:** Linear. **Insulation Resistance:** 100 Meg per MIL std. 202. **Resolution:** Infinite. **Corrosion Resistant:** Yes. **Terminal Style:** PC pins. Tapered Linearity available as special order item. **409N Series same as 389N series except sealed and washable version.**

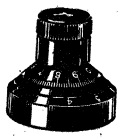
Stock No.*	Mfr.'s Type	Standard Resistance Values	EACH			
			1-9	10-49	50-99	100-249
753-92XX	389L	250, 500, 1K, 5K, 10K, 25K, 50K, 100K, 500K, 1 M	**7.54**	**5.75**	**5.11**	**3.55**
753-93XX	389N	250, 500, 1K, 5K, 10K, 25K, 50K, 100K	**6.98**	**5.66**	**4.82**	**3.36**
753-56XX	409N	250, 500, 1K, 5K, 10K, 25K, 50K, 100K	**8.22**	**6.18**	**5.30**	**3.68**

*Using Ohm Chart below, replace "XX" in Stock Number with numbers which correspond with desired Ohm Value.

Standard Resistance Values ("Ohm Chart")

Ohms	XX	Ohms	XX	Ohms	XX
250	12	10K	60	500K	80
500	15	25K	65	1M	90
1K	20	50K	70	—	—
5K	50	100K	75	—	—

10 Turn Concentric Scale Dials



Calibrated dials designed for multi-turn potentiometers up to ten turns. Requires only one inch of panel space. Knob attaches directly to the shaft, and the body of the dials is mounted rigidly to the panel. **Mounting Requirements:** 1/4" shaft and 3/8" 32-NEF-2A bushing.

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
753-0007	411	Black Anodize, No Lock	11.41	10.65	9.44	8.72
753-0008	412	Black Anodize, With Lock	12.43	11.59	10.28	9.49
753-0009	461	Clear Anodize, No Lock	11.41	10.65	9.44	8.72
753-0010	462	Clear Anodize, With Lock	12.43	11.59	10.28	9.49

Claroknobs

JD

DD

DDS

HD

The Claroknob is a high quality knob fabricated from machined aluminum. Manufactured to enhance products, the Claroknob comes in a variety of styles for your requirements. HD series is a control knob with a sawcut indicator. JD series is a straight knurl with top and side indicator. DD series is a straight knurl with side indicator. The DDS series is a straight knurl with arrow on skirt. Stainless-steel setscrews are standard. One setscrew for HD series and two setscrews for JD, DD, DDS series. For use with 1/8" or 1/4" diameter shafts. Anodized in clear or black, gloss or matte finishes.

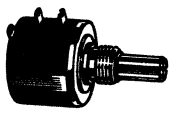
Stock No.*	Mfr.'s Type	Knob Dia.	Overall Height	EACH		
				1-49	50-99	100-Up
753-06XY	HD-50†	.500	1.000	2.07	1.97	1.85
753-07XY	HD-75†	.750	1.000	2.46	2.34	2.19
753-08XY	HD-90†	.925	1.000	2.81	2.67	2.51
753-09XY	JD-50	.500	.625	1.75	1.65	1.54
753-15XY	JD-75	.750	.625	1.86	1.77	1.66
753-16XY	JD-90	.925	.625	2.09	1.98	1.86
753-17XY	DD-50	.500	.625	1.75	1.65	1.54
753-18XY	DD-75	.750	.625	1.86	1.77	1.66
753-19XY	DD-90	.925	.625	2.09	1.98	1.86
753-20XY	DDS-50	.500	.625	2.27	2.15	2.03
753-23XY	DDS-75	.750	.625	2.41	2.29	2.14
753-24XY	DDS-90	.925	.625	2.63	2.50	2.34

*NOTE: To complete stock number replace the letter with the number of the option desired. For X: 5 = 1/4" shaft; 6 = 1/8" shaft. For Y: 1 = Clear, 2 = Black, 3 = Matte Clear, 4 = Matte Black. †For matte finish, add $.20 each.

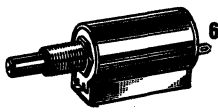
10

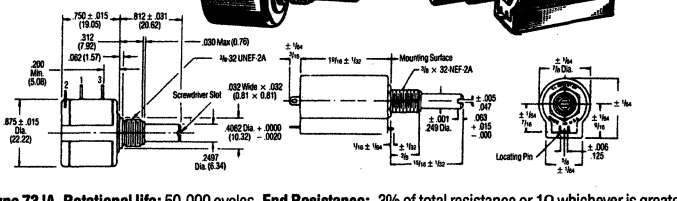
2 Watt Wirewound Precision 10-Turn Potentiometers

73JA



62JA





Type 73JA. Rotational life: 50,000 cycles. **End Resistance:** .3% of total resistance or 1Ω whichever is greater. 13/16" FMS screwdriver, slotted, stainless steel. 5/16" plain bushing. **Dielectric Strength:** 1000 VAC for 60 sec. at ATM. Metal Shaft. Metal Bushing.

Stock No.	Mfr.'s Type	Power Rating	Working Voltage	Stop Torque	Resistance Values (Ohms) See Table B	EACH			
						1-9	10-24	25-49	50-99
753-02XX	73JA	2 Watt @70°C	500V max.	75 oz.-in.	100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K	10.29	8.55	7.98	7.45
					50K	14.15	11.73	10.91	10.22
					100K	14.91	12.36	11.50	10.75

62JA 10 Turn Potentiometer
Type 62JA. 3/8" plain bushing. **Slotted shaft:** 15/16" FMS. 100,000 shaft revolutions life. Sleeve bearings. **Functional Output:** Linear. **Absolute Linearity:** ± 0.25%. **Power Dissipation:** 2 watts at 25°C.

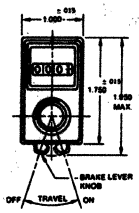
Stock No.	Mfr.'s Type	Resistance Values (Ohms) See Table B	Resis. Tol.	Stop Torque	Effective Rotation	EACH		
						1-9	10-99	100-Up
753-01XX	62JA	100, 200, 250, 500, 1K, 2K, 2.5K, 5K, 10K, 20K, 25K	± 5%	50 oz.-in.	3600°	21.30	17.68	15.62
		30K, 50K				22.10	18.35	16.27
		100K				24.84	20.64	18.23

Table B—Important Ordering Information

To Order: Complete the Stock Number shown by placing the designated Resistance code for Ohms Value where XX appears in the Stock Number. Each particular listing shows what ohm values are available.

Value	RC	Value	RC	Value	RC	Value	RC	Value	RC
100	21	500	26	2.5K	33	20K	44	50K	53
200	22	1K	29	5.0K	38	25K	45	100K	59
250	23	2K	32	10.0K	41	30K	46	—	—

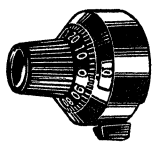
Digital Readout Dials

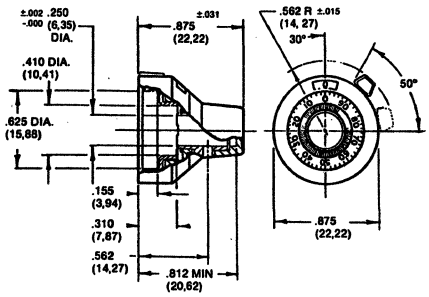


Digi-Dials are designed for multi-turn potentiometers. Removable knob exposes end of component shaft for precise phasing. Positive breaking action and large, highly readable numbers. **Mounting Requirements:** 1/4" shaft and 3/8" 32-NEF-2A bushing.

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
753-0005	DR300	3 Digit Metallic Finish	18.51	15.05	13.44	12.58
753-0006	DR400	4 Digit Metallic Plastic	29.32	23.79	21.23	19.82

Clarodials



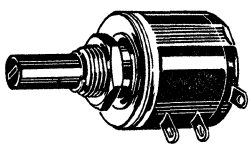


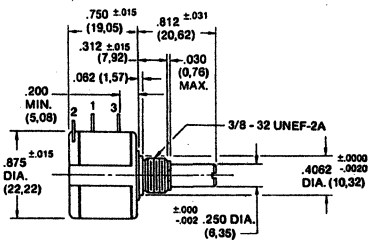
A high quality concentric scale dial designed to be used in conjunction with the **73JB** multiturn potentiometer, the series **316** is available in clear brushed metal design or black anodized metal with white numerals at slightly higher cost. Price inducements are available when the **73JB** and **316** dial are purchased together as a set.

Readout and Operation: Unit shall register a total count of 15 turns. The number in the window (0-14) indicates completed number of turns of the drive sleeve. Graduated circular dial indicates the percent of a partial turn of the drive sleeve. **Transfer Point:** The number in center of window shall change as graduated dial rotates between 94 and 0. **Rotation:** Readout shall increase wth clockwise and decrease with counterclockwise rotation. **Brake Lever Operation:** 1st Position (15° movement of Brake Lever) operates a high torque system for fine adjustment; 2nd Position (15° additional movement of Brake Lever) actuates brake. **Accuracy:** Backlash shall be zero between graduated dial and drive sleeve. **Mounting:** Install mounting bracket between panel and panel nut. Clarodial shall mount directly to shaft with No. 2-56 spline socket set screw, located adjacent to No. 50 on graduated dial. **Numeral Size:** 0.075 high. **Graduation Size:** Numeral graduations .045 long (1,14) intermediate graduations .030 long (0.76). **Finish:** Exposed metal parts—Brushed metal finish; Turning knob and brake lever knob—Black plastic. **Numerals:** Graduated Dial—black; Turns Counter—white on black background. **Weight:** 0.7 oz. max. (19.84 gm).

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
753-0300	316-11	Clear Anodized	9.49	8.87	8.18	7.67
753-0301	316-12	Black Anodized	10.57	9.69	9.22	8.54

Precision 10 Turn — 2 Watt Potentiometer



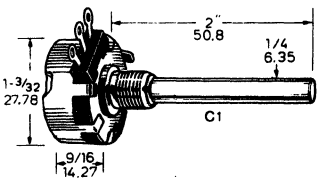


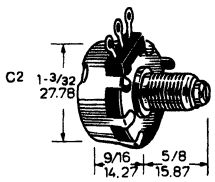
Series 73JB is the economical version of **73JA** offering all the electrical features of the latter but employing a long life nylon shaft construction. When paired with the low cost concentric dial series **316**, the savings are substantial.

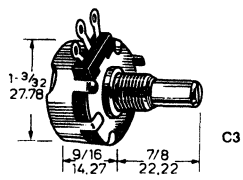
Resistance Tolerance: ± 5%. **Electrical/Mechanical Rotation:** 3600° + 10° − 0°. **Effective Rotation:** 3600° nominal. **Working Voltage:** 500 volts max. **Independent Linearity:** 100 ohm to 100K ohms, ± 0.25%. **Rotational Life (Max):** 50,000 cycles. **Power Rating:** 2 watt at 70°C. **Shaft Length and Size:** 13/16 FMS screwdriver slotted, black, glass filled nylon material. **Bushing Style:** 5/16 Plain. **Torque Range:** 0.5 oz. in. minimum. **Stop Torque:** 75 oz. in. (static). **Insulation Resistance:** 1000 Megohms minimum. **NOTE:** Locating pin supplied only as special order.

Stock No.	Mfr.'s Type	Resistor Value (Ohms) See Table B	EACH			
			1-9	10-24	25-49	50-99
753-03XX	73JB	100, 200, 500, 1000, 2000, 5000, 10K, 20K, 25K	5.94	5.83	5.39	4.73
753-03XX	73JB	50K, 100K	8.09	7.70	7.21	6.77

2-Watt Series 380 Thick Film Conductive Plastic Called the "Quiet Ones"







These quiet, precision-made potentiometers are made by a controlled process that virtually insures a reliable, homogeneous and strain-free resistance element with 1% dynamic noise and 5% independent linearity. All have stainless steel shafts. **Type C1** has 2" round shaft FMS. 3/8" long bushing with 3/8" × 32. NEF-2A thread.

Type C2 has 5/8" screwdriver slotted shaft FMS with a 1/2" split locking bushing. **Type C3** has 7/8" screwdriver shaft FMS 3/8" long bushing with 3/8" × 32-NEF-2A thread. Resistance Tolerance, up to 1 megohm ± 10%, above ± 20%. Dielectric strength, 1000 VAC. Wt. 1 oz.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-49	50-99
753-5023	380-C1-100-S	100	5.84	5.20	4.65
753-5029	380-C1-250-S	250	5.84	5.20	4.65
753-5035	380-C1-500-S	500	5.84	5.20	4.65
753-5047	380-C1-1000-S	1000	5.84	5.20	4.65
753-5053	380-C1-2500-S	2500	5.84	5.20	4.65
753-5059	380-C1-5000-S	5000	5.84	5.20	4.65
753-5061	380-C1-10K-S	10K	5.84	5.20	4.65
753-5067	380-C1-25K-S	25K	5.84	5.20	4.65
753-5073	380-C1-50K-S	50K	5.84	5.20	4.65
753-5075	380-C1-100K-S	100K	5.84	5.20	4.65
753-5083	380-C1-500K-S	500K	5.84	5.20	4.65
753-5087	380-C1-1 Meg-S	1Meg	5.84	5.20	4.65
753-5173	380-C2-50K-S	50K	7.81	6.85	5.92

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-24	25-49	50-99
753-5175	380-C2-100K-S	100K	7.81	6.85	5.92
753-5223	380-C3-100-S	100	5.84	5.20	4.65
753-5235	380-C3-500-S	500	5.84	5.20	4.65
753-5247	380-C3-1000-S	1000	5.84	5.20	4.65
753-5253	380-C3-2500-S	2500	5.84	5.20	4.65
753-5259	380-C3-5000-S	5000	5.84	5.20	4.65
753-5261	380-C3-10K-S	10K	5.84	5.20	4.65
753-5267	380-C3-25K-S	25K	5.84	5.20	4.65
753-5273	380-C3-50K-S	50K	5.84	5.20	4.65
753-5275	380-C3-100K-S	100K	5.84	5.20	4.65
753-5283	380-C3-500K-S	500K	5.84	5.20	4.65
753-5287	380-C3-1 Meg-S	1Meg	5.84	5.20	4.65
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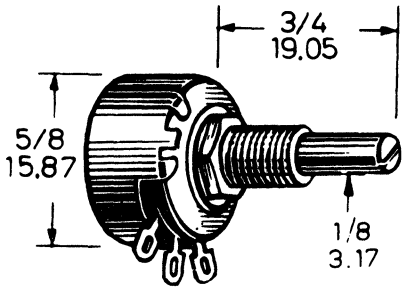
Series 381 1-Watt 5/8" Diameter Thick Film Conductive Plastic



- **Precision Machined from Corrosion Resistant and Non-Magnetic Materials**
- **Rotational Life 100,000 Cycles Under Load**
- **Homogeneous, Strain-Free Thick-Film Resistance Element with 1% Dynamic Noise, 5% Independent Linearity**
- **Meets Stringent MIL-R-94 Specifications**

Construction: plain 1/4" long bushing (L-Types are Locking Bushing) with 1/4-32 NEF-2A thread; brass nickel plated shaft 3/4" long; dust and splash proof housing; cover to base epoxy sealed; terminals molded into base and sealed for solderability per MIL-STD-202, Method 208B, Resistance tolerance; Linear up to 500K ohms ± 10%, above 500K ohms ± 20%.

Stock No.	Mfr.'s Type	Std. Resis. Values Ohms (See Table A)	EACH			
			1-9	10-49	50-99	100-249
753-83XX	381N	250 — 5 Megs	4.86	5.08	4.33	3.30
753-84XX	381L	250 — 5 Megs	6.20	5.36	4.58	3.20

Table A

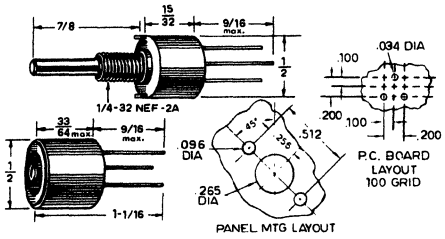
Complete the Stock Number by placing the designated Resistance Code for Ohms value where XX appears in Stock Number. Check values available in table below.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
250.0	29	5K	59	100K	75	2.5M	90
500.0	35	10K	61	250K	81	5.0M	95
1.0K	47	25K	67	500K	83	—	—
2.5K	53	50K	73	1M	87	—	—

Table B

Value	RC	Value	RC	Value	RC
100.0	21	5K	38	250.0K	63
250.0	23	10K	41	500.0K	67
500.0	26	25K	45	1.0Meg	70
1.0K	29	50K	53	2.5Meg	75
2.5K	33	100K	59	5.0Meg	90

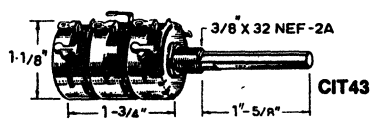
Series 392 Immersible 0.5 Watt Potentiometers



Economical potentiometer designed to meet wave soldering applications for mounting to PC boards. Meets flow solderability and washability test requirements. MIL-R-94 standards apply where applicable. **Resistance Tolerance:** Linear, up to 1 megohm ± 10%, 2.5 megohm to 5 megohms ± 20%. Tapers, up to 100KOMEGA ± 10%,100 KOMEGA to 5 megohms ± 20%. **Resistance Range:** 100 Ω to 5 megohms, linear; 500 Ω to 2 megohms, tapered. **Power Rating:** 0.5 watt maximum continuous power rating for linear taper, but voltage not to exceed rating. **Working Voltage:** 350 VDC across end terminals, but power not to exceed rating. **Linearity:** ± 5% Independent. **Torque Range:** .20 to 2.0 oz. in. **Shafts, Standard:** .125" dia. **Solvent Resistance:** Housing resistant to trichlorethylene, chlorethene, NU Freon TMS, Freon TMC, carbon tetrachloride, toluene, MEK ethyleacetate and gasoline.

Stock No.	Mfr.'s Type	Resistance Values (Ohms)	Description	EACH			
				1-9	10-49	50-99	100-Up
753-94XX	392JA	See Table B	7/8" long shaft FMS, screwdriver slotted metal bushing and shaft, P.C. terminals	8.70	6.32	3.65	2.87
753-95XX	392JB	See Table B	Same as 392JA but with plastic shaft and bushing	6.96	5.05	2.92	2.30
753-96XX	392-5	See Table B	Bushingless version, plastic shaft and faceplate	6.37	4.63	2.67	2.10

Constant Impedance Attentuators and Audio Controls



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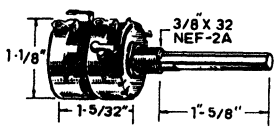

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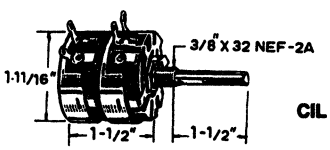


CIL

4 Watt Audio L-, T-, and Bridge T-Pads. Ratted 2 Watts DC; will handle up to 4 Watts audio. **Specifications.** Attenuation range of 0-30 dB over 90% of rotation, 60 dB in remaining 10%. Increases approximately linearly to 30 dB with counter-clockwise rotation. Insertion loss less than 0.5 dB. Input impedance within ± 20%. Pads have 3/8 × 32 3/8" bushing. 1/4" diameter shafts, 15/8" beyond bushing. Shafts and bushings are insulated from the circuit elements. All pads come with bar knob and dial plates.

Stock No.	Mfr.'s Type	Description	Ohms	Watts	EACH	
					1-24	25-Up
753-8707	CIL-8	L-PAD	8	10	13.54	12.28
753-8720	CIL-500	L-PAD	500	10	13.54	12.28
753-8725	CIL-1000	L-PAD	1000	10	13.54	12.28
753-8730	CIL-2000	L-PAD	2000	10	13.54	12.28
753-8735	CIL-5000	L-PAD	5000	10	13.54	12.28

10 Watt Audio T-, L- and Dual L-Pads. Rated at 2 1/2 Watts DC; will handle up to 10 Watts audio. **Specifications.** Attenuation range of 0-30 dB over 90% of rotation, infinite in remaining 10%. Increases approximately linearly to 30 dB with counter-clockwise rotation. Insertion loss less than 0.5 dB. Input impedance within ± 20%. Pads have 3/8 × 32 3/8" bushing. 1/4" dia. shafts 15/8" beyond bushing. Shafts and bushings are insulated from the circuit elements. All pads come with bar knob and dial plates.

Stock No.	Mfr.'s Type	Description	Ohms	Watts	EACH	
					1-24	25-Up
753-8007	CIL43-8	L-PAD	8	4	13.54	12.28
753-8020	CIL43-500	L-PAD	500	4	13.54	12.28
753-8023	CIL43-600	L-PAD	600	4	13.54	12.28
753-8117	CIT43-250	T-PAD	250	4	15.65	14.06
753-8123	CIT43-600	T-PAD	600	4	15.65	14.06

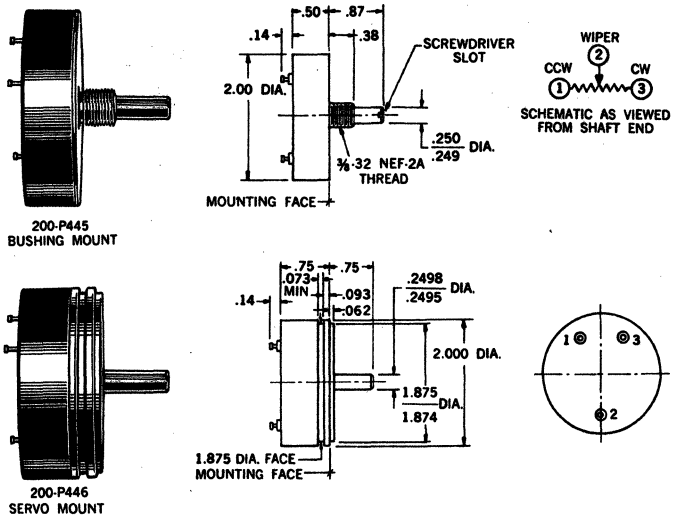
Series 200-P

2-Watt Solid Molded Element Conductive Plastic Potentiometer

Single Turn 2-Watt Conductive Plastic, Bushing Mount Potentiometer
The raised resistance track is molded to the nonconductor base. Unique contact design minimizes track contact wear, resulting in rotational life far exceeding conventional film type potentiometers. Material selection insures trouble-free operation in applications where oil, dust, moisture and other contamination is present. Rated 2 watts at 40°C. **Resistance Tolerance:** ±20%. **Operating Temperature:** −55°C to 105°C. **Independent Linearity:** ±2%. Bronze bearings. **Life expectancy:** 20,000,000 revolutions at 40 rpm. **Model 200-P445.**

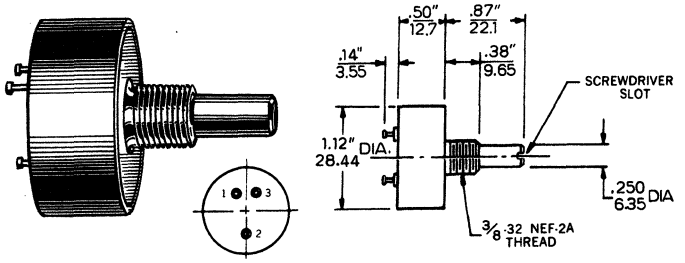
Single Turn 2-Watt Conductive Plastic Servo Mount Potentiometer
The molded raised track and special wiper material combine to create a quality potentiometer with a minimum life expectancy of 100,000,000 revolutions at 40 rpm. Rated 2 watts at 40°C. Provides trouble-free operation in applications where oil, dust, moisture and other contamination is present. **Resistance Tolerance:** ±10%. **Independent Linearity:** ±0.5%. **Operating Temperature:** −55° to 105°C. Stainless steel ball bearings. **Model 200-P446.**

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-4	5-9	10-24
606-0200	200-P445-102	1K	118.75	108.85	100.40
606-0202	200-P455-502	5K	118.75	108.85	100.40
606-0204	200-P455-103	10K	118.75	108.85	100.40
606-0206	200-P445-203	20K	118.75	108.85	100.40
606-0208	200-P446-102	1K	235.87	216.22	199.58
606-0210	200-P446-502	5K	235.87	216.22	199.58
606-0212	200-P446-103	10K	235.87	216.22	199.58
621-0214	200-P446-203	20K	235.87	216.22	199.58



Other resistance values available on special order.

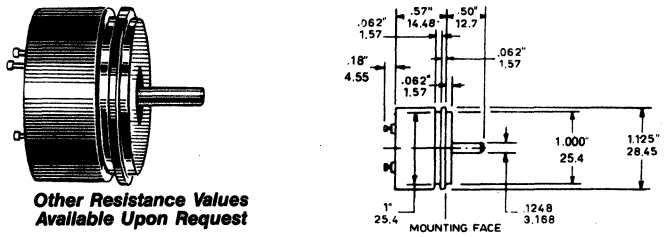
Series 112-P16 1-Watt Solid Molded Element, Single Turn, Conductive Plastic, Bushing Potentiometer



Unit has infinite resolution, with a mechanical life of 20,000,000 revolutions at 40 rpm. Economical. This size is the workhorse for a multitude of military and industrial applications where its relative small size and reliability have been proven. Gold plated terminals, beryllium copper wiper spring, stainless steel shaft, machined bushing. Rated 1 watt at 40°C. **Resistance Tolerance:** ±20%. **Operating Temperature Range:** −55°C to 105°C. **Independent Linearity:** ±2%.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-4	5-9	10-24
606-4005	112-P16-102	1K	75.42	69.13	63.82
606-4006	112-P16-502	5K	75.42	69.13	63.82
606-4015	112-P16-103	10K	75.42	69.13	63.82
606-4016	112-P16-203	20K	75.42	69.13	63.82

Series 112-P19 1-Watt Solid Molded Element, Single Turn, Conductive Plastic, Servo Potentiometer



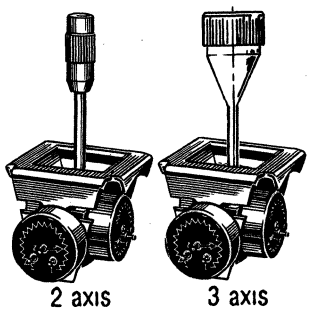
Other Resistance Values Available Upon Request

Series 112-P19 features infinite resolution and a minimum life expectancy of 100,000,000 revolutions at 40 rpm. The molded raised track and special wiper material form a unique quality that results in rotational life far exceeding that of conventional film type potentiometers. Gold plated terminals, beryllium copper wiper spring, stainless steel shaft. Impervious to moisture, gases and oils. **Operating Temperature Range:** −55°C to 150°C. **Total Resistance Tolerance:** ±10%. **Independent Linearity:** ±0.5%. **Starting Torque:** .3 oz.-in. Stainless steel ball bearings. **Weight:** 1 ounce.

Stock No.	Mfr.'s Type	Ohms	EACH		
			1-4	5-9	10-24
606-4001	112-P19-102	1K	136.84	125.43	115.78
606-4002	112-P19-502	5K	136.84	125.43	115.78
606-4003	112-P19-103	10K	136.84	125.43	115.78
606-4004	112-P19-203	20K	136.84	125.43	115.78

Joysticks With Potentiometers

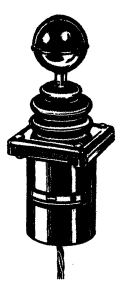
JSP Series joystick controls are designed with long life conductive plastic potentiometers (P Series). Available with dual or triple axis control, internal or external moisture-proof boot. All metal construction for strength and reliability. **Specifications:** Spring return to center. **Knob Torque:** 12 ounce-inches. **Life:** 2,000,000 cycles. Limiter plates available to limit direction of knob. **Voltage Repeatability:** ±0.2%. **Resistance Available:** 10K ±20%. **Power:** .5W at 25°C. Wipers phased at center of voltage. **Temperature Range:** −30° to +105°C.



Stock No.	Mfr.'s Type	Ohms	EACH		
			1-4	5-9	10-24
606-0100	JSP2302-103	10K	96.67	90.33	84.77
606-0102	JSP2303-103	10K	109.23	97.62	90.11

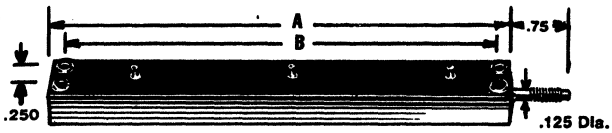
Induction-Type Joystick

The JSE 2304 non-contacting inductive joystick control offers extremely long life, infinite resolution and zero noise. The unit is protected from moisture and dust by a shaft boot. Anodized aluminum case seals the electronic circuitry. **Specifications. Operating Voltage:** 4.5-15 VDC. **Current:** 15 mA at 10 VDC. **Output Impedance:** 1800 ohms (Signals). **Center Tap Impedance:** 340 ohms. **Temperature Range:** −30° to +105°C. **Center Tap Voltage:** 50% of input voltage. **Resolution:** Infinite. **Life:** 20,000,000 cycles. **Leads:** 6" standard length, color coded. Knob has spring return to center.



Stock No.	Mfr.'s Type	EACH		
		1-4	5-9	10-24
606-0105	JSE2304	113.20	103.77	95.78
—	—	—	—	—

M1326



The M1326 linear motion wirewound potentiometer enjoys a unique position. It combines the best electrical characteristics in the smallest size at the lowest cost. A solid precious metal contact, engaging the precision wirewound mandrel, produces exceptional linear and resolution characteristics. For applications where forces are limited, such as in instrumentation, the M1326 is ideal because of its low shaft frictional force as well as small size and light weight. Nylon bearings.

Model M1326-1—1 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH 1-4	EACH 5-9	EACH 10-24
606-1030	M1326-1-102	1K	0.6	76.51	70.13	64.74
606-1035	M1326-1-202	2K	0.5	76.51	70.13	64.74
606-1040	M1326-1-502	5K	0.4	76.51	70.13	64.74
606-1045	M1326-1-103	10K	0.3	76.51	70.13	64.74

Model M1326-2—2 Watt Potentiometer With 2" Travel

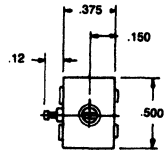
606-1230	M1326-2-102	1K	0.3	89.00	81.58	75.31
606-1235	M1326-2-202	2K	0.3	89.00	81.58	75.31
606-1240	M1326-2-502	5K	0.2	89.00	81.58	75.31
606-1245	M1326-2-103	10K	0.2	89.00	81.58	75.31

Model M1326-4—4 Watt Potentiometers With 4" Travel

606-2025	M1326-4-102	1K	0.2	109.53	100.40	92.68
606-2027	M1326-4-202	2K	0.2	109.53	100.40	92.68
606-2030	M1326-4-502	5K	0.2	109.53	100.40	92.68
606-2040	M1326-4-103	10K	0.1	109.53	100.40	92.68
606-2045	M1326-4-203	20K	0.1	109.53	100.40	92.68

*Independent Linearity

P1613



Elec. Travel	1.000	2.000	4.000
A	2.000	3.000	5.000
B	1.800	2.800	4.800

The P1613 linear motion conducive plastic potentiometer is designed with simplicity in mind. It combines all the excellent features of the more expensive transducers yet is the smallest available in the market as well as the least costly. The molded raised track, combined with the special formulated contact, results in phenomenal life—the life expectancy at 60 inches/min. is 50,000,000 strokes. **Total resistance tolerance:** ± 20%. **Operating Temperature Range:** – 55° to 105°C. Nylon bearings.

Model P1613-1—.5 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 20%	Lin. %*	EACH 1-4	EACH 5-9	EACH 10-24
606-4007	P1613-1-102	1K	2.0	122.36	112.17	103.54
606-4000	P1613-1-202	2K	2.0	122.36	112.17	103.54
606-4008	P1613-1-502	5K	2.0	122.36	112.17	103.54
606-4009	P1613-1-103	10K	2.0	122.36	112.17	103.54

Model P1613-2—1 Watt Potentiometer With 2" Travel

606-4017	P1613-2-102	1K	1.0	136.47	125.10	115.48
606-4020	P1613-2-202	2K	1.0	136.47	125.10	115.48
606-4018	P1613-2-502	5K	1.0	136.47	125.10	115.48
606-4019	P1613-2-103	10K	1.0	136.47	125.10	115.48

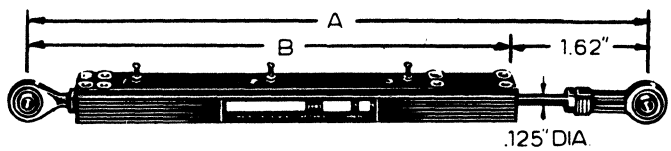
Model P1613-4—2 Watt Potentiometer with 4" Travel

606-4013	P1613-4-202	2K	0.5	163.15	149.55	138.85
606-4010	P1613-4-502	5K	0.5	163.15	149.55	138.85
606-4011	P1613-4-103	10K	0.5	163.15	149.55	138.85
606-4012	P1613-4-203	20K	0.5	163.15	149.55	138.85

*Independent Linearity

Wirewound and Conductive Plastic Linear Motion Precision Potentiometers

Stroke (Inches)	M2078/P2080 A	M2078/P2080 B
1	5.12	3.00
2	6.12	4.00
3	7.12	5.00
4	8.12	6.00



Wirewound Type M2078. These miniature precision transducers have the smallest size at the lowest cost. Created for use in laboratory test equipment, light industrial applications, and automation, these units offer high accuracy of electrical output. Features spherical ball ends for flexibility in mounting.

Model M2078-1—1 Watt Potentiometer with 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH 1-4	EACH 5-9	EACH 10-24
606-5100	M2078-1-102	1K	0.6	122.31	112.12	103.49
606-5103	M2078-1-202	2K	0.5	122.31	112.12	103.49
606-5105	M2078-1-502	5K	0.4	122.31	112.12	103.49
606-5110	M2078-1-103	10K	0.3	122.31	112.12	103.49

Model M2078-2—2 Watt Potentiometer With 2" Travel

606-5200	M2078-2-102	1K	0.3	134.02	122.85	113.40
606-5203	M2078-2-202	2K	0.3	134.02	122.85	113.40
606-5205	M2078-2-502	5K	0.2	134.02	122.85	113.40
606-5210	M2078-2-103	10K	0.2	134.02	122.85	113.40

Model 2078-4—4 Watt Potentiometer With 4" Travel

606-5400	M2078-4-102	1K	0.2	156.45	143.42	132.38
606-5403	M2078-4-202	2K	0.2	156.45	143.42	132.38
606-5405	M2078-4-502	5K	0.2	156.45	143.42	132.38
606-5410	M2078-4-103	10K	0.1	156.45	143.42	132.38
606-5415	M2078-4-203	20K	0.1	156.45	143.42	132.38

*Independent Linearity

Conductive Plastic Type P2080. These precision transducers feature molded, raised tracks and graphite composition contacts for long life in a hostile environment. They are impervious to dust, water, and oil. High contact pressure offers resistance to severe vibration and shock effects. Trouble-free operation in factories and mills. **Operating temperature range:** – 55° to 105°C.

Model P2080-1—.5 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH 1-4	EACH 5-9	EACH 10-24
606-5150	P2080-1-102	1K	2.0	179.16	164.23	151.60
606-5153	P2080-1-202	2K	2.0	179.16	164.23	151.60
606-5155	P2080-1-502	5K	2.0	179.16	164.23	151.60
606-5160	P2080-1-103	10K	2.0	179.16	164.23	151.60

Model P2080-2—1 Watt Potentiometer With 2" Travel

606-5250	P2080-2-102	1K	1.0	197.33	180.88	166.97
606-5253	P2080-2-202	2K	1.0	197.33	180.88	166.97
606-5255	P2080-2-502	5K	1.0	197.33	180.88	166.97
606-5260	P2080-2-103	10K	1.0	197.33	180.88	166.97

Model P2080-4 2 WAtt Potentiometer With 4" Travel

606-5450	P2080-4-202	2K	0.5	231.49	212.20	195.88
606-5453	P2080-4-502	5K	0.5	231.49	212.20	195.88
606-5455	P2080-4-103	10K	0.5	231.49	212.20	195.88
606-5460	P2080-4-203	20K	0.5	231.49	212.20	195.88

*Independent Linearity.

Conductive Plastic Slide Potentiometer Type P2333

This slide action linear motion potentiometer was developed for applications requiring high reliability, infinite resolution and long life. The range of electrical strokes is 1 to 4 inches. Repeatability is 0.2%; taper is linear. The combination of a raised molded resistive track and a compatible formulated contact, make this unit practically impervious to dust, oil or moisture. It therefore is suitable for use in the hostile environment often found in a steel mill, tire factory or mining operation. In addition, this construction makes possible the exceptionally long life of 5,000,000 cycles. With the knob removed, the lever arm may be attached to machinery to monitor the position of any linear motion.

Dash No.	Elect. Travel ±.05	Mech. Travel ±.05	A	B
–1	1.00	1.25	3.00	2.80
–2	2.00	2.25	4.00	3.80
–4	4.00	4.25	6.00	5.80

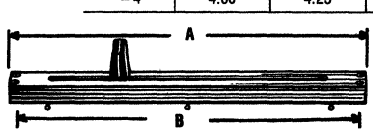
Model P2333-1—.5 Watt Potentiometer With 1" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH 1-4	EACH 5-9	EACH 10-24
606-0107	P2333-1-102	1K	2.0	87.07	79.82	73.68
606-0110	P2333-1-202	2K	2.0	87.07	79.82	73.68
606-0120	P2333-1-502	5K	2.0	87.07	79.82	73.68
606-0130	P2333-1-103	10K	2.0	87.07	79.82	73.68

Model P2333-2—1 Watt Potentiometer With 2" Travel

606-0140	P2333-2-102	1K	1.0	103.44	94.82	87.52
606-0150	P2333-2-202	2K	1.0	103.44	94.82	87.52
606-0160	P2333-2-502	5K	1.0	103.44	94.82	87.52
606-0170	P2333-2-103	10K	1.0	103.44	94.82	87.52

*Independent Linearity.



Model P2333-4—2 Watt Potentiometer With 4" Travel

Stock No.	Mfr.'s Type	Ohms 5%	Lin. %*	EACH 1-4	EACH 5-9	EACH 10-24
606-0180	P2333-4-202	2K	0.5	141.22	129.45	119.49
606-0190	P2333-4-502	5K	0.5	141.22	129.45	119.49
606-0195	P2333-4-103	10K	0.5	141.22	129.45	119.49
606-0199	P2333-4-203	20K	0.5	141.22	129.45	119.49

*Independent Linearity.

10

Vitreous-Enameled Rheostats

► **Choose from 12½ to 300 Watts in a Wide Range of Resistances** ► **U.L. Approved**
► **Highly Reliable and Economical**

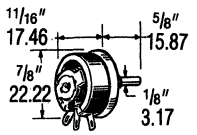
All porcelain vitreous-enameled, silicon-ceramic for smooth action and electrical control. Choose from 12½ to 300 watts in a wide range of resistances. Rheostats are highly reliable and economical; cannot smoke, char, shrink or shift. Metal-graphite contact brushes, varied to fit current and resistance. Ratings at full setting. U.L. approved 25 watts and up. **Less knobs; see knobs, dial plates and handwheel below. Other resistances available as special order items.**

Rheostat Cross Reference

Memcor	Ohmite	Mallory
R12½	Type E	—
R25	Type H	25K
R50	Type J	50K
R100	Type K	100K
R150	Type L	150K
R300	Type N	300K

12½ Watt—Type R12½

Rheostats have three terminals for use as a potentiometer. **Resistance Tolerance:** ± 10%. **Running Torque:** 1 to 6 inch oz. **Rotation:** 300° ± 5%. **Mounting for Panels:** up to ⅛". **Standard Resistance:** 1-5000 ohms. **Shpg. wt.:** 2½ oz.

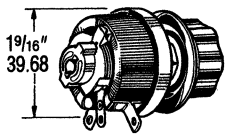


Type R12½

Stock No.	Ohms	EACH 1-9	EACH 10-24	EACH 25-49	Stock No.	Ohms	EACH 1-9	EACH 10-24	EACH 25-49
875-4001	1	16.50	14.00	11.60	875-4017	500	14.40	12.20	9.95
875-4003	3	16.50	14.00	11.60	875-4019	1000	14.95	12.80	10.50
875-4008	25	14.40	12.20	9.95	875-4020	1500	14.95	12.80	10.50
875-4010	50	14.40	12.20	9.95	875-4022	2500	14.95	12.80	10.50
875-4012	100	14.40	12.20	9.95	875-4023	5000	15.90	13.60	11.10

25 Watt—Type R25

Wiper tracks on this rheostat are buffed and polished to assure smooth rotation and uniform wiper contact. A high strength ceramic hub is used to insulate the shaft and bushing from live parts. The wiper design assures minimum backlash. A vitreous enamel bonds core and base together for uniform heat dissipation and structural integrity. Cores on the larger sizes are enameled prior to winding to increase core strength and improve bond between wire and core. UL approved. ¼" dia. shaft. **Resistance Tolerance:** ± 10%. **Running Torque:** .25 to .5 inch-pound. **Rotation:** 300° ± 5%. **Mounting for Panels:** up to ¼". **Standard Resistance:** 1-10K ohms. **Shpg. wt.:** ½ lb.

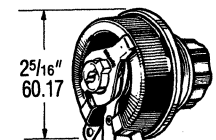


Type R25

875-4025	1	16.24	13.80	11.37	875-4036	100	14.00	11.90	9.80
875-4027	3	16.24	13.80	11.37	875-4039	250	14.00	11.90	9.80
875-4029	5	16.24	13.80	11.37	875-4041	500	14.00	11.90	9.80
875-4026	8	16.24	13.80	11.37	875-4043	1000	14.66	12.46	10.26
875-4030	10	16.24	13.80	11.37	875-4044	1500	14.66	12.46	10.26
875-4031	15	14.00	11.90	9.80	875-4045	2500	14.66	12.46	10.26
875-4032	25	14.00	11.90	9.80	875-4047	5000	14.66	12.46	10.26
875-4034	50	14.00	11.90	9.80	875-4050	10K	15.74	13.38	11.02

50 Watt—Type R50

UL approved rheostats have vitreous enamel bonded core and base. Buffed and polished wiper tracks assure smooth rotation and uniform wiper contact. Rheostats have three terminals to allow use as potentiometers. ¼" dia. shaft. **Resistance Tolerance:** ± 10%. **Running Torque:** .25 to 2 inch-pound. **Rotation:** 300° ± 5%. **Mounting for Panels:** up to ¼". **Standard Resistance:** 1-10K ohms. **Shpg. wt.:** ¾ lb.

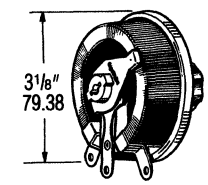


Type R50

875-4051	1	23.40	20.07	16.53	875-4061	250	18.35	15.76	12.98
875-4053	10	23.40	20.07	16.53	875-4063	300	18.35	15.76	12.98
875-4054	12	18.35	15.76	12.98	875-4064	500	18.35	15.76	12.98
875-4056	25	18.35	15.76	12.98	875-4066	1000	18.35	15.76	12.98
875-4058	50	18.35	15.76	12.98	875-4068	2500	18.35	15.76	12.98
875-4060	100	18.35	15.76	12.98	875-4070	5000	21.20	18.20	14.99
875-4062	225	18.35	15.76	12.98	875-4072	10K	21.20	18.20	14.99

100 Watt—Type R100

UL approved. Has ¼" dia. shaft and 3⅛" dia. body. Furnished with three terminals for use as potentiometer. **Resistance Tolerance:** ± 10%. **Running Torque:** .5 to 2 inch-pound. **Rotation:** 300° ± 5%. **Mounting for Panels:** up to ¼". **Standard Resistance:** 1-10K ohms. **Shpg. wt.:** 1 lb.

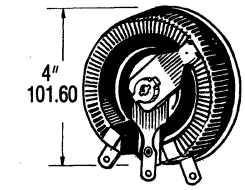


Type R100

875-4074	1	27.33	23.19	19.05	875-4087	500	26.87	22.80	18.72
875-4079	10	27.33	23.19	19.05	875-4088	1000	26.87	22.88	18.72
875-4080	25	25.43	21.58	17.72	875-4090	2500	26.87	22.88	18.72
875-4082	50	25.43	21.58	17.72	875-4091	5000	28.73	24.38	20.00
875-4084	100	25.43	21.58	17.72	875-4093	10K	28.73	24.38	20.00
875-4085	250	26.87	22.80	18.72	—	—	—	—	—

150 Watt—Type R150

UL approved. Has ¼" dia. shaft and 4" dia. body. Furnished with three terminals to allow use as potentiometer. **Resistance Tolerance:** ± 10%. **Running Torque:** .5 to 3 inch-pound. **Rotation:** 300° ± 5%. **Mounting for Panels:** up to ¼". **Standard Resistance:** 1-10K ohms. **Shipping wt.:** 1½ lbs.

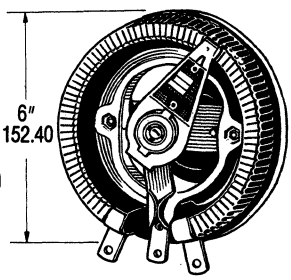


Type R150

875-4094	1	33.55	29.35	25.16	875-4104	150	30.98	27.11	23.22
875-4095	5	33.55	29.35	25.16	875-4106	250	30.98	27.11	23.22
875-4096	10	33.55	29.35	25.16	875-4107	500	30.98	27.11	23.22
875-4098	15	30.98	27.11	23.22	875-4108	1000	30.98	27.11	23.22
875-4099	25	30.98	27.11	23.22	875-4109	2500	32.70	28.61	24.52
875-4101	50	30.98	27.11	23.22	875-4110	5000	32.70	28.61	24.52
875-4103	100	30.98	27.11	23.22	875-4111	10K	34.66	30.33	26.00

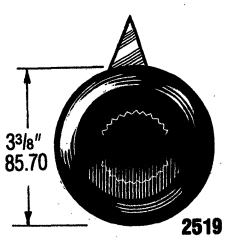
300 Watt—Type R300

6" dia. ⅜" shaft dia. **Resistance Tolerance:** ± 10%. 2.38" behind panel; 4⅜" long. **Torque:** 2.5 to 5.0 inch-pound. **Standard mounting:** for panels up to 1¼" thick. **Rotation:** 320° ± 5%. **Shpg. wt.:** 2½ lbs.

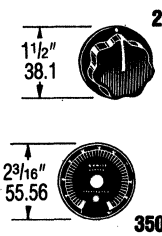


Type R300

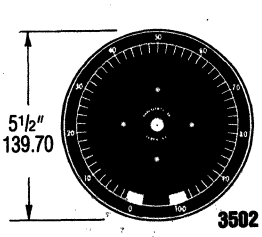
875-4112	1	66.28	53.86	41.43	875-4124	500	54.62	44.38	34.14
875-4117	10	66.28	53.86	41.43	875-4126	1000	54.62	44.38	34.14
875-4120	50	54.62	44.38	34.14	875-4128	1500	54.62	44.38	34.14
875-4122	100	54.62	44.38	34.14	875-4132	2500	54.62	44.38	34.14



2519



3500

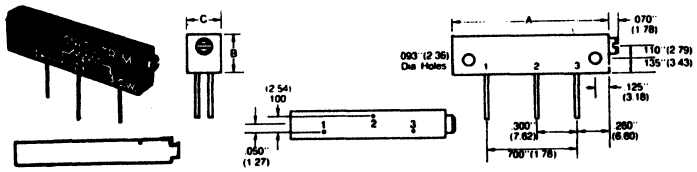


3502

Accessories

Stock No.	Mfr.'s Type	Catalog No.	Description	EACH 1-9	EACH 10-24	EACH 25-49
875-8035	2491-020-001	—	1⅜" dial for 12½ watt	.75	.69	.51
875-8030	2491-020-002	3500	2 3/16" dial for 25-300 watt	.84	.75	.65
875-8031	2492-020-003	3502	5½" dial for 300 watt	3.86	3.41	2.92
875-8050	2493-010-004	2519	3⅜" dia. knob for 300 watt	10.60	9.38	8.16
875-8060	2491-010-017	2514	1½" dia. skirted knob	.82	.73	.64
875-8061	2491-010-005	2400	¾" dia. skirted knob	.76	.67	.58
875-8068	2492-010-001	2512	2⅜" dia. similar to 2519	7.40	6.65	5.95

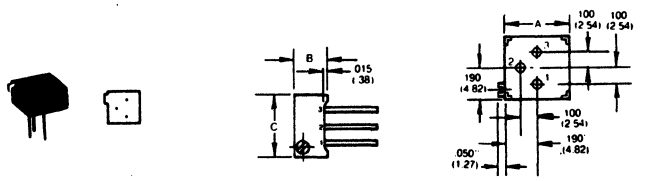
Type 450-20 1 1/4" Rectangular Cermet Multi-Turn Trimmer Potentiometers



High-performance industrial/commercial trimmer. Exclusive Metal Glaze® Cermet element assures longer life. 22-turn adjustment for precise electrical setting. **Specifications. Power Rating:** 1W at 70°C (300V max.); **Standard Resistance Range:** 10Ω to 2MΩ; **Resistance Tolerance:** ±10% std.; **Temperature Coefficient:** ±100ppm/°C max.; **Contact Resistance Variation:** 20Ω or 3% (W.I.G.); **Operating Temperature Range:** −55° to +150°C. **Dimensions. Case:** A = 1.250"(31.75mm), B = .315"(8.00mm), C = .190"(4.83mm); **Leads:** Dia. = .028"(.71mm), Length = .500"(12.70mm) min.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
822-5413	450-20-100	100	7.83	5.63	4.40	3.64
822-5426	450-20-500	500	7.83	5.63	4.40	3.64
822-5429	450-20-1K	1K	7.83	5.63	4.40	3.64
822-5432	450-20-2K	2K	7.83	5.63	4.40	3.64
822-5438	450-20-5K	5K	7.83	5.63	4.40	3.64
822-5441	450-20-10K	10K	7.83	5.63	4.40	3.64
822-5444	450-20-20K	20K	7.83	5.63	4.40	3.64
822-5453	450-20-50K	50K	7.83	5.63	4.40	3.64
822-5459	450-20-100K	100K	7.83	5.63	4.40	3.64
822-5487	450-20-1Meg	1Meg	7.83	5.63	4.40	3.64

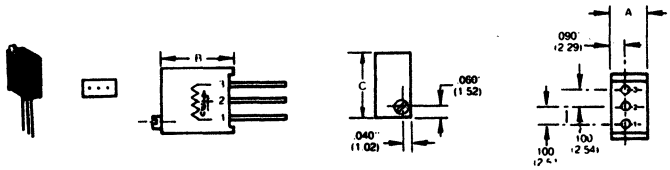
Type 752-10 3/8" Square Cermet Multi-Turn Trimmer Potentiometers



These low-cost, high-performance industrial/commercial trimmers come in a space-saving package for miniaturized circuit board requirements. Nonflammable (to U.L. ratings) plastic case assures precision operation in high-temperature environments. Easy 24-turn adjustment for precise electrical setting. Impact-resistant case and Metal Glaze® Cermet element assure long life. Designed to meet, or exceed, applicable environmental requirements of MIL-R-22097. **Specifications. Power Rating:** 0.5W at 70°C; **Standard Resistance Range:** 20Ω to 2MΩ; **Resistance Tolerance:** ±10% std.; **Temperature Coefficient:** ±100ppm/°C max.; **Contact Resistance Variation:** 3Ω or 3% (W.I.G.); **Operating Temperature Range:** −55° to +125°C. **Dimensions. Case:** A = .388"(9.86mm), B = .225"(5.72mm), C = .380"(9.65mm); **Leads: Dia. = .020"(.51mm), Length = .187"(4.75mm) min.**

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
822-2429	752-10-102	1K	4.27	3.07	2.40	1.99
822-2432	752-10-202	2K	4.27	3.07	2.40	1.99
822-2438	752-10-502	5K	4.27	3.07	2.40	1.99
822-2441	752-10-103	10K	4.27	3.07	2.40	1.99
822-2444	752-10-203	20K	4.27	3.07	2.40	1.99
822-2453	752-10-503	50K	4.27	3.07	2.40	1.99
822-2459	752-10-104	100K	4.27	3.07	2.40	1.99
822-2487	752-10-105	1Meg	4.27	3.07	2.40	1.99

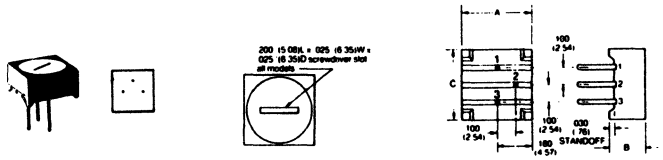
Type 752-208 3/8" Square Cermet Multi-Turn Trimmer Potentiometers



Commercial/industrial trimmer features exclusive Metal Glaze® Cermet element to assure longer life, and more infinite resolution. Has easy 24-turn adjustment for precise electrical setting. Impact resistant, nonflammable (to U.L. ratings) plastic case assures precision operation in high-temperature environments. Space saving package for miniaturized circuit board requirements. Designed to meet, or exceed, applicable environmental requirements of MIL-R-22097. **Specifications. Power Rating:** 0.5W at 70°C; **Standard Resistance Range:** 20Ω to 2MΩ; **Resistance Tolerance:** ±10% std.; **Temperature Coefficient:** ±100ppm/°C max.; **Operating Temperature Range:** −55° to +125°C; **Contact Resistance Variation:** 3Ω or 3% (W.I.G.). **Dimensions. Case:** A = .200"(5.08mm), B = .410"(10.40mm), C = .380"(9.65mm); **Leads:** Dia. = .020"(.51mm), Length = .187"(4.75mm) min.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
822-2229	752-208-1K	1K	4.27	3.07	2.40	1.99
822-2232	752-208-2K	2K	4.27	3.07	2.40	1.99
822-2238	752-208-5K	5K	4.27	3.07	2.40	1.99
822-2241	752-208-10K	10K	4.27	3.07	2.40	1.99
822-2244	752-208-20K	20K	4.27	3.07	2.40	1.99
822-2253	752-208-50K	50K	4.27	3.07	2.40	1.99
822-2259	752-208-100K	100K	4.27	3.07	2.40	1.99
822-2287	752-208-1Meg	1Meg	4.27	3.07	2.40	1.99

Type 760 3/8" Square Cermet Single-Turn Trimmer Potentiometers



Space-saving package for miniaturized circuit board requirements. Exclusive Metal Glaze® Cermet element assures longer life, more infinite resolution. Impact-resistant, nonflammable (to U.L. ratings) plastic case assures precision operation in high-temperature environments. Designed to meet or exceed applicable environmental requirements of MIL-R-22097. **Specifications. Power Rating:** 0.5W at 85°C; **Standard Resistance Range:** 10Ω to 2MΩ; **Resistance Tolerance:** ±10% std.; **Temperature Coefficient:** ±100ppm/°C max.; **Contact Resistance Variation:** 3Ω or 3% (W.I.G.); **End Resistance:** 2Ω or 2% (W.I.G.); **Dielectric Strength:** 900VAC; **Operating Temperature Range:** −55° to +125°C. **Dimensions. Case:** A = .370"(9.40mm), B = .200"(5.08mm), C = .370"(9.40mm); **Leads:** Dia. = .018"(.46mm), Length = .187"(4.75mm) min.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
822-2326	760-10-500	500	3.63	2.61	2.04	1.70
822-2329	760-10-1K	1K	3.63	2.61	2.04	1.70
822-2338	760-10-5K	5K	3.63	2.61	2.04	1.70
822-2341	760-10-10K	10K	3.63	2.61	2.04	1.70
822-2344	760-10-20K	20K	3.63	2.61	2.04	1.70
822-2353	760-10-50K	50K	3.63	2.61	2.04	1.70
822-2359	760-10-100K	100K	3.63	2.61	2.04	1.70

Type 960-20 3/4" Rectangular Cermet Multi-Turn Trimmer Potentiometers

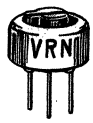
Low-cost, high-performance industrial/commercial trimmer. Space-saving package for miniaturized circuit board requirements. Sealed unit prevents performance deterioration from moisture and dust, withstands wave soldering immersion cleaning. Exclusive Metal Glaze® Cermet element assures longer life, more infinite resolution. Easy 20-turn adjustment for precise electrical setting. Impact-resistance; nonflammable (to U.L. ratings) plastic case assures precision operation in high-temperature environments. **Specifications. Power Rating:** 0.75W at 70°C (300V max.); **Standard Resistance Range:** 10Ω to 2MΩ; **Resistance Tolerance:** ±10% std.; **Temperature Coefficient:** ±100ppm/°C max.; **Contact Resistance Variation:** 3Ω max. or 3% (W.I.G.); **End Resistance:** 2Ω max.; **Dielectric Strength:** 1000VAC; **Insulation Resistance:** 1000MΩ; **Absolute Minimum Resistance:** 1Ω or 3% (W.I.G.); **Operating Temperature Range:** −55° to +125°C; **Total Adjustment Turns:** 20 nominal; **Operating Torque:** 5.0 oz.—in. max.; **Mechanical Stops:** Wiper assembly idles.

Dimensions

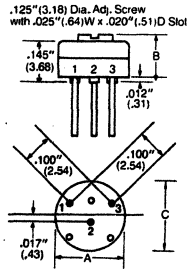
A	B	C	D	E	F
.750"(19.05)	.310"(7.87)	.160"(4.06)	.200"(5.08)	.500"(12.75)	.100"(2.54)

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
822-8113	960-20-100	100	2.64	1.90	1.48	1.23
822-8120	960-20-200	200	2.64	1.90	1.48	1.23
822-8126	960-20-500	500	2.64	1.90	1.48	1.23
822-8129	960-20-1K	1K	2.64	1.90	1.48	1.23
822-8132	960-20-2K	2K	2.64	1.90	1.48	1.23
822-8138	960-20-5K	5K	2.64	1.90	1.48	1.23
822-8141	960-20-10K	10K	2.64	1.90	1.48	1.23
822-8144	960-20-20K	20K	2.64	1.90	1.48	1.23
822-8153	960-20-50K	50K	2.64	1.90	1.48	1.23
822-8159	960-20-100K	100K	2.64	1.90	1.48	1.23
822-8168	960-20-200K	200K	2.64	1.90	1.48	1.23
822-8180	960-20-500K	500K	2.64	1.90	1.48	1.23
822-8187	960-20-1Meg	1Meg	2.64	1.90	1.48	1.23

Type 170 1/4" Round Single-Turn Trimmer Potentiometers

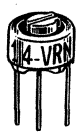


Miniature industrial trimmer potentiometers are sealed to withstand hot water immersion. Tested MIL-R-22097 Characteristic C. **Tolerance:** ±10%. **Power rating:** 0.5 watt at 85°C. **Operating temperature:** −55°C to +150°C. **Temperature coefficient:** ± 100ppm/°C. Built-in standoffs permit washing and flux removal. Metal Glaze® element for infinite resolution. For printed circuit board mounting.

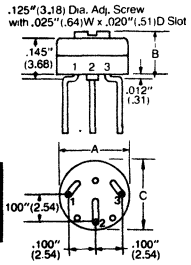


Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-3313	170-100	100	3.12	2.25	1.76	1.46
523-6805	170-200	200	3.12	2.25	1.76	1.46
523-3326	170-500	500	3.12	2.25	1.76	1.46
523-3329	170-1K	1K	3.12	2.25	1.76	1.46
523-3332	170-2K	2K	3.12	2.25	1.76	1.46
523-3338	170-5K	5K	3.12	2.25	1.76	1.46
523-3341	170-10K	10K	3.12	2.25	1.76	1.46
523-3344	170-20K	20K	3.12	2.25	1.76	1.46
523-3353	170-50K	50K	3.12	2.25	1.76	1.46
523-3359	170-100K	100K	3.12	2.25	1.76	1.46
523-6865	170-200K	200K	3.12	2.25	1.76	1.46
523-6880	170-500K	500K	3.12	2.25	1.76	1.46
523-6883	170-1M	1M	3.12	2.25	1.76	1.46
523-6887	170-2M	2M	3.12	2.25	1.76	1.46

Type 171 1/4" Round Cermet Single-Turn Trimmer Potentiometers

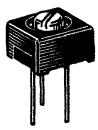


Meets MIL-R-22097, Characteristic F. **Power rating:** 0.5W at 85°C (300V max.). **Resis. Tolerance:** ±10% std. **Temp. Coefficient:** ±100ppm/°C max. **Case:** A—.250" (6.35 mm), B— .170" (4.32 mm), C: .250" (6.35 mm). **Leads:** Diameter—.016" ± .001" (.41 ± .02 mm); length—.187" (4.75 mm) min.

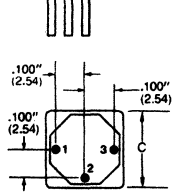


Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-6905	171-200	200	3.12	2.25	1.76	1.46
523-6913	171-500	500	3.12	2.25	1.76	1.46
523-6920	171-1K	1K	3.12	2.25	1.76	1.46
523-6927	171-2K	2K	3.12	2.25	1.76	1.46
523-6933	171-5K	5K	3.12	2.25	1.76	1.46
523-6943	171-10K	10K	3.12	2.25	1.76	1.46
523-6950	171-20K	20K	3.12	2.25	1.76	1.46
523-6957	171-50K	50K	3.12	2.25	1.76	1.46
523-6960	171-100K	100K	3.12	2.25	1.76	1.46
523-6965	171-200K	200K	3.12	2.25	1.76	1.46
523-6980	171-500K	500K	3.12	2.25	1.76	1.46
523-6983	171-1M	1M	3.12	2.25	1.76	1.46
523-6987	171-2M	2M	3.12	2.25	1.76	1.46

Type 181 1/4" Square Cermet Single-Turn Trimmer Potentiometers.

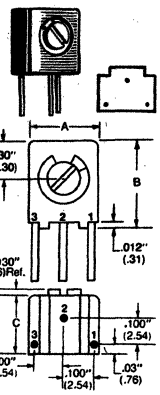


Meets MIL-R-22097, Characteristic F. Impact-resistant, nonflammable plastic case assures precision operation in high-temperature environments. Readily solderable pins make wave soldering easier while built-in standoffs permit more effective boardcleaning. **Power Rating:** 0.5W at 85°C. **Resistance Tolerance:** ±10% std. **Temp. Coefficient:** ±100ppm/°C max. **Dielectric Strength:** 900 VAC. **Contact Resistance Variation:** 3Ω or 3% (W.I.G.). **End Resistance:** 2Ω or 2% (W.I.G.). **Insulation Resistance:** 1000MΩ. **Absolute Min. Resistance:** 2Ω or 1% (W.I.G.). **Operating Temp. Range:** −55 to +150°C. **Total Adjustment Turns:** 1. **Operating Torque:** 5.0 oz.-in. max. **Mechanical Stops:** solid. **Dimensions (Case):** A—.267" (6.78 mm); B—.180" (4.57 mm); C—.267" (6.78 mm). **Leads:** diameter—.018" (.45 mm); length—.187" (4.75 mm) min.



Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-6705	181-200	200	3.12	2.25	1.76	1.46
523-6713	181-500	500	3.12	2.25	1.76	1.46
523-6720	181-1K	1K	3.12	2.25	1.76	1.46
523-6727	181-2K	2K	3.12	2.25	1.76	1.46
523-6733	181-5K	5K	3.12	2.25	1.76	1.46
523-6743	181-10K	10K	3.12	2.25	1.76	1.46
523-6750	181-20K	20K	3.12	2.25	1.76	1.46
523-6757	181-50K	50K	3.12	2.25	1.76	1.46
523-6760	181-100K	100K	3.12	2.25	1.76	1.46
523-6765	181-200K	200K	3.12	2.25	1.76	1.46
523-6780	181-500K	500K	3.12	2.25	1.76	1.46
523-6783	181-1M	1M	3.12	2.25	1.76	1.46

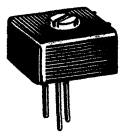
Type 182 1/4" Square Cermet Single-Turn Trimmer Potentiometers



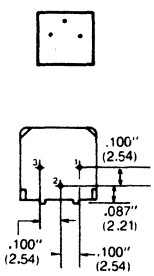
Meets or exceeds requirements of MIL-R-22097, Characteristic F. **Power Rating:** 0.5W at 85°C. For specifications please see Type 181 at bottom of this page. **Case Dimensions:** A—.267" (6.78 mm); B—.312" (7.92 mm); C—.192" (4.87 mm). **Leads:** dia.—.018" (.45 mm); length—.187" (4.75 mm) min.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-7005	182-200	200	3.12	2.25	1.76	1.46
523-7013	182-500	500	3.12	2.25	1.76	1.46
523-7020	182-1K	1K	3.12	2.25	1.76	1.46
523-7027	182-2K	2K	3.12	2.25	1.76	1.46
523-7033	182-5K	5K	3.12	2.25	1.76	1.46
523-7043	182-10K	10K	3.12	2.25	1.76	1.46
523-7050	182-20K	20K	3.12	2.25	1.76	1.46
523-7057	182-50K	50K	3.12	2.25	1.76	1.46
523-7060	182-100K	100K	3.12	2.25	1.76	1.46
523-7065	182-200K	200K	3.12	2.25	1.76	1.46
523-7080	182-500K	500K	3.12	2.25	1.76	1.46
523-7083	182-1M	1M	3.12	2.25	1.76	1.46
523-7087	182-2M	2M	3.12	2.25	1.76	1.46

Type 780-12P 3/8" Square Cermet Single-Turn Trimmer Potentiometers



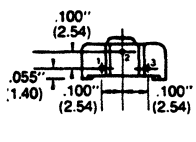
Environmentally-sealed units meet environmental and life requirements of MIL-R-22097, Characteristic F. **Power Rating:** 0.5W at 85°C. Impact-resistant, nonflammable plastic case. **Resistance Tolerance:** ±10% std. **Temp. Coefficient:** ±100ppm/°C max. standard. **Contact Resistance Variation:** 3Ω or 3% (W.I.G.). **End Resistance:** 2Ω or 2% (W.I.G.). **Dielectric Strength:** 900 VAC. **Insulation Resistance:** 1000MΩ. **Operating Temp. Range:** −55°C to +150°C. **Total Adjustment Turns:** 1. **Operating Torque:** 4.0 oz.-in. max. **Mechanical Stops:** solid. **Dimensions:** A—.375" (9.53 mm); B—.191" (4.85 mm); C—.370" (9.40 mm). **Leads:** diameter—.020" (.508 mm); length—.187" (4.75 mm).



Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-7126	780-12P-100	100	2.14	1.54	1.20	.99
523-7127	780-12P-500	500	2.14	1.54	1.20	.99
523-7128	780-12P-1K	1K	2.14	1.54	1.20	.99
523-7129	780-12P-2K	2K	2.14	1.54	1.20	.99
523-7130	780-12P-5K	5K	2.14	1.54	1.20	.99
523-7131	780-12P-10K	10K	2.14	1.54	1.20	.99
523-7132	780-12P-20K	20K	2.14	1.54	1.20	.99
523-7133	780-12P-50K	50K	2.14	1.54	1.20	.99
523-7134	780-12P-100K	100K	2.14	1.54	1.20	.99
523-7135	780-12P-200K	200K	2.14	1.54	1.20	.99
523-7136	780-12P-500K	500K	2.14	1.54	1.20	.99
523-7137	780-12P-1M	1M	2.14	1.54	1.20	.99

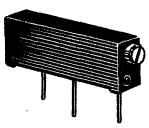
Type 780-42H 3/8" Square Cermet Single-Turn Trimmer Potentiometers

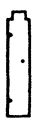
Meets MIL-R-22097, Characteristic F. High-performance, space-saving package for miniaturized circuit board requirements. Withstands wave soldering and immersion cleaning. Exclusive Metal Glaze® Cermet element assures longer life, more infinite resolution. Low profile for closer board spacing. For specifications, see Type 780-12P at upper left of this page. **Dimensions:** A—.375" (9.53 mm); B—.370" (9.40 mm); C—.191" (4.85 mm). **Leads:** diameter—.020" (.508 mm); length—.187" (4.75 mm).

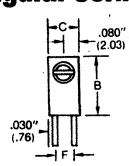


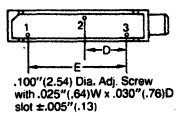
Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-7151	780-42H-100	100	2.14	1.54	1.20	.99
523-7152	780-42H-500	500	2.14	1.54	1.20	.99
523-7153	780-42H-1K	1K	2.14	1.54	1.20	.99
523-7154	780-42H-2K	2K	2.14	1.54	1.20	.99
523-7155	780-42H-5K	5K	2.14	1.54	1.20	.99
523-7156	780-42H-10K	10K	2.14	1.54	1.20	.99
523-7157	780-42H-20K	20K	2.14	1.54	1.20	.99
523-7158	780-42H-50K	50K	2.14	1.54	1.20	.99
523-7159	780-42H-100K	100K	2.14	1.54	1.20	.99
523-7160	780-42H-200K	200K	2.14	1.54	1.20	.99
523-7161	780-42H-500K	500K	2.14	1.54	1.20	.99
523-7162	780-42H-1M	1M	2.14	1.54	1.20	.99

Series 961 3/4" Rectangular Cermet Multi-Turn Trimmer Potentiometers









Meets MII-R-22097, Characteristic F. Industrial/commercial trimmer is a sealed unit protected against moisture and dust. **Power Rating:** 0.75W at 70°C (300V max.). **Resis. Tolerance:** ± 10%. **Temp. Coefficient:** ± 100ppm/°C max. **Dielectric Strength:** 1000 VAC. **Operating Temp. Range:** −55° to +125°C. **Total Adjustment Turns:** 20 nominal. **Mechanical Stops:** wiper assembly idles. **Dimensions. Case:** A—.750" (19.05 mm); B—.250" (6.35 mm); C—.160" (4.06 mm). **Pin Spacing:** D—.200" (5.08 mm); E—.500" (12.75 mm); F— .100" (2.54 mm). **Leads:** diameter—.018" (.46 mm); length—.187" (4.75 mm) min.

Stock No.	Mfr.'s Type	Ohms	EACH			
			1-24	25-49	50-99	100-249
523-7100	961-20-100	100	2.64	1.90	1.48	1.23
523-7101	961-20-500	500	2.64	1.90	1.48	1.23
523-7102	961-20-1K	1K	2.64	1.90	1.48	1.23
523-7103	961-20-2K	2K	2.64	1.90	1.48	1.23
523-7104	961-20-5K	5K	2.64	1.90	1.48	1.23
523-7105	961-20-10K	10K	2.64	1.90	1.48	1.23
523-7106	961-20-20K	20K	2.64	1.90	1.48	1.23
523-7107	961-20-50K	50K	2.64	1.90	1.48	1.23
523-7108	961-20-100K	100K	2.64	1.90	1.48	1.23
523-7109	961-20-200K	200K	2.64	1.90	1.48	1.23
523-7110	961-20-500K	500K	2.64	1.90	1.48	1.23
523-7111	961-20-1M	1M	2.64	1.90	1.48	1.23

Big-Value Resistor Kits

Work Station Engineering Resistor Kit
Never be without a resistor to install in the circuit you are troubleshooting. Resistor Kit **WS-1** contains 195 carbon composition and complex oxide insulated resistors. Consists of 39 values, five pieces each; thirteen values per wattage rating. Includes 65 1/2-Watt resistors from 2.7 Ohms through 20 Megohms; 65 1-Watt resistors, .22 Ohms through 100 K Ohms; and 65 2-Watt resistors, .22 Ohms through 470 K Ohms. This selection is housed in an attractive 40-drawer steel-framed cabinet with carrying handle.
840-9000. WS-1. Resistor Kit ..... **EACH 34.95**

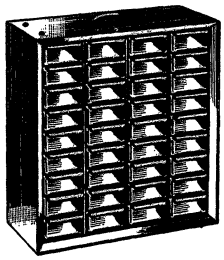
1/8-Watt Carbon Film/Carbon Composition Designer Resistor Kit
Resistor Kit **CF-8** contains 480 1/8-Watt resistors, 5% tolerance. Contains a balanced assortment of 48 popular values. Ten pieces per value. Packaged in a steel-framed 24-drawer cabinet with carrying handle.
525-0001. CF-8. Resistor Kit ..... **EACH 39.95**

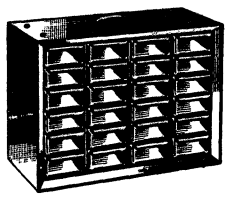
1/4-Watt "Super" Carbon Film Resistor Kit
Contains 8,000 pieces of 5% tolerance resistors in 80 values. One hundred pieces each, 1.0 Ohm through 10.0 megohms. 40-drawer steel-framed cabinet with handle.
525-1000 ..... **EACH 140.00**

1/4-Watt Design Engineer Carbon Film Resistor Kit
Kit contains 800 pieces of a balanced assortment of popular values of high-performance, high-reliability 1/4-Watt carbon film resistors for applications requiring superior performance. 80 values, 10 pieces of each. Low noise resistors feature welded cap and lead construction. **Tolerance:** ± 5%. Values are color-banded per EIA specs. Conformal coating exceeds requirements of MIL-R-11F. Packed in 40-drawer metal-framed cabinet with carrying handle.
525-1100 ..... **EACH 39.95**

1/2-Watt Design Engineer Carbon Film Resistor Kit
This 600-piece kit includes a balanced assortment of popular values of high-performance, high-reliability 1/2-Watt carbon film resistors in 60 values (10 resistors of each value). Low noise with welded cap and lead construction. **Tolerance:** ± 5%. Values are color-banded per EIA specs. Conformal coating exceeds requirements of MIL-R-11F. Housed in 40-drawer metal-framed cabinet.
525-2200 ..... **EACH 39.95**

50/50 1/4- and 1/2-Watt Resistor Assortment Kit
Contains 800 resistors in 40 values of 1/4-Watt from 1.0 Ohms through 10 Megohms and 40 values of 1/2-Watt resistors from 1.0 Ohms through 20 Megohms. Ten resistors of each value. Housed in a 40-drawer steel-framed cabinet with carrying handle.
525-3300 ..... **EACH 39.95**





Type RN60 1/2-Watt Precision Metal Film Resistor Kit
200 pieces of RN60C, 1% tolerance, 50 PPM commercial equivalent resistors in 40 values. Values range from 49.9 ohms through 499 K ohms. Five resistors each value in a balanced assortment. Packaged in 40-drawer steel-framed cabinet with carrying handle.
831-2000 ..... **EACH 29.95**

1/4-Watt Precision Metal Film Resistor Kit
Contains 200 pieces of RN-55C 1% tolerance 50 PPM commercial equivalent resistors in 40 values. Values range from 49.9 Ohms through 499 K Ohms. Five resistors of each selected value in this balanced assortment. Housed in a 40-drawer steel-framed cabinet with carrying handle.
831-6000 ..... **EACH 39.95**

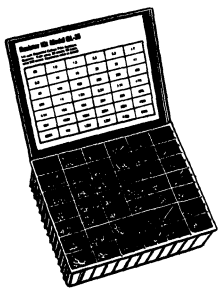
2-Watt Complex Oxide Resistor Kit
Resistor Kit **CC-2** contains 120 complex oxide resistors rated at 2 Watts. Resistors have tin-coated lead wires for superior soldering. Contains a balanced assortment of popular values. Consists of five each resistors in 24 different values. Packaged in 24-drawer steel-framed cabinet with carrying handle.
840-9004 ..... **EACH 39.95**

1-Watt Complex Oxide Resistor Kit
Resistor Kit **CC-1** contains 120 5% tolerance resistors rated at 1 Watt. A balanced assortment of popular values. Contains 4 each of 24 different resistance values. Resistors are packaged in a 24-drawer steel-framed cabinet with carrying handle.
840-9013 ..... **EACH 33.50**

1 to 11-Watt Power Resistor Kit
Contains 240 pieces of wirewound, vitreous enameled and silicone-coated power resistors in 24 values, ten pieces per value ranging from 1 Ohm through 25 K Ohms. 1%, 3%, and 5% tolerances. Resistors housed in a 24-drawer steel-framed cabinet with carrying handle.
767-3004. PWK-2. Power Resistor Kit ..... **EACH 39.95**

10

Resistor and Diode Kits



Model GL-25 Resistor Kit. Quantity of 1050 (25 of each value) 1/4W deposited carbon film resistors in 42 resistance values from 0.68 ohms to 4.7 M ohms. 0.250" L, 0.095" diameter. ± 5% tolerance. Conformal multi-coating, solder coated lead wire, EIA std. color coding. For minicircuits. Exceeds MIL-R-11F performance characteristics.
777-0025. GL-25 ..... **EACH 42.95**

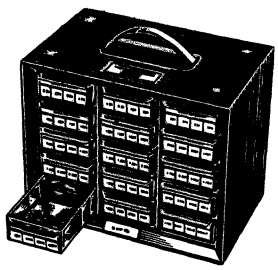
Model RC-1200 Resistor Kit. 1/8W 5% highly reliable metal glazed chip resistors. 60 resistance values from 2.7 ohms to 2.2 M ohms—20 pieces of each value, total of 1200 pieces. Miniature size, wave flow solderability. Mount on either side of PC board. With X8/X16 magnifying glass and chip-designed tweezers.
777-1200. RC-1200 ..... **EACH 189.95**

Model CEC-136 Diode Kit. Silicon rectifier and fast-recovery diodes—7 types each of 1 amp, 3 amp, and 6 amp rectifier, and 1 amp and 3 amp fast-recovery, and 6 types of 6 amp fast-recovery—10 pieces per type, total of 410 pieces. 50-1000V PIV.
777-0136. CEC-136 ..... **EACH 174.95**

Model EMF-55 Resistor Kit. 1/4W 1%, 50 ppm metal film resistors. 12 pieces of each value, with 111 values from 10 ohm through 1 M ohm, for a total of 1332 resistors.
777-0055. EMF-55 ..... **EACH 165.95**

Model CEC-215 Economy LED Kit. 210 pieces, 44 different types, high quality LEDs.
777-0215. CEC-215 ..... **EACH 174.95**

Model CEC-484 Deluxe LED Kit. 349 pieces, 116 different types, high quality LEDs and panel mounts.
777-0484. CEC-484 ..... **EACH 295.95**



Model CEC-640 Diode Kit. Quantity of 640 zener diodes—14 400 mW types, 22 1W types, 28 500 mW types (10 pieces per type). From 3.3. to 30 V nominal voltage.
777-6400. CEC-640 ..... **EACH 184.95**

Quick Pick Resistor Organizer
Featuring top quality deposited carbon film resistors. 60 resistance values from 2.2 ohms through 4.7 ohms. Cabinet measures 10 × 8 × 6.5".

Model 1815. 1/8W 5% resistors. 25 pieces of each value for a total of 1500 pieces.
777-1815. 1815 ..... **EACH 150.00**

Model 2515. 1/4W 5% resistors. 25 pieces of each value for a total of 1500 pieces.
777-2515. 2515 ..... **EACH 109.95**

Model 2530. 1/4W 5% resistors. 50 pieces of each value for a total of 3000 pieces.
777-2530. 2530 ..... **EACH 139.95**

Model 5015. 1/2W 5% resistors. 25 pieces of each value for a total of 1500 pieces.
777-5015. 5015 ..... **EACH 116.95**

Model CEC-450-1W. 450 pieces, 45 values, 10 pieces each value. 1 watt. 5% CF resistors, 4.7 ohms-1.0 M ohm.
777-4501. CEC-450-1W ..... **EACH 136.95**

Model CEC-450-2W. 450 pieces, 45 values, 10 pieces each value. 2 watt. 5% CF resistors, 4.7 ohms-1.0 M ohm.
777-4502. CEC-450-2W ..... **EACH 132.95**

4300R Series

Isolated Resistors

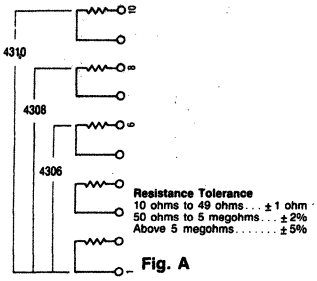


Fig. A

Bussed Resistors

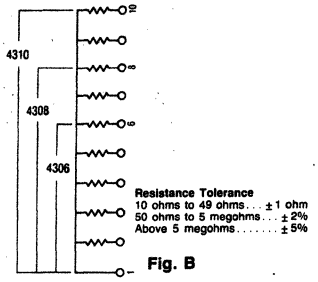


Fig. B

Dual Terminators

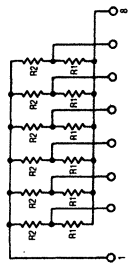


Fig. C

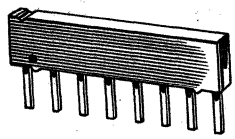


Fig. A 4306R-101 MIL-Style 07 (6 Pin)
4308R-101 MIL-Style 07 (8 Pin)
4310R-101 MIL-Style 07 (10 Pin)
Fig. B 4306R-102 MIL-Style 07 (6 Pin)
4308R-102 MIL-Style 07 (8 Pin)
4310R-102 MIL-Style 07 (10 Pin)
Fig. C 4306R-104; 4308R-104; 4310R-104

Resistance Tolerance
Below 100 ohms . . . . . ± 2 ohms
100 ohms to 5 megohms . . ± 2%
Above 5 megohms . . . . . ± 5%

Isolated, Bussed and Dual Termination types available in Low, Medium and High Profile Models. Low Profile type is compatible with DIP packages. High Temperature solder lugs ensure compatability with all popular board soldering techniques, including VAPOR PHASE. Copper leads for superior dissipation. Gold epoxy provides excellent marking contrast. Laser marked for permanent identification. **Operating Temperature:** – 55°C to + 125°C ambient. Conforms to UL 94V-flame test. **Voltage Coefficient:** ± 100ppm/V typical by decode values. Power Rating at 70°C; 4300S-101 0.30 Watt; 4300S-102 0.20 Watt; 4300R-104 0.20 Watt.

Isolated Types (Low Profile) Fig. A

Stock No.	Mfr.'s Type	Number of Pins	EACH			
			1-99	100-499	500-999	1000-Up
755-63XX*	4306R-102	6	0.46	0.37	0.30	0.23
755-64XX*	4308R-102	8	0.54	0.44	0.34	0.28
755-65XX*	4310R-102	10	0.66	0.53	0.42	0.33

Bussed Types (Low Profile) Fig. B

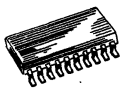
755-60XX*	4306R-101	6	0.46	0.37	0.30	0.23
755-61XX*	4308R-101	8	0.54	0.44	0.34	0.28
755-62XX*	4310R-101	10	0.66	0.53	0.42	0.33

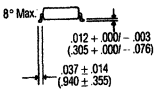
* Use OHM Chart below. Replace 'XX' in Stock No. with numbers that correspond with desired OHM value.

Dual Termination Types (Low Profile) Fig. C

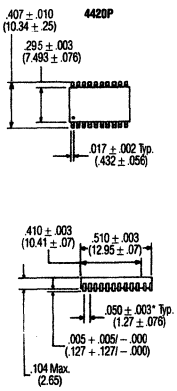
Stock No.	Mfr.'s Type	Ohms		Number of Pins	EACH			
		R1	R2		1-99	100-499	500-999	1000-Up
755-6600	4306R-104-181/391	180	390	6	0.67	0.55	0.43	0.34
755-6605	4306R-104-221/271	220	270	6	0.67	0.55	0.43	0.34
755-6610	4306R-104-221/331	220	330	6	0.67	0.55	0.43	0.34
755-6615	4308R-104-181/391	180	390	8	0.75	0.61	0.47	0.37
755-6620	4308R-104-221/271	220	270	8	0.75	0.61	0.47	0.37
755-6625	4308R-104-221/331	220	330	8	0.75	0.61	0.47	0.37
755-6630	4310R-104-181/391	180	390	10	0.89	0.71	0.56	0.44
755-6635	4310R-104-221/271	220	270	10	0.89	0.71	0.56	0.44
755-6640	4310R-104-221/331	220	330	10	0.89	0.71	0.56	0.44

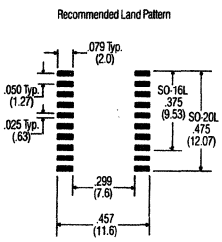
4400 Series





Governing dimensions are in inches. Dimensions in parentheses are metric (mm) and are approximate. * Terminal centerline to centerline measurements made at point of emergence of the lead from the body.

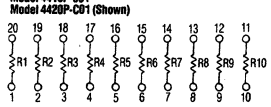




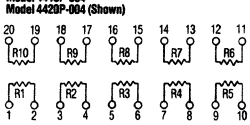
NOTE: Land pattern dimensions are based on design rules established by the Institute for Interconnecting and Packaging Electronic Circuits in IPC-SM-782.

Isolated Resistors
(001 and 004 Circuits)

Model 4416P-001
Model 4420P-C01 (Shown)



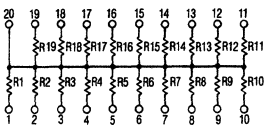
Model 4416P-004
Model 4420P-004 (Shown)



Resistance Tolerance
10 ohms to 49 ohms . . . . . ± 1 ohm
50 ohms to 1.0 megohm pm2%

Power Rating Per Resistor
001 Circuit at 70°C . . . . . 0.160 watt
004 Circuit at 70°C . . . . . 0.200 watt

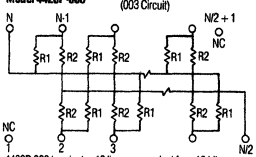
Model 4416P-002
Model 4420P-002 (Shown) Bussed Resistors (002 Circuit)



Resistance Tolerance
10 ohms to 49 ohms . . . . . ± 1 ohm
50 ohms to 1.0 megohm . . . . . ± 2%

Power Rating Per Resistor
002 Circuit at 70°C . . . . . 0.160 watt

Model 4416P-003
Model 4420P-003 Dual Terminator (003 Circuit)



4420P-003 terminates 16 lines, convenient for a 16-bit computer bus.

Resistance Tolerance
Below 100 ohms . . . . . ± 2 ohms
100 ohms to 1.0 megohm . . . . . ± 2%

Power Rating Per Resistor
003 Circuit at 70°C . . . . . 0.115 watt

Uses board footprint identical to medium body (.220 wide) "SO" Gull Wing. Has compliant leads to reduce solder joint fatiguing. High temperature solder suitable for all popular soldering techniques. Copper leads used for superior heat dissipation and resistance to corrosion. Laser marking for permanent identification. 50 volts max. Bulk only stocked. Tape and reel available (1000 pieces per reel) as special order.
Governing dimensions are in inches. Dimensions in parentheses are metric (MM) and are approximate.
Terminal centerline to centerline measurements made at point of emergence of the lead from the body.

Isolated Types

Stock No.	Mfr.'s Type	Number of Pins	EACH			
			1-99	100-499	500-999	1000-Up
755-71XX	4416P-001	16	1.29	1.03	0.84	0.61
755-72XX	4420P-001	20	1.19	0.95	0.77	0.56
755-73XX	4416P-004	16	1.29	1.03	0.84	0.61
755-74XX	4420P-004	20	1.19	0.95	0.77	0.56

Bussed Type

Stock No.	Mfr.'s Type	Number of Pins	EACH			
			1-99	100-499	500-999	1000-Up
755-75XX	4416P-002	16	1.29	1.03	0.84	0.61
755-76XX	4420P-002	20	1.19	0.95	0.77	0.56

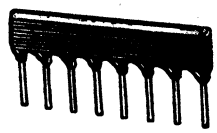
Dual Terminators

Stock No.	Mfr.'s Type	Number of Pins	EACH			
			1-99	100-499	500-999	1000-Up
755-7700	4416P-003-180/390	16	1.64	1.30	1.06	0.77
755-7710	4416P-003-220/330	16	1.64	1.30	1.06	0.77
755-7720	4420P-003-180/390	20	1.51	1.20	0.98	0.71
755-7730	4420P-003-220/330	20	1.51	1.20	0.98	0.71

Standard Resistance Values Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22	01	150	11	1.0K	21	5.6K	31	33K	41	220K	51
27	02	180	12	1.2K	22	6.8K	32	39K	42	270K	52
33	03	220	13	1.5K	23	8.2K	33	47K	43	330K	53
39	04	270	14	1.8K	24	10.0K	34	56K	44	390K	54
47	05	330	15	2.0K	25	12.0K	35	68K	45	470	55
56	06	390	16	2.2K	26	15.0K	36	82K	46	560K	56
68	07	470	17	2.7K	27	18.0K	37	100K	47	680K	57
82	08	560	18	3.3K	28	20.0K	38	120K	48	820K	58
100	09	680	19	3.9K	29	22.0K	39	150K	49	1M	59
120	10	820	20	4.7K	30	27.0K	40	180K	50	—	—

Model 4600 Conformal Single-in-Line Packages



Isolated, bussed and dual terminator types available in low, medium, and high profile models. Low profile is compatible with DIPs. High temperature solder ensures compatibility with all popular board soldering techniques, including vapor phase, copper leads for superior heat dissipation and resistance to corrosion. Gold Epoxy provides excellent marking contrast. Laser marked for permanent identification. **Operating Temperature:** –55°C to +125°C. **Conforms to UL94V-0 Flame Test:** 100 Volt max. TCR Tracking, 50 PPM/°C max. **Power Rating at 70°C:** 4606X—3/4 Watt; 4608X—1 Watt; 4610X—1 1/4 Watt. (Available 4 through 15 Pin).

Bussed Types*

Stock No.	Mfr.'s Type	No. of Pins	EACH			
			1-99	100-499	500-999	1000-Up
755-40XX	4606X-101	6	.24	.20	.15	.12
755-41XX	4608X-101	8	.31	.25	.19	.15
755-42XX	4610X-101	10	.37	.30	.24	.19

Isolated Types*

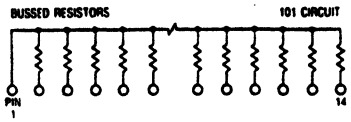
755-43XX	4606X-102	6	.24	.20	.15	.12
755-44XX	4608X-102	8	.31	.25	.19	.15
755-45XX	4610X-102	10	.37	.30	.24	.19

***Use "Ohm Chart" below. Replace "XX" in stock number with numbers which correspond with desired Ohm Value.**

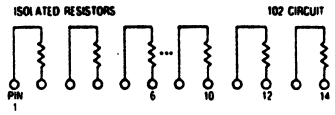
Dual Termination Types

Stock No.	Mfr.'s Type	Ohms		No. of Pins	EACH			
		R1	R2		1-99	100-499	500-999	1000-Up
755-4600	4606X-104-181/391	180	390	6	.51	.41	.32	.26
755-4605	4606X-104-221/271	220	270	6	.51	.41	.32	.26
755-4610	4606X-104-221/331	220	330	6	.51	.41	.32	.26
755-4615	4608X-104-181/391	180	390	8	.61	.50	.39	.31
755-4620	4608X-104-221/271	220	270	8	.61	.50	.39	.31
755-4625	4608X-104-221/331	220	330	8	.61	.50	.39	.31
755-4630	4610X-104-181/391	180	390	10	.68	.55	.43	.34
755-4635	4610X-104-221/271	220	270	10	.68	.55	.43	.34
755-4640	4610X-104-221/331	220	330	10	.68	.55	.43	.34

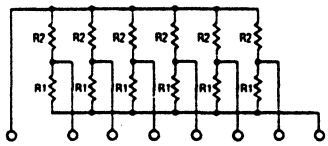
Model 4600X-101
4 through 14 Pin



Model 4600X-102
4, 6, 8, 10, 12 or 14 Pin

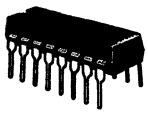


Model 4600X-104-R1/R2
4 through 14 Pin

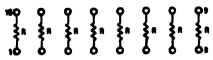


10

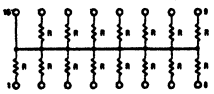
Model 4100 Molded Dual-In-Line Packages



Model 4114R-001
(8 Isolated Resistors)

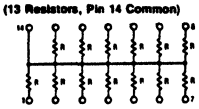


Model 4116R-002
(15 Resistors, Pin 16 Common)

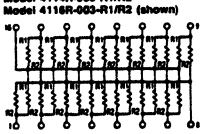


Model 4114R-001
(7 Isolated Resistors)

Model 4114R-002
(13 Resistors, Pin 14 Common)



Model 4114R-003-R1/R2
Model 4116R-003-R1/R2 (shown)



Same features as the 4600 SIP Series above, additional feature is the compatibility with automatic insertion equipment. Comes with molded epoxy resin (Novolac) body. **Power Rating at 70°C:** 4614R—2 Watt; 4616R—2 1/4 Watt.

Isolated Types*

Stock No.	Mfr.'s Type	No. of Pins	EACH			
			1-99	100-499	500-999	1000-Up
755-47XX	4114R-001-RC	14	.57	.47	.36	.29
755-48XX	4116R-001-RC	16	.59	.48	.37	.30

Bussed Types*

755-49XX	4114R-002-RC	14	.57	.47	.36	.29
755-50XX	4116R-002-RC	16	.59	.48	.37	.30

***Use "Ohm Chart" below. Replace "XX" in stock number with numbers which correspond with desired Ohm Value.**

Dual Termination Types

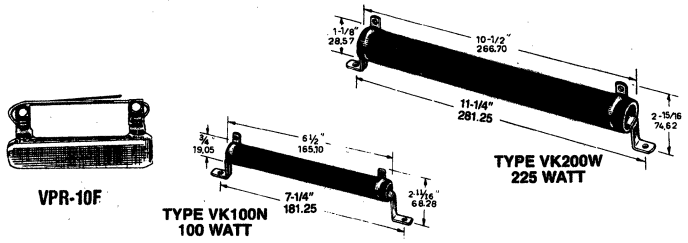
Stock No.	Mfr.'s Type	Ohms		No. of Pins	EACH			
		R1	R2		1-99	100-499	500-999	1000-Up
755-5100	4114R-003-181/391	180	390	14	.85	.69	.54	.43
755-5105	4116R-003-181/391	180	390	16	.88	.72	.56	.44
755-5110	4114R-003-221/271	220	270	14	.85	.69	.54	.43
755-5115	4116R-003-221/271	220	270	16	.88	.72	.56	.44
755-5120	4114R-003-221/331	220	330	14	.85	.69	.54	.43
755-5125	4116R-003-221/331	220	330	16	.88	.72	.56	.44

Standard Resistance Values Chart

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
22	01	150	11	1.0K	21	5.6K	31	33K	41	220.0K	51
27	02	180	12	1.2K	22	6.8K	32	39K	42	270.0K	52
33	03	220	13	1.5K	23	8.2K	33	47K	43	330.0K	53
39	04	270	14	1.8K	24	10.0K	34	56K	44	390.0K	54
47	05	330	15	2.0K	25	12.0K	35	68K	45	470.0K	55
56	06	390	16	2.2K	26	15.0K	36	82K	46	560.0K	56
68	07	470	17	2.7K	27	18.0K	37	100K	47	680.0K	57
82	08	560	18	3.3K	28	20.0K	38	120K	48	820.0K	58
100	09	680	19	3.9K	29	22.0K	39	150K	49	1.0M	59
120	10	820	20	4.7K	30	27.0K	40	180K	50	2.2M	60

Bracket-Mounted Wirewound Vitreous Enamel Resistors

Fixed Power Resistors



Fixed Types. These precision wirewound resistors are especially designed to meet a wide variety of military, industrial and general consumer applications. They offer long life and extremely reliable service. For use as voltage droppers, bias resistors and bleeders in applications where resistance need not be varied. Feature fine alloy wire, wirewound on quality ceramic cores and covered with vitreous enamel coatings—the best conductor of heat for a material which must also be a good electrical conductor. **Resistance Tolerance:** ± 5% for values 1 ohm or higher. Wattage ratings are for use in free air. **Average Shipping Weight:** 5-50 watts, 1.1 oz. 100 watts and up, 7.5 oz. **See Table B (Below) Before Ordering. Mounting brackets sold separately.**

VPR-10F—12 Watts

Stock No.	Resistance (Ohms) See Table B	EACH 1-9	10-24	25-99	100-249
880-70XX	1, 2, 3, 4, 5	1.82	1.73	1.64	1.45
880-70XX	10, 15, 20, 25, 50, 75, 100, 150, 200, 500, 1K	1.51	1.44	1.38	1.20
880-70XX	1.5K, 2K, 2.5K, 3K, 3.5K, 4K, 5K	1.71	1.67	1.63	1.28
880-70XX	7.5K, 10K	1.89	1.83	1.78	1.50
880-70XX	25K	2.04	1.98	1.92	1.61
880-70XX	50K	2.31	2.25	2.20	1.84

880-1075. F-100. Mounting Bracket (2 required) ..... **EACH .09**

VP25K—25 Watts

880-21XX	1, 2, 3, 4, 5	2.53	2.25	1.91	1.84
880-21XX	10, 15, 25, 50, 75, 100, 200, 250, 500, 750, 1K	2.32	2.06	1.75	1.64
880-21XX	2K, 2.5K, 5K	2.42	2.14	1.82	1.75
880-21XX	7.5K, 10K	2.70	2.32	2.04	1.96
880-21XX	25K	3.08	2.73	2.32	2.23
880-21XX	50K	3.31	2.94	2.50	2.41
880-21XX	100K	3.78	3.36	2.86	2.75

880-1182. K-100. Mounting Bracket (2 required) ..... **EACH .09**

VP50K—50 Watts

880-22XX	1, 2, 3, 4	3.85	3.42	2.91	2.70
880-22XX	5, 10, 25, 50, 75, 100, 150, 200, 250, 500 1K, 2K, 2.5K, 5K	3.61	3.21	2.73	2.54
880-22XX	7.5K, 10K	3.74	3.32	2.82	2.61
880-22XX	25K	3.90	3.47	2.95	2.73
880-22XX	50K	4.49	3.99	3.39	3.14
880-22XX	75K	4.68	4.16	3.54	3.28
880-22XX	100K	4.97	4.41	3.75	3.48

880-1182. K-100. Mounting Bracket (2 required) ..... **EACH .09**

VK100N—100 Watts

880-23XX	1, 2	7.34	6.51	5.52	4.65
880-23XX	3, 5, 10	6.57	5.85	4.98	4.18
880-23XX	25, 50, 75, 100, 200, 250, 1K, 2K, 2.5K, 5K, 7.5K, 10K	6.33	5.63	4.79	4.02
880-23XX	25K	6.83	6.07	5.16	4.34
880-23XX	50K	7.20	6.39	5.44	4.57
880-23XX	75K, 100K	7.70	6.84	5.81	4.88

880-1455. N-100. Mounting Bracket (2 required) ..... **EACH .15**

VK200W—225 Watts

880-25XX	1, 2	17.29	15.37	13.06	11.53
880-25XX	3, 5, 10	12.76	11.34	9.64	8.51
880-25XX	25, 50, 75, 100, 200, 250, 500, 750, 1K, 2K, 2.5K, 5K, 7.5K, 10K	10.75	9.56	8.13	7.17
880-25XX	25K, 50K	11.34	10.08	8.57	7.56
880-25XX	75K	12.40	11.03	9.38	8.27
880-25XX	100K	13.70	12.18	10.35	9.14

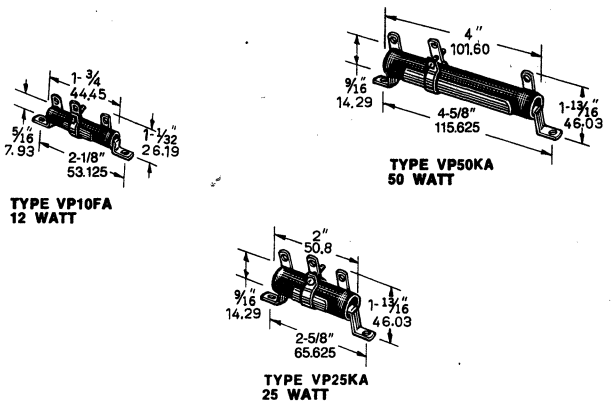
880-2535. W-100. Mounting Bracket (2 required) ..... **EACH .14**

Cross Reference Fixed Resistors

Watts	Clarostat	Mallory	Memcor	Ohmite	Dale*
12	VPR10F	—	FRL-10	B12J	HL-12
25	VP25K	2.5HJ	FR-25	L25J	HL-25
50	VP50K	5HJ	FR-50	L50J	HL-50
100	VK100N	10HJ	FR-100	L100J	HL-100
200	VK200W	20HJ	FR-200	L225J	HL-225

*Silicone

Adjustable Resistors



Adjustable Type. For voltage dividing networks, power supplied, transmitters—anywhere adjustable resistance is required. These resistors feature fine alloy wire, precision wound on high quality ceramic cores and insulated by vitreous enamel coatings. Slider lug included with each resistor. Resistance tolerance is ± 10% of the total resistance value. Wattage rating applied only when the entire resistance is in the circuit; with adjustable lug at intermediate point, rating is reduced in the same proportion. Wattage ratings are for free air mounting. **Important—See Table (below) Before Ordering. Average Shipping Weight:** 5-50 watts—4 oz.; 100 watts and up—1 lb. **Mounting brackets sold separately.**

VP10FA—12 Watts

Stock No.	Resistance (Ohms) See Table B	EACH 1-9	10-24	25-99	100-249
880-10XX	1, 2, 3, 5	3.19	2.84	2.42	2.24
880-10XX	10, 25, 50, 75, 100, 200, 250, 500, 750, 1K	3.08	2.73	2.32	2.15
880-10XX	2K, 2.5K, 5K	3.19	2.84	2.24	2.24
880-10XX	7.5K, 10K	3.42	3.05	2.59	2.40

880-1075. F-100. Mounting Bracket (2 required) ..... **EACH .09**

VP25KA—25 Watts

880-11XX	1, 2, 3, 5, 7.5, 10, 15, 25, 50, 100, 250, 500, 1K	3.80	3.38	2.88	2.54
880-11XX	1.5K, 2K, 2.5K, 5K	3.90	3.47	2.95	2.60
880-11XX	7.5K, 10K	4.23	3.76	3.19	2.82
880-11XX	25K	4.49	3.99	3.39	2.99

880-1182. K-100. Mounting Bracket (2 required) ..... **EACH .09**

VP50KA—50 Watts

880-12XX	1, 2, 3	5.44	4.83	4.11	3.62
880-12XX	5, 10, 25, 50, 100, 150, 250, 500, 750, 1K	4.84	4.31	3.66	3.23
880-12XX	1.5K, 2K, 2.5K, 5K	4.94	4.39	3.73	3.30
880-12XX	7.5K, 10K	5.08	4.52	3.84	3.39
880-12XX	25K	5.31	4.73	4.02	3.55
880-12XX	50K, 75K, 100K	6.03	5.36	4.56	4.02

880-1182. K-100. Mounting Bracket (2 required) ..... **EACH .09**

VK100NA—100 Watts

880-14XX	1, 2, 3, 5	10.64	9.45	8.03	7.09
880-14XX	10, 25, 50, 100, 150, 200, 250, 500, 750, 1K, 2K, 2.5K, 5K, 10K	7.75	6.89	5.86	5.17
880-14XX	25K	8.62	7.76	6.52	5.75
880-14XX	50K, 100K	9.33	8.30	7.02	6.23

880-1455. N-100. Mounting Bracket (2 required) ..... **EACH .15**

VK200WA—225 Watts

880-15XX	1, 2, 3, 5	18.78	16.70	14.91	12.53
880-15XX	10	13.23	11.76	10.50	8.82
880-15XX	25, 50, 75, 100, 200, 250, 500, 750, 1K, 2.5K, 5K, 10K, 25K	14.76	13.13	11.72	9.85
880-15XX	50K, 75K, 100K	15.48	13.76	12.29	10.32

880-2535. W-100. Mounting Bracket (2 required) ..... **EACH .14**

Cross Reference Adjustable Resistors

Watts	Clarostat	Mallory	Memcor	Ohmite	Dale*
12	VP10FA	1AV	AR-10	D12K	HLA-12
25	VP25KA	2AV	AR-25	D25K	HLA-25
50	VP50KA	5AV	AR-50	D50K	HLA-50
100	VK100NA	10AV	AR-100	D100K	HLA-100
200	VK200WA	20AV	AR-200	D225K	HLA-225

*Silicone

10

Table B—Ordering Information

To complete Allied Stock No. replace XX with appropriate code from chart below.

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1	01	7.5	07	50	18	250	34	1.5K	53	4.0K	65	50K	84
2	03	10.0	08	75	22	300	36	2.0K	54	5.0K	67	75K	87
3	04	15.0	09	100	24	500	40	2.5K	57	7.5K	70	100K	92
4	05	20.0	10	150	29	750	44	3.0K	58	10.0K	73	—	—
5	06	25.0	12	200	32	1K	48	3.5K	60	25.0K	80	—	—

Silicone Coated—SC Series

The Clarostat SC Series of precision silicone coated power resistors is manufactured in complete accordance with all applicable portions of MIL-R-26. These precision resistors provide an outstanding degree of reliability and stability in ratings of 1, 3, and 5 watts. All standard precision resistors are offered with a 1% tolerance and in standard MIL Styles RW70U, RW79U, and RW74U. **SC1A Terminal Strength:** Pull Test 7 Lb. Max., Approx. Weight .33 Grams. **SC3D Terminal Strength:** Pull Test 15 Lb. Max. Approx. Weight 1.3 Grams. **SC5E Terminal Strength:** Pull Test 15 Lb. Max. Approx. Weight 4 Grams. All resistors have Copperweld, Tinned leads and solderability conforms to MIL-R-26E.

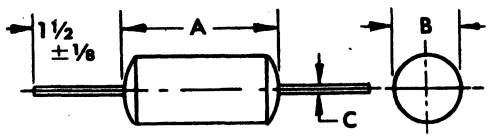
CSC Series is commercial equivalent of above with 3% tolerance. **NOTE:** Not all values available in all wattages or types.

Mechanical Specifications

Series	A	B	C
SC1A	.406 ± .063	.094 ± .031	.020 ± .0015
SC3D	.560 ± .062	.187 ± .031	.032 ± .0020
SC5E	.875 ± .062	.312 ± .031	.040 ± .0020
CSC3D	.457	.205	.032
CSC5E	.895	.305	.404
CSC10F	1.070	.255	.040

Table of Resistance Value Codes

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1	05	50	15	220	25	750.0	40	4.0K	63
3	06	56	16	250	26	820.0	42	5.0K	65
5	07	68	17	270	27	1.0K	45	5.6K	70
10	08	75	18	300	28	1.5K	48	6.8K	73
15	09	82	19	330	29	1.8K	50	7.5K	75
20	10	100	20	400	30	2.0K	52	8.2K	82
25	11	120	21	470	31	2.5K	54	10.0K	90
30	12	150	22	500	32	2.7K	56	15.0K	92
35	13	180	23	560	33	3.0K	58	20.0K	95
40	14	200	24	680	35	3.5K	60	25.0K	99



Stock No.	Mfr.'s Type	Wattage	Tolerance %	Ohm/ Range	EACH 1-24	25-49	50-99	100-249
880-01XX	SC1A RW70U	1	1	1-1K 1.5K-3K	1.28 1.41	1.01 1.13	.95 1.05	.76 .98
880-02XX	SC3D RW79U	3	1	1-1K 1.5K-10K	1.08 1.19	.86 .95	.78 .86	.70 .77
880-03XX	SC5E RW74U	5	1	1-1K 1.5K-10K 15K-25K	1.08 1.19 1.30	.86 .95 1.03	.81 .90 .96	.74 .81 .90
880-16XX	CSC3D	3	3	1-5 10-100 120-820 1K-4K 5K-10K	.52 .42 .48 .56 .62	.44 .36 .41 .48 .53	.39 .32 .36 .42 .47	.36 .29 .34 .39 .43
880-17XX	CSC5E	5	3	1-5 10-500 560-5K 5.6K-10K 10K-25K	.52 .48 .54 .60 .68	.44 .41 .46 .51 .58	.39 .36 .41 .45 .51	.36 .34 .38 .42 .48
880-18XX	CSC10F	10	3	1-9 10-1K 1.5K-5K 5.6K-25K	.68 .66 .72 .80	.58 .56 .61 .68	.51 .50 .54 .60	.48 .46 .50 .56

Axial-Lead Vitreous Enamel Resistors

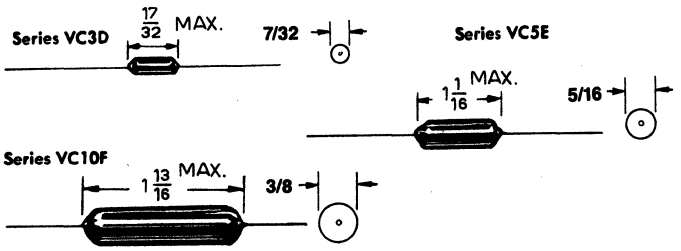


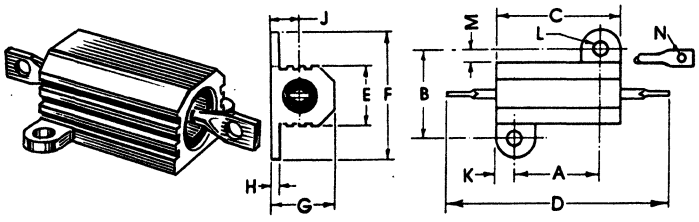
Table of Resistance Value Codes

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1	01	7.5	07	25	12	120	25	470.0	38	2.0K	54	10K	73
2	03	10.0	08	50	18	150	29	500.0	40	2.2K	55	15K	75
3	04	15.0	09	75	22	200	32	1.0K	48	2.5K	57	20K	78
5	06	20.0	10	100	24	250	34	1.5K	53	5.0K	67	25K	80

3, 5 and 10 watt wirewound resistors adapted to printed circuit, terminal board and point-to-point wiring applications. Through elimination of mounting brackets and terminal lugs there are considerable space-saving aspects. **Standard Resistance Tolerance:** ±5%. **Lead Length:** 1½". **Lead Diameter:** .032" for Type VC3D; Types VC5E and VC10F are .036" Diameter. See table below before ordering. Replace XX (last two numbers of stock number) with ohms value. Example: Mfg. Type VC3D, 7.5 ohms is stock number 880-4007.

Stock No.	Mfr.'s Type	Watts	Ohm/ Range	EACH 1-9	10-24	25-99	100-249
880-40XX	VC3D	3.25 3.25 3.25 3.25 3.25	1-7.5 10-470 500-2250 2.5K 5K-10K	.92 .81 .92 1.02 1.21	.82 .71 .80 .90 1.07	.69 .61 .69 .77 .91	.62 .54 .62 .68 .81
880-50XX	VC5E	6.50 6.50 6.50 6.50 6.50	1-7.5 10-470 500-2250 2.5K 5K-25K	.97 .85 .95 1.06 1.16	.86 .76 .84 .95 1.03	.74 .64 .71 .81 .87	.65 .57 .63 .71 .78
880-60XX	VC10F	11.00 11.00 11.00 11.00 11.00 11.00 11.00	1-7.5 10-470 500-2.2K 2.5K-5K 10K 15K-20K 25K	1.30 1.21 1.32 1.49 1.68 1.82 1.96	1.16 1.07 1.18 1.32 1.49 1.62 1.74	.99 .91 1.00 1.12 1.27 1.38 1.48	.87 .81 .88 1.00 1.12 1.22 1.31

CMC Series Chassis Mounted Power Resistors



Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
.1	01	1	05	15	09	40	14	150	22	400	30	1.5K	48	3.5K	60
.2	02	3	06	20	10	50	15	200	24	500	32	2.0K	52	4.0K	63
.3	03	5	07	25	11	75	18	250	26	750	40	2.5K	54	5.0K	65
.5	04	10	08	30	12	100	20	300	28	1K	45	3.0K	58	10.0K	90

Replaces Dale RH-5, RH-10, RH-25, RH-50 and Ohmite 805F, 810F, 825F, 850F.

Stock No.	Mfr.'s Type	Watts	Ohm/ Range	EACH 1-24	25-49	50-99	100-249
880-04XX	CMC-5 MIL RE60G	5	.1-.5 1-9 10-750 1K-3K	4.97 3.82 4.04 4.28	4.46 3.24 3.29 3.40	3.97 2.71 2.78 2.93	2.76 2.00 2.15 2.26
880-05XX	CMC-10 MIL RE65G	10	.5 1-9 10-1.5K 2K-5K	4.97 3.82 4.04 4.28	4.46 3.24 3.29 3.40	3.97 2.71 2.78 2.93	2.76 2.00 2.15 2.26
880-06XX	CMC-25 MIL RE70G	25	.1-.5 1-750 1K-10K	5.04 4.19 4.20	4.03 3.34 3.29	3.47 2.89 2.97	2.69 2.23 2.28
880-07XX	CMC-50 RE75G	50	.1-.5 1-750 1K-5K 10K-25K	5.71 4.84 5.12 6.31	4.97 4.08 4.27 4.92	4.28 3.67 3.84 4.40	3.31 2.83 2.98 3.59

Standard Specifications. Power Rating: 5-50 watts depending upon style. 275°C maximum hot-spot at 25°C ambient. Conforms to MIL-R-18546. 1% maximum Δ R in 1000 hour load life. Proper heat sinks as follows: CMC-5 and CMC-10—4 × 6 × 2 × 0.040 aluminum chassis; CMC-25 and CMC-50—5 × 7 × 2 × 0.040 aluminum chassis. **Temperature Range:** −55°C to +275°C. **Standard Temperature Coefficient of Resistance:** < 1 ohm = ± 90 ppm; > 1 ohm to < 10 ohms = ± 50 ppm; > 10 ohms = ± 20 ppm. **Construction:** Windings are wound on ground ceramic cores. Terminals are electronically welded to end caps for maximum strength. A high temperature silicone encapsulant is used to mold the wound assembly. **Standard Terminal Material:** Copperweld, tinned (Material Code 9) 5-50 watt sizes. **Standard Resistance Tolerance:** ± 1.0% order code F. **Dielectric Withstanding Voltage:** 1000 volts for CMC-5 and CMC-10; 2500 volts for CMC-25 and CMC-50. **Note:** Not all resistance values available in all wattages.

Dimensions

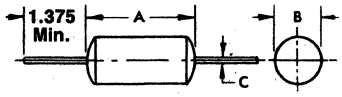
Style	A	B	C	D	E	F	G	H	J	K	L	M	N
CMC-5	.444 (11.28)	.490 (12.45)	.600 (15.24)	1.125 (28.58)	.334 (8.48)	.646 (16.41)	.320 (8.13)	.065 (1.65)	.140 (3.56)	.078 (1.98)	.093 (2.36)	.078 (1.98)	.050 (1.27)
CMC-10	.562 (14.27)	.625 (15.88)	.750 (19.10)	1.375 (34.93)	.430 (10.92)	.800 (20.30)	.400 (10.20)	.075 (1.91)	.190 (4.83)	.093 (2.40)	.093 (2.40)	.102 (2.59)	.086 (2.18)
CMC-25	.719 (18.26)	.781 (19.84)	1.062 (26.97)	1.938 (49.23)	.530 (13.46)	1.080 (27.43)	.560 (14.22)	.085 (2.16)	.260 (6.60)	.172 (4.37)	.125 (3.18)	.115 (2.92)	.086 (2.18)
CMC-50	1.563 (39.70)	.844 (21.44)	1.968 (49.99)	2.781 (70.64)	.615 (15.62)	1.140 (28.96)	.615 (15.62)	.085 (2.16)	.300 (7.62)	.196 (4.97)	.125 (3.18)	.107 (2.71)	.086 (2.18)

Silicone Coated Series 100 Wirewound Resistors

The RCD 100 Series of precision silicone coated power wirewound resistors is manufactured to provide highly reliable continuous operation under MIL-R-26 and MIL-R-39007. Load life stability after 1000 hrs. is typically below ± 0.25% ΔR at full rated power. Improved performance results from single layer, tension free windings of premium grade resistance wire. Special ceramic cores feature optimum thermal conductivity, resulting in a reduced temperature rise over conventional wirewounds. The coating is resistant to most solvents but should not be brushed while wet. 125 Terminal Strength: Pull test 7 lb. max., approx. weight: .33 Grams. 135 Terminal Strength: Pull test is 15 lb. max., approx. weight: 1.3 grams. 160 Terminal Strength: Pull Test 15 lb. max., approx. weight 4 grams. All resistors have tinned leads and solderability conforms to MIL-R-26E. Non-inductive, extended resistance range, and radial leads available on special order. Call for price quote and availability.

Performance max Δ R

Load Life	± .5% + .05 ohm
Short Time Overload	± .2% + .05 ohm
Thermal Shock	± .2% + .05 ohm
Moisture Resistance	± .2% + .05 ohm
Shock and Vibration	± .1% + .05 ohm



Mechanical Specifications

Series	A	B	C
125	.406 ± .062	.093 ± .032	.020 ± .0015
135	.500 ± .062	.188 ± .032	.032 ± .0020
160	.875 ± .062	.875 ± .032	.040 ± .0020

5% Tolerance

Stock No.	Mfr.'s Type	MIL Type	Watts	Ohm/Range	EACH 1-9	10-24	25-49	50-99	100-249
840-37XX	125	RW70	1.5	1.0 - 1.0 K	1.01	.84	.77	.55	.46
840-38XX	135	RW69	3.0	1.0 - 1.0 K	1.01	.84	.77	.50	.43
				1.1 K - 5 K	1.01	.84	.77	.54	.45
				6.8 K - 10 K	1.01	.84	.77	.61	.49
840-39XX	160	RW74	5.0	1.0 - 1.0 K	1.01	.84	.77	.54	.45
				1.1 K - 5 K	1.01	.84	.77	.59	.49
				6.8 K - 10 K	1.01	.84	.77	.64	.53

1% Tolerance

840-77XX	125	RW70	1.5	10,50,100,500,1 K	1.05	.88	.81	.69	.60
840-78XX	135	RW69	3.0	10,50,100,500,1 K	1.04	.86	.80	.66	.58
				5 K	1.14	.95	.88	.70	.60
				10 K	1.20	1.00	.92	.78	.63
840-79XX	160	RW74	5.0	10,50,100,500,1 K	1.11	.90	.68	.54	.50
				5 K	1.30	.92	.74	.59	.54

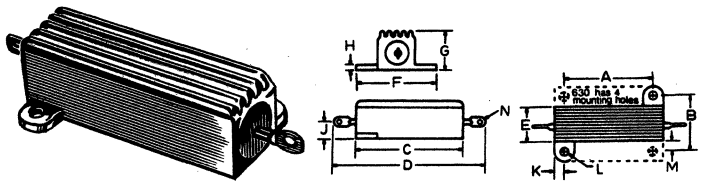
Table Of Resistance Value Codes

Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX	Ohms	XX
1.0	01	10	17	68	30	500.0*	45	4.7K	61
1.5	03	15	19	100	33	680.0	47	5.0K*	62
2.2	06	22	22	150	35	1.0K	50	6.8K	64
3.3	09	33	25	220	38	1.5K	52	10.0K	67
4.7	11	47	27	330	42	2.2K	55	—	—
6.8	14	50*	28	470	44	3.3K	59	—	—

*1% only

Series 600 High Power Resistors

RCD Series 600. Compact power wirewound resistors offer continuous high-power dissipation. These devices are molded in high density aluminum heat sink for a maximum heat dissipation. Maximum environmental protection provided by a hard anodized housing (per MIL-A-8625 Type 2). Inside the rugged housing, accurate concentricity of the resistive element allows a high level of voltage protection. Other features include complete welded construction (terminal to terminal), oxide-free premium grade resistance wire windings, low noise and thermal EMF. Meets or exceeds MIL-R-18546 requirements.



Dimensions

Mfr.'s Type	A ±.005	B ±.005	C ±.062	D ±.062	E ±.015	F ±.015	G ±.015	H ±.010	J ±.031	K ±.031	L ±.005	M ±.015	N ±.005
605	.444" (11.3mm)	.490" (12.5mm)	.600" (15.2mm)	1.125" (28.6mm)	.334" (8.5mm)	.646" (16.4mm)	.320" (8.2mm)	.065" (1.6mm)	.140" (3.6mm)	.078" (2.0mm)	.093" (2.4mm)	.078" (2.0mm)	.050" (1.3mm)
610	.562" (14.3mm)	.625" (15.9mm)	.750" (19.0mm)	1.375" (35.0mm)	.420" (10.8mm)	.800" (20.3mm)	.390" (9.9mm)	.075" (1.9mm)	.164" (4.2mm)	.094" (2.4mm)	.093" (2.4mm)	.102" (2.6mm)	.086" (2.2mm)
615	.719" (18.3mm)	.781" (19.8mm)	1.062" (27.0mm)	1.938" (49.3mm)	.531" (13.5mm)	1.080" (27.4mm)	.546" (13.9mm)	.088" (2.2mm)	.235" (7.0mm)	.172" (4.4mm)	.125" (3.2mm)	.125" (3.2mm)	.086" (2.2mm)
620	1.563" (39.7mm)	.844" (21.5mm)	1.968" (50.0mm)	2.781" (70.6mm)	.609" (15.6mm)	1.140" (28.8mm)	.610" (15.5mm)	.088" (2.2mm)	.265" (7.2mm)	.188" (4.8mm)	.125" (3.2mm)	.117" (3.0mm)	.086" (2.2mm)

Ohms Resistance Value Chart

Important Ordering Information: Complete the Stock No. shown by placing the designated Resistance code for Ohms Value where XXX appears in the Stock No. Each particular listing shows what ohm values are available for that type.

Other values available as special order items.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohm	XXX	Ohms	XXX	Ohms	XXX
10	450	75	465	470	480	1.0K	505	2.7K	525	4.7K	540	7.5K	570	12K	605	27K	635	47K	660	75K	690	120K	725
27	455	100	470	510	485	1.8K	515	3.3K	530	5.1K	545	8.2K	580	18K	615	33K	645	56K	670	82K	700	180K	740
47	460	270	475	750	490	2.2K	520	3.9K	535	6.8K	560	10.0K	590	22K	625	39K	650	68K	680	100K	715	200K	760

Electrical Specifications And Pricing

Tolerance: ± 5%. *Chassis mounted. †Refer to Ohms Resistance Value Chart to complete Stock No.

Stock No.†	Mfr.'s Type	MIL Type	Dielectric Strength	Wattage Rating* STD	BeO	MIL	Max. Resis.	Max. Volt STD	BeO	Ohm Value	EACH 1-9	10-24	25-49	50-99	100-249
840-0XXX	605	RE60	1000V	7	12	5	20K	160	220	10 to 1K	2.42	1.94	1.49	1.73	1.49
										1.8K to 4.7K	2.49	2.00	1.53	1.77	1.53
										5.1K to 10K	2.57	2.06	1.58	1.83	1.59
										12K	3.66	2.93	2.25	2.61	2.22
										18K to 22K	4.11	3.29	2.53	2.99	2.46
840-3XXX	610	RE65	1000V	12	18	10	25K	265	340	10 to 1K	2.42	1.94	1.49	1.73	1.49
										1.8K to 4.7K	2.49	2.00	1.53	1.77	1.53
										5.1K to 10K	2.57	2.06	1.58	1.83	1.59
										12K	3.66	2.93	2.25	2.61	2.22
										18K to 22K	4.11	3.29	2.53	2.99	2.46
840-6XXX	615	RE70	2000V	25	30	20	90K	550	650	10 to 1K	2.96	2.37	1.82	1.94	1.68
										1.8K to 4.7K	3.17	2.54	1.95	2.09	1.83
										5.1K to 10K	3.54	2.84	2.18	2.34	2.06
										12K	3.92	3.14	2.41	2.63	2.25
										18K, 22K	4.24	3.39	2.61	2.84	2.43
										27K to 47K	4.61	3.69	2.84	3.09	2.69
										56K	6.13	4.91	3.77	4.23	3.60
										75K	6.84	5.48	4.21	4.73	4.02
										82K	7.14	5.72	4.40	4.92	4.19
840-9XXX	620	RE75	2000V	50	60	30	200K	1250	1400	10 to 1K	3.54	2.84	2.18	2.52	2.13
										1.8K to 4.7K	3.73	2.99	2.30	2.61	2.25
										5.1K to 10K	4.05	3.24	2.49	2.85	2.49
										12K	4.41	3.53	2.71	3.09	2.70
										18K, 22K	4.86	3.89	2.99	3.41	2.97
										27K to 47K	5.16	4.13	3.17	3.62	3.15
										56K to 75K	5.79	4.64	3.57	4.08	3.56
										82K, 100K	6.24	5.00	3.84	4.40	3.83
										120K	6.86	5.49	4.22	4.83	4.20
										180K, 200	7.54	6.03	4.64	5.31	4.62

Carbon Film Resistors

Mfr.'s Type	"L" ±.032" (.8 mm)	"D" ±.020" (.5 mm)	"d" ±.002" (.05 mm)	"H" Min.
CF25	.250" (6.4)	.090" (2.3)	.024" (.60)	1.06" (27)
CF50S	.354" (9.0)	.125" (3.2)	.025" (.63)	1.06" (27)
CF200S	.630" ± .08	.21" ± .05	.031" (.80)	1.06" (27)

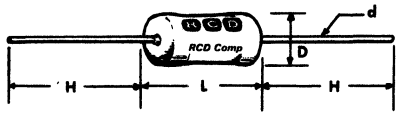
- ►Excellent Long-Term Stability
- ►Outperforms Carbon Comp MIL-R-11
- ►Flame Retardant Coating And Color-Banding
- ►Resistant To Industrial Solvents

Series CF resistors provide improved performance over industry standards without increasing costs. Load life stability at a typical 1000 hours is less than 0.25%ΔR. These quality standards are achieved through strict process controls and the highest grade materials. Cores are high thermally conductive ceramic, creating superior heat dissipation and overload capability which allows reduced sizes unavailable until now. Specially electroplated leads for faultless soldering, even after lengthy storage times. Industrial solvent-resistant multilayer epoxy coating and color-banding. **Note:** 1/8 Watt and 1 Watt available from factory in 1000 piece multiples.

Stock No.	Mfr.'s Type	Watts	Tolerance	Maximum Working Voltage	Maximum Overload Voltage	Values (See Table Below)	PK./200* 1-5	6-10	11-20
840-1XXX	CF25	1/4	±5%	250	500	1 Ohm-10 M	4.40	3.74	3.36
840-2XXX	CF50S	1/2	±5%	350	700	1 Ohm-10 M	5.90	5.02	4.52
840-8XXX	CF200S	2	±5%	600	1100	1 Ohm-10 M	13.98	11.88	10.70

* Tape And Reel And Large Production Quantity Pricing Available

Series RSF Flameproof Power Oxide Resistors



Mfr.'s Type	Dimensions — Inches (mm) L ±.032" (.8 mm)	D ±.025" (.6 mm)	d ±.004" (.1 mm)	H (Min.)
RSF1A	.375" (9.5)	.135" (3.4)	.028" (.7)	1.02" (26)
RSF2B	.590" (15.0)	.220" (5.6)	.031" (.8)	1.06" (34)

- ► Equivalent to MIL Wirewound Sizes
- ► Exceptional Stability and Overload Dissipation
- ► Negligible Noise and Inductance
- ► Extremely Durable and Insensitive to Temperature Extremes
- ► Flameproof Coating Resists All Industrial Solvents (Should not be Brushed When Wet)
- ► Price Savings Over Conventional Resistors
- ► Excellent Replacement for Carbon Composition, Commercial Wirewound, Carbon Film, Metal Oxide and Metal Film Resistors

Special construction of the Series RSF resistors allows performance characteristics previously unavailable in film resistors and reduced sizes which are interchangeable with wirewound resistors. Designed specifically for increased power and surge dissipation. Proprietary film is a thick complex-oxide material deposited on high grade ceramic for optimum heat dissipation, negligible inductance, low temperature coefficient and long-term stability. Exceptional insensitivity to high temperature and thermal shock. Terminations are welded for increased durability and negligible noise levels. Marking is stamped or color banded. Detailed performance report available. **Note:** 1/4, 1/2, 3, 5, and 7 Watt available from factory in 1000-piece multiples.

Stock No.	Mfr.'s Type	Watts @ 25°/C	Tolerance	Maximum Working Voltage	Dielectric Withstand Voltage	Values (See Table Below)	PK./100 1-10	11-20	21-40	41-99
840-6XXX	RSF1A	1	5%	300	700	0.1-0.20 Ohms	14.25	11.00	8.21	6.77
840-4XXX	RSF1A	1	5%	300	700	.22-100K Ohms	11.50	10.94	8.99	7.20
840-5XXX	RSF2B	3	5%	500	1000	.22-100K Ohms	15.80	13.60	12.50	11.20

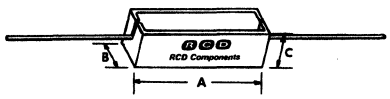
Standard Resistance Values

To Complete Allied Stock Number, Insert 3-Digit Number Shown in XXX Column After Value Desired In Place Of XXX In Stock Number.

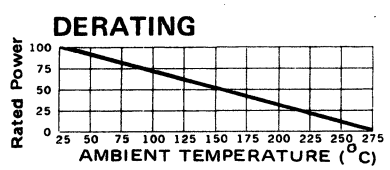
Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
.10	995	0.68	013	3.6	044	18	066	91	191	470.0	302	2.4K	412	12K	533	62K	677	510.0K	830	3.9M	914
.12	996	0.75	014	3.9	046	20	098	100	202	510.0	308	2.7K	421	13K	543	68K	685	560.0K	836	4.3M	915
.15	997	0.82	016	4.3	047	22	102	110	206	560.0	315	3.0K	427	15K	550	75K	698	680.0K	850	4.7M	916
.18	998	0.91	017	4.7	049	24	114	120	212	620.0	324	3.3K	433	16K	563	82K	703	910.0K	871	5.1M	917
.20	999	1.00	020	5.1	051	27	117	130	218	680.0	330	3.6K	441	18K	565	91K	712	1.0M	877	5.6M	918
.22	001	1.10	021	5.6	053	30	123	150	226	750.0	338	3.9K	446	20K	575	100K	717	1.1M	881	6.2M	919
.24	002	1.20	022	6.2	054	33	130	160	230	820.0	343	4.3K	453	22K	585	110K	718	1.2M	886	6.8M	920
.27	003	1.30	023	6.8	055	36	135	180	237	910.0	351	4.7K	461	24K	592	120K	727	1.3M	890	7.5M	921
.30	004	1.50	024	7.5	056	39	140	200	243	1.0K	356	5.1K	467	27K	603	150K	740	1.5M	900	8.2M	922
.33	005	1.60	025	8.2	057	43	143	220	248	1.1K	361	5.6K	473	30K	611	180K	751	1.8M	903	9.1M	923
.36	006	1.80	026	9.1	058	47	153	240	255	1.2K	366	6.2K	482	33K	617	200K	759	2.0M	905	10.0M	924
.39	007	2.00	028	10.0	060	51	160	270	263	1.3K	373	6.8K	489	36K	621	220K	765	2.2M	907	—	—
.43	008	2.20	032	11.0	061	56	166	300	270	1.5K	380	7.5K	498	39K	636	270K	783	2.4M	908	—	—
.47	009	2.40	035	12.0	062	62	172	330	276	1.6K	383	8.2K	504	43K	643	300K	790	2.7M	909	—	—
.51	010	2.70	041	13.0	063	68	178	360	278	1.8K	393	9.1K	511	47K	650	330K	796	3.0M	911	—	—
.56	011	3.00	042	15.0	064	75	185	390	288	2.0K	400	10.0K	522	51K	657	390K	811	3.3M	912	—	—
.62	012	3.30	043	16.0	065	82	190	430	296	2.2K	405	11.0K	528	56K	666	470K	825	3.6M	913	—	—

10

Types PW5/5-Watt And PW10/10-Watt Resistors



Axial lead resistors. Welded cap to lead for improved noise levels and long term stability. Precisely wound element with glass fiber core and sealed in rectangular ceramic case. **Tolerance** ±5%. **Wide resistance range:** .1Ω to 5K. **Improved TCR:** ±200 PPM Typ. (Values above 1Ω). **Power rating:** 25°C ambient. **Maximum operating temperature:** 275°C. Other wattages and values available in 1000-piece multiples.



Mfr.'s Type	Dimensions — Inches (mm) A ±.032" (.81 mm)	B ±.032" (.81 mm)	C ±.032" (.81 mm)
PW5	0.88" (22.4)	.38" (9.7)	.35" (8.9)
PW10	1.88" (47.8)	.38" (9.7)	.38" (9.7)

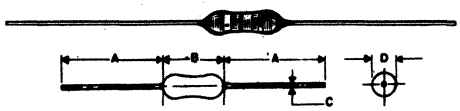
Type PW5 — 5 Watt

Stock No.	Mfr.'s Type	Ohms	PK./10 1-9	10-19	20-49	50-Up
840-0356	PW5	0.10	3.40	2.50	2.00	1.70
840-0021	PW5	0.50	3.40	2.50	2.00	1.70
840-0025	PW5	0.68	3.40	2.50	2.00	1.70
840-0029	PW5	1.0	3.00	2.30	1.70	1.40
840-0038	PW5	2.0	3.00	2.30	1.70	1.40
840-0042	PW5	3.0	3.00	2.30	1.70	1.40
840-0047	PW5	4.0	3.00	2.30	1.70	1.40
840-0050	PW5	5.0	3.00	2.30	1.70	1.40
840-0056	PW5	7.5	3.00	2.30	1.70	1.40
840-0060	PW5	10.0	3.00	2.30	1.70	1.40
840-0081	PW5	15.0	3.00	2.30	1.70	1.40
840-0112	PW5	25.0	3.00	2.30	1.70	1.40
840-0158	PW5	50.0	3.00	2.30	1.70	1.40
840-0202	PW5	100.0	3.00	2.30	1.70	1.40
840-0226	PW5	150.0	3.00	2.30	1.70	1.40
840-0243	PW5	200.0	3.00	2.30	1.70	1.40
840-0258	PW5	250.0	3.00	2.30	1.70	1.40
840-0307	PW5	500.0	3.00	2.30	1.70	1.40
840-0026	PW5	1.0 K	3.00	2.30	1.70	1.40

Type PW10 — 10 Watt

Stock No.	Mfr.'s Type	Ohms	PK./10 1-9	10-19	20-49	50-Up
840-7021	PW10	0.10	3.40	2.70	2.40	1.80
840-7025	PW10	0.50	3.40	2.70	2.40	1.80
840-7026	PW10	0.68	3.40	2.70	2.40	1.80
840-7029	PW10	1.0	3.20	2.50	2.20	1.60
840-7038	PW10	2.0	3.20	2.50	2.20	1.60
840-7050	PW10	5.0	3.20	2.50	2.20	1.60
840-7056	PW10	7.5	3.20	2.50	2.20	1.60
840-7060	PW10	10.0	3.20	2.50	2.20	1.60
840-7081	PW10	15.0	3.20	2.50	2.20	1.60
840-7098	PW10	20.0	3.20	2.50	2.20	1.60
840-7112	PW10	25.0	3.20	2.50	2.20	1.60
840-7158	PW10	50.0	3.20	2.50	2.20	1.60
840-7185	PW10	75.0	3.20	2.50	2.20	1.60
840-7202	PW10	100.0	3.20	2.50	2.20	1.60
840-7226	PW10	150.0	3.20	2.50	2.20	1.60
840-7243	PW10	200.0	3.20	2.50	2.20	1.60
840-7270	PW10	300.0	3.20	2.50	2.20	1.60
840-7307	PW10	500.0	3.20	2.50	2.20	1.60
840-7356	PW10	1.0 K	3.20	2.50	2.20	1.60
840-7400	PW10	2.0 K	3.40	2.70	2.40	1.80
840-7427	PW10	3.0 K	3.40	2.70	2.40	1.80
840-7428	PW10	5.0 K	3.40	2.70	2.40	1.80

Allied 5% Carbon Film Resistors Below 10% Carbon Prices



Mfr.'s Type	Dimensions—Inches			
	A	B	C	D
CF1/8	1.00 min.	.13 + .01	.018 ± .001	.07 ± .01
CF1/4	1.00 min.	.24 ± .01	.022 ± .001	.09 ± .01
CF1/2	1.00 min.	.33 ± .02	.026 ± .002	.12 ± .01

Extremely low noise. Epoxy coating with color code marking.

Temperature Characteristics (PPM/°C)
Operating Temperature Range – 25°C to + 125°C.

Mfr.'s Type	0 to – 500	0 to – 700	0 to – 1000	Test Method
CF1/8	Under 100 kohm	110 kohm-1 Megohm	Over 110 kohm	EIA RS-196A
CF1/4	Under 100 kohm	110 kohm-1 Megohm	Over 680 kohm	5.2.4
CF1/2	Under 100 kohm	110 kohm-1 Megohm	—	—

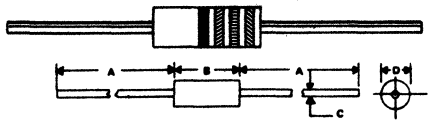
Sold in Packages of 200 Per Value

Stock No.	Mfr.'s Type	Watts	Stocked Values See Table Below	PER PKG./200		
				1-5	6-10	11-20
526-0XXX	CF1/8	1/8	4.7 ohm-680 kohm	**10.40**	**8.84**	**7.96**
526-1XXX	CF1/4	1/4	4.7 ohm-10 Mohm	**4.40**	**3.74**	**3.36**
526-2XXX	CF1/2	1/2	4.7 ohm-10 Mohm	**5.90**	**5.02**	**4.52**

Note: Tape and reel and large quantity pricing available.

See the Wide Selection of Value-Priced Resistor Kits for Prototyping, Repair or Maintenance Uses on Page 351.

MIL-Type RC Carbon Composition Resistors



These 1/4 and 1/2 watt composition resistors meet or exceed all requirements specified by MIL-R-11 and RS-172. Heavy coating of 90/10 tin on lead wires for superior soldering characteristics even after extended storage. Operation at full wattage rating at 70°C without derating. ± 5% tolerance. 1/8 watt available in 1000 piece minimum and multiple only.

Mfr.'s Type	Dimensions—Inches			
	A	B	C	D
1/4W	1.102 ± .032	.248 ± .028	.0240 ± .002	.094 ± .004
1/2W	1.024 ± .032	.374 + .032/ – .028	.0275 ± .002	.142 ± .008

Sold in Packages of 200 Per Value

Stock No.	MIL Equiv.	Watts	Stocked Values See Table Below	PER PKG./200		
				1-5	6-10	11-20
823-1XXX	RC07	1/4	2.2 Ohms to 5.6 Megohms	**10.40**	**8.84**	**7.96**
823-3XXX	RC20	1/2	2.2 Ohms to 20 Megohms	**11.60**	**9.86**	**8.88**

Note: Tape and reel and large quantity pricing available.

Standard Resistance Values

To Complete Allied Stock No., Insert 3 Digit No. Shown In XXX Column After Value Desired, In Place of XXX In Stock No.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Megs	XXX	Megs	XXX
2.7	041	30	123	160	230	750	338	3600	441	22k	585	150k	740	1.0	877	4.7	916
3.0	042	33	130	180	237	820	343	3900	446	24k	592	180k	751	1.1	881	5.1	917
3.3	043	36*	135	200	243	910	351	4700	461	27k	603	200k	759	1.2	886	5.6	918
3.9	046	39	140	220	248	1000	356	5100	467	30k	611	220k	765	1.3	890	6.2	919
4.7	049	47	153	240	255	1100	361	5600	473	33k	617	270k	783	1.5	900	6.8	920
5.1	051	51	160	270	263	1200	366	6200	482	39k	636	300k	790	1.8	903	7.5	921
5.6	053	56	166	300	270	1500	380	6800	489	47k	650	330k	796	2.0	905	8.2	922
6.8	055	68	178	330	276	1600	383	7500	498	51k	657	390k	811	2.2	907	9.1	923
8.2	057	75	185	390	288	1800	393	8200	504	56k	666	470k	825	2.4	908	10.0	924
9.1	058	82	190	430	296	2000	400	10k	522	62k	677	510k	830	2.7	909	12.0	927
10.0	060	100	202	470	302	2200	405	11k	528	68k	685	560k	836	3.0	911	15.0	929
15.0	081	110	206	510	308	2400	412	12k	533	82k	703	680k	850	3.3	912	18.0	933
20.0	098	120	212	560	315	2700	421	15k	550	91k	712	910k	871	3.6	913	20.0	935
22.0	102	130*	218	620	324	3000	427	18k	565	100k	717	—	—	3.9	914	—	—
27.0	117	150	226	680	330	3300	433	20k	575	120k	727	—	—	4.3	915	—	—

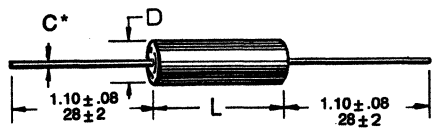
*Available in 526-1XXX (1/4-Watt) Only.

Metal Film 1% Tolerance Resistors For Commercial Applications

- ± 50PPM/°C Temperature Coefficient
- Voltage Coefficient, 1/10-Full, 0.5 ppm
- For Precision Instrumentation
- Low Noise Levels: -20 Db on Standard Values, 0.1 μ per Volt; -30 Db on Low-Med Values, 0.5 μV per Volt
- Color Band Marking
- Offer Low Electrical Noise
- High Stability Under Load
- Other Values Available in Packages of 1000 Pieces Only

Replace XXX In Stock No. With Appropriate 3 Digit Number From Values Table (Below). Sold Per Package of 100.

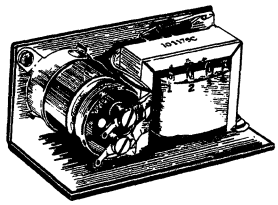
Stock No.	Mfr.'s Type	Stocked Resistance Range Ohms	Watts at 70°C	Max. Size Inches*		PER PKG./100		
				L	D	1-10	11-50	51-99
832-6XXX	RN1/4-T2	49.9-100k	1/4	.25	.10	**5.00**	**3.75**	**2.50**
832-2XXX	RN1/2-T2	49.9-499k	1/2	.36	.12	**6.00**	**4.75**	**3.50**



*C = RN1/4—.022 ± .001 (0.60 ± 0.03); RN1/2—.026 ± .002 (0.70 ± 0.05). **Note:** Tape and reel and large quantity pricing available.

Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX	Ohms	XXX
49.9	157	301.00	271	1.50k	380	4.02k	450	10.0k	522	24.9k	594	75.0k	694
51.1	161	348.00	280	2.00k	400	4.75k	462	11.0k	528	27.4k	604	82.5k	705
56.2	167	402.00	292	2.15k	403	4.87k	463	12.1k	535	30.1k	612	84.5k	706
75.0	185	475.00	303	2.21k	406	4.99k	465	12.4k	536	33.2k	618	90.9k	711
90.9	196	499.00	306	2.49k	415	5.11k	468	13.0k	538	40.2k	638	100.0k	717
100.0	202	604.00	322	2.74k	422	6.19k	481	15.0k	550	46.4k	649	121.0k	728
121.0	213	750.00	338	3.01k	428	6.81k	490	15.8k	552	47.5k	651	150.0k	740
150.0	226	825.00	345	3.32k	435	7.50k	498	17.4k	561	49.9k	655	200.0k	759
200.0	243	909.00	350	3.48k	437	8.25k	505	18.2k	566	51.1k	658	221.0k	766
221.0	250	1.00k	356	3.57k	440	9.09k	513	20.0k	575	61.9k	675	249.0k	777
249.0	257	1.21k	367	3.83k	445	9.53k	518	22.1k	586	68.1k	686	499.0k	828

"Black-Line" Series Unregulated DC Power Supplies



► Low-Cost
► Raw DC Power...
► Run Your Motors, Solenoids and Fans with Our Inexpensive, Low Part-Count Power Supplies.

Stock No.	Mfr.'s Type	Voltage	Full Amp	EACH
923-0900	15B7H	7 Vdc	1.8	39.00
923-0905	30B7H	7 Vdc	3.0	45.00
923-0910	60B7H	7 Vdc	6.0	73.00
923-0915	100B7H	7 Vdc	10.0	81.00
923-0920	200B7H	7 Vdc	20.0	113.00
923-0925	15B12H	12 Vdc	1.2	37.00
923-0930	30B12H	12 Vdc	2.4	45.00
923-0935	60B12H	12 Vdc	4.8	70.00
923-0940	100B12H	12 Vdc	7.0	81.00
923-0945	200B12H	12 Vdc	15.0	113.00
923-0950	15B16H	16 Vdc	0.9	37.00
923-0955	100B16H	16 Vdc	6.0	85.00
923-0960	200B16H	16 Vdc	12.5	113.00
923-0965	30B20H	20 Vdc	1.5	45.00
923-0970	60B20H	20 Vdc	3.0	81.00
923-0975	100B20H	20 Vdc	5.0	99.00
923-0980	200B20H	20 Vdc	10.0	124.00
923-0985	15B24H	24 Vdc	0.6	37.00
923-0990	30B24H	24 Vdc	1.2	45.00
923-0995	60B24H	24 Vdc	2.4	70.00
923-1000	100B24H	24 Vdc	3.5	81.00
923-1005	200B24H	24 Vdc	7.5	113.00
923-1075	500B24H	24 Vdc	20.0	186.00
923-1080	750B24H	24 Vdc	30.0	290.00
923-1100	500B48H	24Vdc	30.0	186.00
923-1105	750B48H	24 Vdc	15.0	290.00

"VCR" Series Voltage Control Regulators

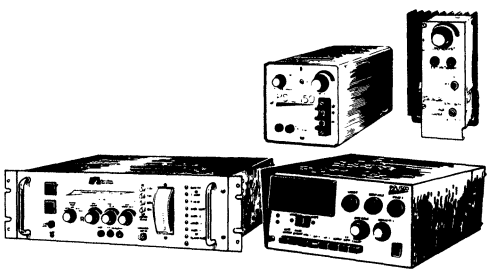
► Low Cost Regulation ±0.1%

► For Use with Your Black-Line Supply

Stock No.	Mfr.'s Type	Output Range	Amps @ Full Load	DC Input Voltage	"Black-Line" Application	EACH
923-1035	VCR 5-6	4.5- 6.5 Vdc	6.0	*	7V Units	32.00
923-1045	VCR 12/15-6	11.5-15.5 Vdc	6.0	*	18-20V Units	32.00
923-1055	VCR 18/24-4.5	17.5-24.5 Vdc	4.5	*	24V Units	37.00
923-1060	VCR 18/24-8	17.5-24.5 Vdc	8.0	*	24V Units	37.00

*Voltage drop from input to ouput is 3.5 Vdc min.

Programmable Test Loads for Power Supplies

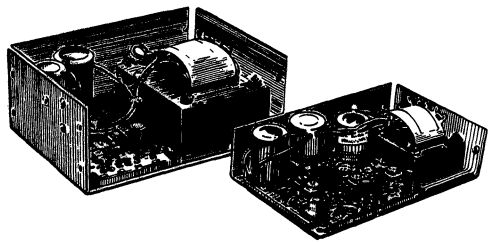


Perfect for testing power supplies, alternators/motors, DC to DC converters and circuit breakers.

Standard Features
► Constant resistance/constant current regulation better than 1%
► All units programmable
► Front-panel controls
► High reliability

Stock No.	Mfr.'s Type	Maximum Loading Power @ 25°C	Maximum Loading Voltage (Vdc)	Maximum Loading Current (Adc)	Maximum Loading Voltage (Vdc)	EACH
923-1010	PS²L 50	50 Watts	60	10	4.0	141.00
923-1015	PS²L 150	150 Watts	60	30	4.5	251.00
923-1020	PS²L 1000	1000 Watts	60	110	1 + (0.0181 × 1)	1495.00
923-1025	PS²L 1500	1500 Watts	30	300	1.5	1995.00

"Worldwide" Series 15 to 75 Watts of DC Power



► Dimensions for Industry Standard Packages, Consult Factory or Data Sheet
► Regulations: ±0.5% Line/Load
► Ripple: 5.0 mV pk-pk; 0.2% on 24 and 28V outputs

Single Output Models

Stock No.	Mfr.'s Type	Output		EACH
		Volt	Amp	
923-2000	SPW 5-3/OVP	5 Vdc	3.0	38.00
923-2005	SPW 5-6/OVP	5 Vdc	6.0	63.00
923-2010	SPW 5-9/OVP	5 Vdc	9.0	91.00
923-2015	SPW 5-12/OVP	5 Vdc	12.0	98.00
923-2020	SPW 5-18/OVP	5 Vdc	18.0	145.00
923-2025	SPW 12-1.7	12 Vdc	1.7	38.00
923-2030	SPW 12-3.4	12 Vdc	3.4	58.00
923-2035	SPW 12-5.1	12 Vdc	5.1	81.00
923-2040	SPW 12-6.8	12 Vdc	6.8	97.00
923-2045	SPW 12-10.2	12 Vdc	10.2	133.00
923-2050	SPW 15-1.5	15 Vdc	1.5	38.00
923-2055	SPW 15-3	15 Vdc	3.0	60.00
923-2060	SPW 15-4.5	15 Vdc	4.5	85.00
923-2065	SPW 15-6	15 Vdc	6.0	92.00
923-2070	SPW 15-9	15 Vdc	9.0	133.00
923-2075	SPW 24-1.2	24 Vdc	1.2	38.00
923-2080	SPW 24-2.4	24 Vdc	2.4	58.00
923-2085	SPW 24-3.6	24 Vdc	3.6	81.00
923-2090	SPW 24-4.8	24 Vdc	4.8	92.00
923-2095	SPW 24-7.2	24 Vdc	7.2	127.00
923-2100	SPW 28-1	28 Vdc	1.0	40.00
923-2105	SPW 28-2	28 Vdc	2.0	58.00
923-2110	SPW 28-3	28 Vdc	3.0	85.00
923-2115	SPW 28-4	28 Vdc	4.0	97.00
923-2120	SPW 28-6	28 Vdc	6.0	133.00

Double Output Models

Stock No.	Mfr.'s Type	Output Amps		EACH
		+12 to +15 Vdc	−12 to −15 or −5 Vdc	
923-2130	SPW 15D-.8	1.0/.8	1.0/.8/.4	50.00
923-2135	SPW 15D-1.5	1.7/1.5	1.7/1.5/.7	63.00
923-2140	SPW 15D-3	3.4/3.0	3.4/3.0/1.5	106.00
923-2145	SPW 15D-5	5.0	5.0/5.0/2.0	150.00

Stock No.	Mfr.'s Type	Output Amps		EACH
		+5 Vdc	+12 Vdc	
923-2155	SPW 323D	2.0	4.0	97.00

Triple Output Models

Stock No.	Mfr.'s Type	Output Amps			EACH
		5 Vdc	+9 to +15 Vdc	−9 to −15 or −5 Vdc	
923-2160	SPW 16WT	2.0	.4	.4/.4/.4	63.00

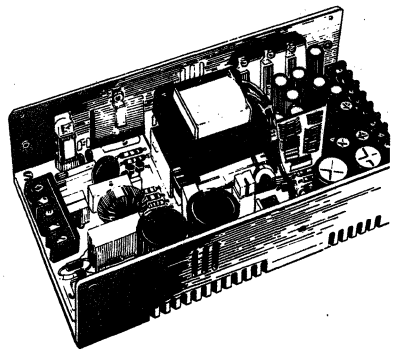
Stock No.	Mfr.'s Type	Output Amps			EACH
		5 Vdc	−12 to −15 or −5 Vdc	+12 to +15 Vdc	
923-2165	SPW 40WT	3.0	1.0/.8	1.0/.8/.4	88.00
923-2170	SPW 75WT	6.0	1.7/1.5	1.7/1.5/.7	115.00
923-2175	SPW 131T	8.0	1.7/1.5	1.7/1.5/.7	138.00
923-2180	SPW 105WT	12.0	1.7/1.5	1.7/1.5/.7	163.00

11

"Classic" Series

Standard Features

- ► Big Power in a Small Package
- ► Classic input capability 90-132/180-264 VAC. 47-63 Hz (400 Hz operation — consult factory)
- ► Field selectable for 115 or 230 VAC input
- ► High temperature burn-in
- ► Built-in OVP on main 5V level
- ► Main 5V level adjustable
- ► 20 millisecond minimum hold-up time at nominal line
- ► Calculated MTBF at 25°C, >50,000 hours
- ► EMI Suppression
- ► In-rush current limiting



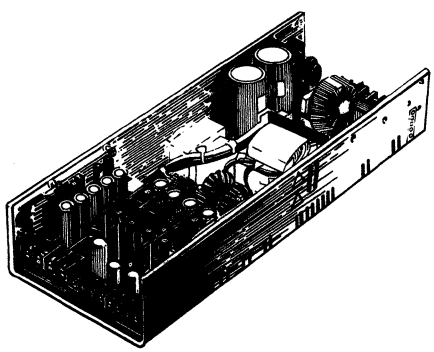
150 and 200 Watts DC Power

A highly reliable, state-of-the industry design, the Classic Series is available in two catalog series with six popular outputs.

A 150 watt convection-cooled power supply and a 200 watt fan-cooled design, both come with overvoltage/overcurrent protection, a "U" channel chassis, made of 0.125" thick aluminum alloy with a clear chromate finish and mounting on sides.

Stock No.	Mfr.'s Type	Output 1 VDC/Amp	Output 2 VDC/Amp	Output 3 VDC/Amp	Output 4 VDC/Amp	EACH
923-8300	150C-912200	+5 @ 20	+12 @ 3.0	−12 @ 3.0	N/A	229.00
923-8305	150C-913300	+5 @ 20	+15 @ 3.0	−15 @ 3.0	N/A	229.00
923-8310	150C-912210	+5 @ 20	+12 @ 3.0	−12 @ 3.0	+5 @ 2	243.00
923-8315	150C-913310	+5 @ 20	+15 @ 3.0	−15 @ 3.0	+5 @ 2	243.00
923-8320	150C-912240	+5 @ 20	+12 @ 3.0	−12 @ 3.0	+24 @ 2	243.00
923-8325	150C-913340	+5 @ 20	+15 @ 3.0	−15 @ 3.0	+24 @ 2	243.00
923-8330	200C-912200	+5 @ 25	+12 @ 3.5	−12 @ 3.5	N/A	266.00
923-8335	200C-913300	+5 @ 25	+15 @ 3.5	−15 @ 3.5	N/A	266.00
923-8340	200C-912210	+5 @ 25	+12 @ 3.5	−12 @ 3.5	+5 @ 2.5	273.00
923-8345	200C-913310	+5 @ 25	+15 @ 3.5	−15 @ 3.5	+5 @ 2.5	273.00
923-8350	200C-912240	+5 @ 25	+12 @ 3.5	−12 @ 3.5	+24 @ 2.5	273.00
923-8355	200C-913340	+5 @ 25	+15 @ 3.5	−15 @ 3.5	+24 @ 2.5	273.00

400A "Spectrum" Series



- ► 4-Wide Band Adjustable Outputs Plus 5V Primary
- ► Perfect for R & D Work and Production Use!
- ► 120 power supplies in one

Standard Features

- ► All auxiliaries wide band adjustable
- ► Power fail/remote inhibit
- ► Compact size 2.5" × 5.0" × 13.0"
- ► All outputs current limited
- ► All outputs floating
- ► Worldwide input capability 95-132/190-264 VAC, 47-63 Hz
- ► 300 VDC operation — consult factory
- ► Field selectable, for 115/230 VAC input
- ► High temperature burn-in
- ► 20 millisecond minimum hold-up time at nominal line
- ► In-rush current limiting
- ► Remote sense on main 5V output
- ► Built-in OVP on main 5V output
- ► Calculated MTBF at 25°C, >50,000 hours

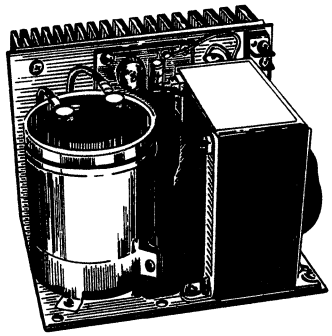
Stock No.	Mfr.'s Type	V_1	V_2	V_3	V_4	V_5	EACH
923-1030	400A-914221	5V @ 40A convection; 5V @ 50A forced air	12 to 24V @ 6A	5-15V @ 6A	5-15V @ 6A	5-15V @ 6A	520.00

Note: 300W convection, 400 W air-cooled maximum output.

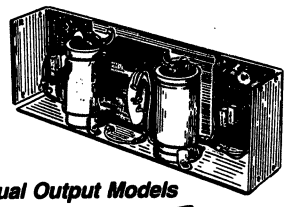
Blue-Line "Open-Frame" Series

Standard Features

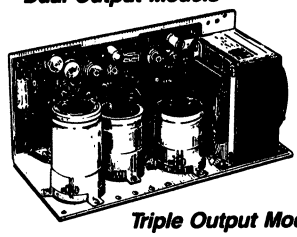
- ► 15 to 350 Watts of Linear Power
- ► Adjustable output voltage
- ► Floating outputs — most models
- ► Selectable power input
- ► AC input 115/230 Vac selectable
- ► Most models UL recognized



Single Output Models



Dual Output Models



Triple Output Models

Single Output Models

Stock No.	Mfr.'s Type	Output		EACH
		Volt	Amp	
923-5000	SPS 30-3	3 VDC	3.00	44.00
923-5005	SPS 15-5	5 VDC	1.50	39.00
923-5010	SPS 30-5	5 VDC	3.00	44.00
923-5015	SPS 40-5	5 VDC	5.00	79.00
923-5020	SPS 60-5	5 VDC	6.00	112.00
923-5030	SPS 120-5	5 VDC	12.00	169.00
923-5040	SPS 220-5	5 VDC	25.00	273.00
923-5045	SPS 250-5	5 VDC	25.00	348.00
923-5055	SPS 350-5	5 VDC	35.00	378.00
923-5060	SPS 30-6	6 VDC	3.00	44.00
923-5065	SPS 30-8	8 VDC	2.00	44.00
923-5075	SPS 15-12	12 VDC	0.80	39.00
923-5080	SPS 30-12	12 VDC	1.80	44.00
923-5085	SPS 40-12	12 VDC	3.50	79.00
923-5090	SPS 60-12	12 VDC	5.00	112.00
923-5095	SPS 120-12	12 VDC	10.00	169.00
923-6000	SPS 220-12	12 VDC	20.00	273.00
923-6005	SPS 250-12	12 VDC	20.00	348.00
923-6010	SPS 15-15	15 VDC	0.70	39.00
923-6015	SPS 30-15	15 VDC	1.60	44.00
923-6020	SPS 40-15	15 VDC	3.00	79.00
923-6025	SPS 60-15	15 VDC	4.00	112.00
923-6030	SPS 120-15	15 VDC	8.00	169.00
923-6050	SPS 15-24/28	24/28 VDC	0.50	39.00
923-6055	SPS 30-24/28	24/28 VDC	1.20	44.00
923-6060	SPS 40-24/28	24/28 VDC	1.80	79.00
923-6065	SPS 60-24/28	24/28 VDC	2.50	112.00
923-6070	SPS 120-24/28	24/28 VDC	6.00	169.00
923-6075	SPS 220-24/28	24/28 VDC	12.00	273.00
923-6080	SPS 250-24/28	24/28 VDC	12.00	348.00
923-6090	SPS 30-48	48 VDC	0.60	62.00
923-7000	SPS 30-120	120 VDC	0.15	70.00

Dual Output Models

Stock No.	Mfr.'s Type	5 VDC	10 to 12 VDC	12 to 15 VDC	12 to 15 VDC	24 VDC	EACH
		Amp	Amp	Amp	Amp	Amp	
923-7020	SPS 30D-12/15	—	—	0.7	0.7	—	63.00
923-7025	SPS 30DA-5/12	2.0	0.6	—	—	—	70.00
923-7030	SPS 30DA-12/15	—	—	0.7	0.7	—	70.00
923-7040	SPS 40D-12/15	—	—	1.2	1.2	—	86.00
923-7045	SPS 60D-5/12	3.0	1.8/1.5	—	—	—	122.00
923-7050	SPS 60D-12/15	—	—	1.8/1.6	1.8/1.6	—	122.00
923-7055	SPS 65D-5/24	3.0	—	—	—	1.2	128.00
923-7065	SPS 90D-12/15	—	—	3.0/3.0	3.0/3.0	—	160.00
923-7085	SPS 250D-12/15	—	—	8.0/6.0	8.0/6.0	—	316.10

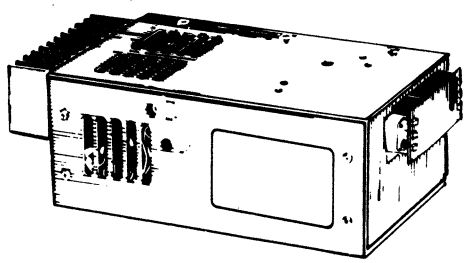
Triple Output Models

Stock No.	Mfr.'s Type	5 VDC	12 to 15 VDC	12 to 15 VDC	EACH
		Amp	Amp	Amp	
923-8000	SPS 30TA-5/12/15	2.0	0.25	0.25	99.00
923-8005	SPS 40T-5/12/12	2.5	0.75	0.75	99.00
923-8010	SPS 40T-5/15/15	2.5	0.75	0.75	99.00
923-8015	SPS 50TA-5/12/15	3.0	0.70	0.70	137.00
923-8020	SPS 60TA-5/12/15	5.0	0.70	0.70	142.00
923-8030	SPS 80T-5/12/15	5.0	1.80	1.80	144.00
923-8035	SPS 90T-5/12/15	7.0	1.80	1.80	163.00
923-8040	SPS 120T-5/12/15	7.0	3.50	3.50	220.00

Blue-Line "Covered" Series

Standard Features

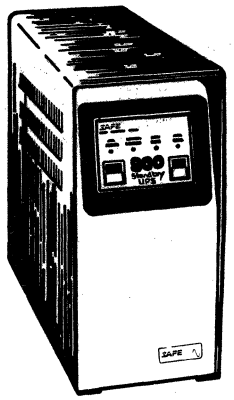
- ► Covered for safety
- ► Plus all the features of the open-frame series
- ► Dual output models also available

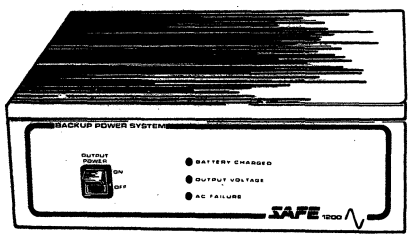


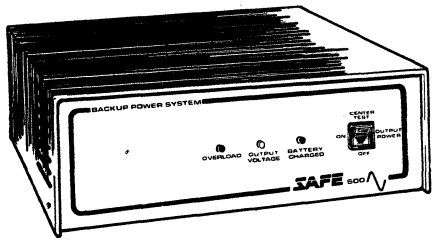
Single Output Models

Stock No.	Mfr.'s Type	Output		EACH
		Volt	Amp	
923-8100	CPS 30-5	5 VDC	3.0	90.00
923-8105	CPS 500-5	5 VDC	50.0	588.00
923-8110	CPS 30-12	12 VDC	1.8	86.00
923-8115	CPS 200-12	12 VDC	20.0	311.00
923-8120	CPS 30-24/28	24/28 VDC	1.2	86.00
923-8125	CPS 60-24/28	24/28 VDC	2.5	181.00
923-8130	CPS 120-24/28	24/28 VDC	6.0	218.00
923-8135	CPS 220-24/28	24/28 VDC	12.0	311.00
923-8140	CPS 500-24/28	24/28 VDC	20.0	588.00
923-8145	CPS 30-24	48VDC	0.6	90.00

SAFE Standby Power Supplies





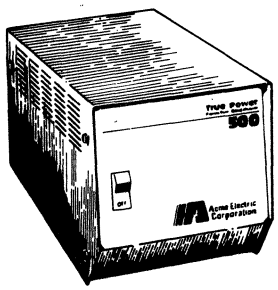


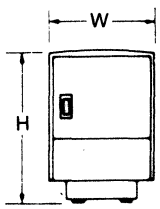
- Fast transfer time.
- EMI/RFI surge/spike protection.
- Multiple output receptacles to protect more than one piece of equipment.
- Simple on/off switch operation.
- Pulsing signal alerts user of power failure; burst tone sounds within 1 minute of depletion.
- Portable, compact design.

Stock No.	Mfr.'s Type	Output Characteristics								Input Requirements		Physical Specifications		EACH
		Safe Unit	Power (VA) (at 0.65 Pf)	Nominal Voltage full load V	Current (Amp)	Frequency (Hz)	Waveform	Transfer Time (max., msec)	Output Receptacles	Voltage (V)	Frequency Hz	Weight (Lbs.)	Dimensions (Inches) H × W × D	
923Q5022	5000-85022-01	250 VA	250	115	2.2	60 ± 2%	Quasi-square	2-4	3	120	60	18.0	5.5 × 11.5 × 7.0	**395.00**
923Q5024	5000-85024-01	425 VA	425	115 ± 3%	3.7	60 ± 2%	Quasi-square	2-4	4	120	60	36.0	5.5 × 15.25 × 9.25	**595.00**
923Q5525	5000-85025-01	500 VA	500	115 ± 3%	4.4	60 ± 1%	Sinewave	1-2	4	120	60	41.0	5.5 × 15.25 × 10.5	**795.00**
923Q5026	SPS-85026	800 VA	800	120 ± 3%	6.6	60 ± 5%	Sinewave	4	3	120	60	100.0	16.25 × 7.25 × 18.5	**1295.00**
923Q5027	5000-85027-01	1200 VA	1200	120 ± 3%	10.0	60 ± 1%	Sinewave 5%	5	4	120	60	65.0	5.8 × 17.0 × 15.63	**1395.00**

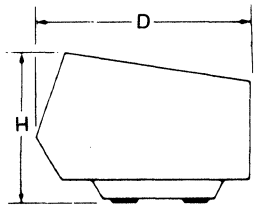
True-Power® Power Line Conditioners

11 For Precise Voltage Regulation With Excellent Transient Suppression

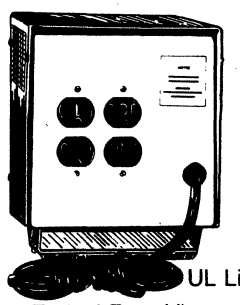




Front View



Side View


UL Listed

Typical Rear View

Models 250 to 2000 VA

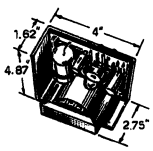
Standard Features

- Reliable, regulated output voltage when input voltage varies, even to brownout levels.
- Noise rejection effectively suppresses transients, spikes and surges.
- Rapid response to line and load changes.
- Inherent overload and short-circuit protection without thermop protectors, fuses, or circuit breakers.
- Sinusoidal output features less than 3% total harmonic distortion.
- Five sizes available — 250 VA thru 2 kVA.

Stock No.	Mfr.'s Type	Input Characteristics			Physical Specifications		EACH
		Rating (VA)	Maximum Output (Amps)	Duplex Receptacle at 15A maximum	Net Weight (Lbs.)	Dimensions (Inches) H × W × D	
923-0251	PLC-85000	250	2.0	2	27	8.13 × 6.31 × 11.38	**280.00**
923-0501	PLC-85001	500	4.2	2	43	9.13 × 7.50 × 12.63	**388.00**
923-0751	PLC-85002	750	6.3	2	58	10.94 × 7.50 × 15.63	**490.00**
923Q0102	PLC-85003	1000	8.3	3	69	10.94 × 10.69 × 17.63	**561.00**
923Q0202	PLC-85004	2000	16.7	3 + 1-30A Twist Lock	132	12.50 × 11.44 × 20.19	**955.00**

Note: 150 and 350 VA models also available. † Trademark of Acme Electric Corporation

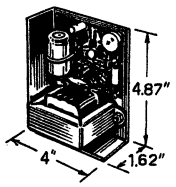
15-24 Watt 'Red Baron' Series



Single output. U.L. recognized, CSA certified. **Ripple:** (PK/PK) 3mV on 5, 12, 15V models. 5mV on 24V model. **Universal Input:** 115/230V, ± 10%, 47-63 Hz, 1 phase. **Temperature:** operating, 0 to 65°C; storage, – 20 to + 80°C. 50,000 hour MTBF.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-2000	APS 5-3	5	3.0	± 0.05%	± 0.1%	64.00	60.80
983-3000	APS 12-1.6	12	1.6	± 0.05%	± 0.1%	64.00	60.80
983-3001	APS 15-1.5	15	1.5	± 0.05%	± 0.1%	64.00	60.80
983-2030	APS 24-1	24	1.0	± 0.05%	± 0.1%	64.00	60.80

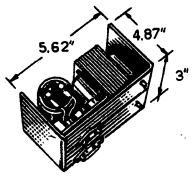
25 Watt High Voltage 'Golden Eagle' Series



Single output. U.L. recognized and CSA certified. **Universal Input:** 115/230V, ± 10%, 47-63 Hz, 1 phase. **Ripple:** 0.02% PK/PK. **Operating Temperature:** 0 to 65°C, (derate 2%/°C above 40°C). **Storage Temperature:** – 20° to + 80°C. 50,000 hour MTBF.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3005	APS 60-250	60	250.000	± 0.05%	± 0.1%	89.00	84.55
983-3006	APS 150-150	150	0.150	± 0.05%	± 0.1%	89.00	84.55
983-3007	APS 250-100	250	0.100	± 0.05%	± 0.1%	89.00	84.55

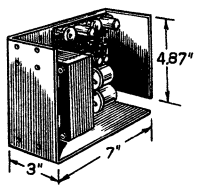
30-60 Watt 'Green Hornet' Series



Single output. U.L. recognized. All models except APS 48-1 are CSA certified. **Ripple (PK/PK):** 3mV on 5, 12, 15V models; 5mV on all others. **Universal Input:** 115/230V, ± 10%, 47-63 Hz, 1 phase. Remote sense provided. **Temperature, storage:** – 20 to + 80°C; **Operate:** 0 to 65°C. 50,000 hour MTBF.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3002	APS 5-6	5	6.0	± 0.05%	± 0.1%	84.00	79.80
983-2040	APS 12-4	12	4.0	± 0.05%	± 0.1%	84.00	79.80
983-3003	APS 15-3	15	3.0	± 0.05%	± 0.1%	84.00	79.80
983-2060	APS 24-2.2	24	2.2	± 0.05%	± 0.1%	84.00	79.80
983-3004	APS 48-1	48	1.0	± 0.05%	± 0.1%	84.00	79.80

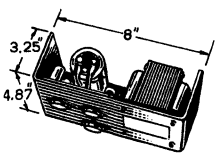
Dual Output 'Big Red' High Current Series



Microprocessor power supplies are U.L. recognized and CSA certified. **AC Input:** 115/230V ± 10%, 50-60 Hz. **Transient Response:** less than 50 micro-seconds. **Ripple (PK/PK):** 3mV. **Overshoot:** none on turn-on/turn-off or power failure. **Control:** screwdriver adjust potentiometer for ± 5% voltage adjustment.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3027	DAPS 12-1.5	± 12	1.5	± 0.05%	± 0.1%	102.00	96.90
983-3028	DAPS 15-1.3	± 15	1.3	± 0.05%	± 0.1%	102.00	96.90
983-3029	DAPS 53121.5	+ 5	3.0	± 0.05%	± 0.1%	102.00	96.90

50-120 Watt 'Black Beauty' Series

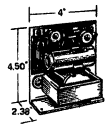


Single output. Remote Sense provided. **Universal Input:** 115/230V, ± 10%, 47-63 Hz, 1 phase. **Ripple:** 5-15V models, 3mV PK/PK. 24V model, 5mV PK/PK. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** – 20 to + 80°C. Aluminum chassis with 20% more heat sink area. 50,000 hour MTBF.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3012	APS 5-10*	5	10	± 0.05%	± 0.10%	129.00	122.55
983-3013	APS 5-12	5	12	± 0.05%	± 0.10%	142.00	134.90
983-3014	APS 12-7*	12	7	± 0.05%	± 0.10%	129.00	122.50
983-2080	APS 15-6*	15	6	± 0.05%	± 0.10%	129.00	122.50
983-3015	APS 15-8	15	8	± 0.05%	± 0.10%	142.00	134.90
983-2090	APS 24-5*	24	5	± 0.05%	± 0.10%	129.00	122.55

* U.L. recognized.

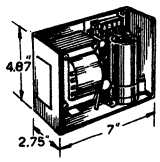
Single Output 20 Watt DPS Series



U.L. recognized. Provides 1 watt of power per cubic inch. **AC Input:** 105-125 volts AC, 47-63 Hz, 1 phase. **DC Voltage:** 5,12,and 24 volts, floating. **Regulation, line:** 0.25%; **load:** 0.25%. **Ripple:** 0.3% + 10mV rms maximum. **Temperature:** 0 to 40°C (derate current 2%/°C over 40°C). **Weight:** 1.9 lbs.

Stock No.	Mfr.'s Type	Input Voltage	DC Output	EACH	
				1-24	25-99
983-1105	DPS-1	115VAC, 60 Hz	5V-3A or 6V-2.5A	65.00	61.75
983-1106	DPS-2	115VAC, 60 Hz	12V-1.5A or 15V-1.2A	65.00	61.75
983-1107	DPS-3	115VAC, 60 Hz	24V-0.8A	65.00	61.75

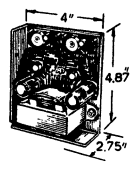
Single Output 50-84 Watt in HN Case Series



Meets U.L. and CSA requirements. **Universal Input:** 115/230V, ± 10%, 47-63 Hz, 1 phase. **Ripple (PK/PK):** 5mV. **Stability:** ± 0.2% for 24-hour period after 30 min. warmup. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** – 20°C to + 80°C. 50,000 hour MTBF.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3008	APS 5-9.0	5	9.0	± 0.05%	± 0.10%	109.00	103.55
983-3009	APS 12-5.1	12	5.1	± 0.05%	± 0.10%	109.00	103.55
983-3010	APS 15-4.5	15	4.5	± 0.05%	± 0.10%	109.00	103.55
983-3011	APS 24-3.5	24	3.5	± 0.05%	± 0.10%	109.00	103.55

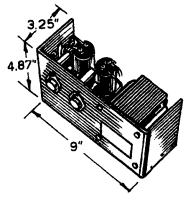
Dual Output 'Gold Dust Twins' Series



Microprocessor power supplies are U.L. recognized and CSA certified. **AC Input:** 115/230V ± 10%, 50-60 Hz. **Transient Response:** less than 50 microseconds. **Ripple (PK/PK):** 3mV. **Overshoot:** none on turn-on/turn-off or power failure. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** – 20 to + 85°C. **Protection:** automatic foldback current limiting overload and short circuit protection; reverse polarity protection; inductive load protection.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3020	DAPS 5-.8	± 5	0.80	± 0.05%	± 0.1%	83.00	78.85
983-3022	DAPS 12-.75	± 12	0.75	± 0.05%	± 0.1%	83.00	78.85
983-3025	DAPS 15-.6	± 15	0.60	± 0.05%	± 0.1%	83.00	78.85

Dual Output 3-Amp "Red Monster" High Current Series



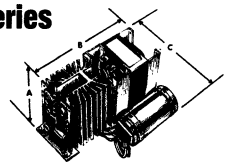
U.L. recognized and CSA certified. Microprocessor power supplies have remote sensing. **AC Input:** 115/230V ± 10%, 50-60 Hz. **Transient Response:** less than 50 microseconds. **Overshoot:** none on turn-on/turn-off or power failure. **Operating Temperature:** 0 to 65°C. **Storage Temperature:** – 20 to + 85°C. Screwdriver adjustable control. **Ripple (PK/PK):** 3mV.

Stock No.	Mfr.'s Type	Rating		Regulation		EACH	
		VDC	Amps	Line	Load	1-24	25-99
983-3030	DAPS 12-3	± 12	3.0	± 0.05%	± 0.1%	148.00	140.60
983-3031	DAPS 15-3	± 15	3.0	± 0.05%	± 0.1%	148.00	140.60
983-3032	DAPS 56123	+ 5	6.0	± 0.05%	± 0.1%	148.00	140.60

Single Output High Power Brute Series

Size Chart (Inch/mm)

Model	A	B	C
Brute I	6.75/171.5	11.00/279.4	7.66/194.5
Brute II	6.75/171.5	12.00/304.8	7.66/194.5
Brute III	10.00/254.0	14.00/355.6	11.12/282.6

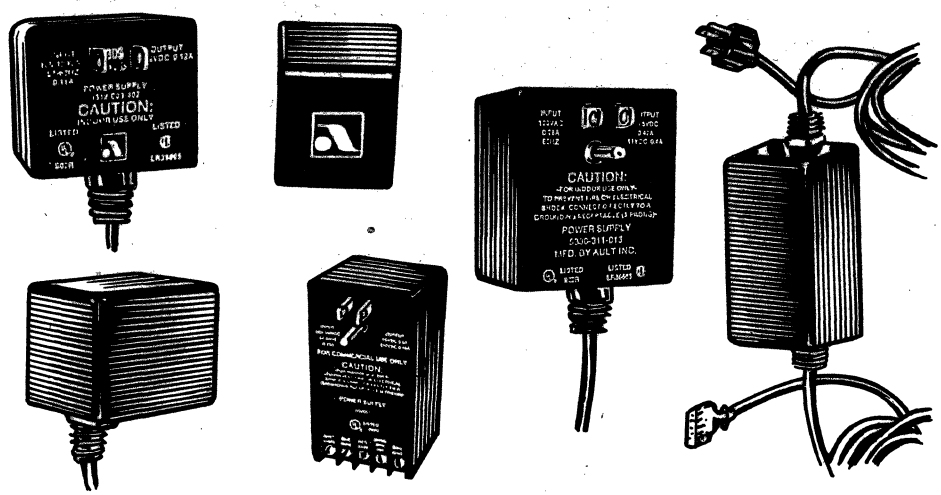


The Brute series with remote sensing provides well regulated high current DC that is continuously adjustable over either a 2 to 25 or 5 to 50 volt range. They can be set for either constant voltage or constant current operation. Brute can be used as a battery charger. Adjustable damping for inductive loads makes Brute attractive for driving relays, solenoids, and motors. Reliable SCR regulators are used to provide precision regulation (± 0.1%) with maximum efficiency (75%). A series inductance and a capacitor filter circuit provide low noise operation over all load and line conditions. **AC input:** 105-130/210-260 volts AC, 1 phase, 47-63 Hz. **Regulation (line and load):** ± 0.1% or 50mV. **Ripple:** 1% or 500mV rms max. **Overload Protection:** by adjustable current limiting. **Controls:** current limit adjust 0 to 100%; output voltage adjust 10 to 100%.

Stock No.	Mfr.'s Type	DC Output	Weight Lbs.	EACH	
				1-24	25-99
983-1101	Brute I	2-25V, 12A, 5-50V, 6A	20	404.00	383.80
983-1102	Brute II	2-25V, 24A, 5-50V, 12A	30	515.00	489.25
983-1103	Brute III	2-25V, 50A, 5-50V, 25A	40	869.00	825.55

Model K1. Ten-turn potentiometer kit for fine voltage adjustment. For Brute I.
983-1104. 1-24.....**EACH 60.00** **25-99**.....**EACH 51.00**

11



External Power Conversion

Use of external power conversion products in future designs can:

- ► allow size and weight reduction of the end product
- ► eliminate hazardous voltages, heat and magnetic interference from the end product
- ► reduce the time and cost needed to obtain agency approvals
- ► enhance MTBF values of the end product

Case Dimensions - Inches (mm)

Size No.	Width (W)	Length (L)	Height (H)
3	2.20 (55.9)	1.88 (47.8)	1.96 (49.8)
5	2.55 (64.8)	2.89 (73.4)	1.88 (47.8)
7	2.67 (67.8)	4.72 (119.9)	2.22 (56.4)
7-D	2.67 (67.8)	4.73 (120.1)	2.22 (56.4)

External Linear Power Supplies

Ault's Linear Power Supplies provide regulated, filtered DC outputs performing the total power conversion necessary for the electronics of today. Either wall plug-in or desk top models are all UL and CSA approved. Output channels are provided by screw terminals or output cord with connector. Typical applications include modems, microprocessor based systems, computer peripherals, telecommunication products, security systems among others.

Applications

- ► Modems
- ► Telecommunications Products
- ► Computer Peripherals
- ► Security Systems
- ► Data Communications Products
- ► Teller Terminals
- ► Microprocessor Controlled Systems
- ► Test Equipment
- ► Multiplexers

Advantages

- ► Keeps hazardous line voltage out of your product
- ► Makes product changes possible without having to resubmit to safety agencies
- ► Increases space for other components in your product
- ► Improves aesthetic appearance and portability
- ► Reduces size and weight of your product
- ► Keeps power supply heat out of your product for increased life
- ► Tamperproof power source
- ► Reduces product design time
- ► Allows for world-wide uniformity

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Single Output Types

(Unregulated)

Stock No.	Mfr.'s Type	Output	Ground	Case No.	Input Connection	Output Connection	EACH 1-9	10-24	25-49	50-Up
298-2030	5312-000-000	12.0V, 1.2A	No	5	Wall Plug-in	Screw Terminals	**39.80**	**34.83**	**27.36**	**24.10**
(Regulated)										
298-2035	7305-000-401	5.0V, 1.25A	Yes	7	Wall Plug-in	Screw Terminals	**104.00**	**91.00**	**71.50**	**55.10**
298-2040	7312-000-401A	12.0V, .8A	Yes	7	Wall Plug-in	Screw Terminals	**97.84**	**85.61**	**67.27**	**55.10**
298-0225	5324-000-401A	24.0V, .25A	Yes	5	Wall Plug-in	Screw Terminals	**79.00**	**69.13**	**54.31**	**41.00**
298-0230	7324-000-400A	24.0V, .5A	No	7	Wall Plug-in	Screw Terminals	**84.48**	**73.92**	**58.08**	**47.10**
298-2045	7000-348-400B	48.0V, .25A	No	7	Wall Plug-in	Screw Terminals	**95.60**	**83.65**	**65.73**	**55.10**

Multiple Output Types

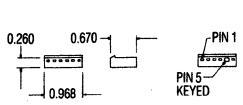
(Regulated/Ground)

Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Case No.	Input Connection	Output Connection	EACH 1-9	10-24	25-49	50-Up
298-2000	5712-305-401E	+5V, 130ma	+12V, 130ma	−12V, 130ma	5	Wall Plug-in	Output Screw Terminals	**45.20**	**39.55**	**31.08**	**25.10**
298-2010	5712-305-403E	+5V, 130ma	+12V, 130ma	−12V, 130ma	5	Wall Plug-in	7′ cord, #4 connector	**50.60**	**44.28**	**34.79**	**28.10**
298-2015	5712-305-403E12	+5V, 130ma	+12V, 130ma	−12V, 130ma	5	Wall Plug-in	7′ cord, #12 connector	**52.60**	**46.03**	**36.16**	**29.10**
298-0165	5712-305-403E17	+5V, 130ma	+12V, 130ma	−12V, 130ma	5	Wall Plug-in	7′ cord, #17 connector	**52.60**	**46.03**	**36.16**	**29.10**
298-2020	7612-305-409E	+5V, 1.0A	+12V, 250ma	−12V, 250ma	7	6′ cord	7′ cord, #4 connector	**54.18**	**45.15**	**37.93**	**31.61**
298-2025	7612-305-409E12	+5V, 1.0A	+12V, 250ma	−12V, 250ma	7	6′ cord	7′ cord, #12 connector	**80.24**	**70.21**	**55.17**	**47.10**
298-0175	7612-305-409E17	+5V, 1.0A	+12V, 250ma	−12V, 250ma	7	6′ cord	7′ cord, #17 connector	**80.24**	**70.21**	**55.17**	**47.10**

See below for connector descriptions.

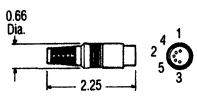
Output Connectors

4



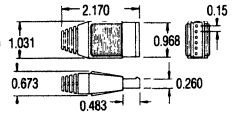
PIN Out	Type
(1) Gnd (2) Com (3) + 5V (4) − 12V (5) Key (6) + 12V	6-pin Molex connector (Housing 26-03-4061; Terminals 08-50-0187)

12



PIN Out	Type
(1) Gnd (2) Com (3) + 5V (4) − 12V (5) + 12V	5-pin DIN 180° male connector

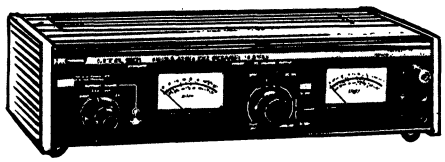
17



PIN Out	Type
(1) Gnd (2) Com (3) + 5V (4) − 12V (5) Key (6) + 12V	6-pin overmolded Molex connector (Housing 26-03-4061; Terminals 08-50-0187)

Model 1601 Multi-Purpose

NEW

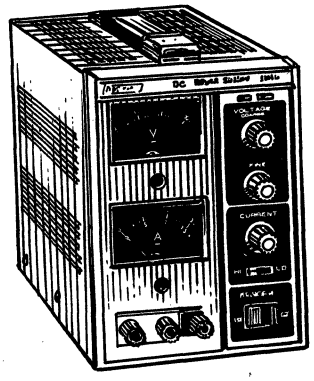


► Isolated 0-50 VDC, Continuously Variable; 0-2 A in Four Ranges
► Fully Automatic Shutdown, Adjustable Current Limit
► Perfect for Solid State Servicing

Specifications. Input Voltage: 105-125 VAC, 60 Hz, 210-250 VAC, (50/60 Hz version available as special order item). **Output Voltage:** 0-50 VDC, continuously variable; two meter ranges, 0-25 and 0-50 VDC. **Output Current:** 0-2 A in four ranges—0-50 mA, 0-0.2 A, 0-0.5 A, 0-2 A. **Load Regulation:** Minimum, 0.05%; maximum, 0.1%; typical, 0.07%. **Line Regulation:** 0.02% typical from 105 to 125 VAC with output of 50 VDC and 2 A. **Ripple:** 5 mV peak-to-peak. **Temperature Coefficient:** .002% of output voltage per °C at 50 volts. **Dimensions (H × W × D):** 3.8″ × 14.1″ × 10″ (9.8 cm × 36 cm × 25 cm). **Weight:** 11 lbs. (5 kg). CSA approved.
731-1601. Model 1601 ..... **EACH 485.00**

Model 1630

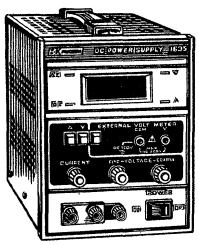
NEW



► Excellent Regulation
► Low Ripple Characteristics
► Regulated Outputs—Constant Volt or Constant Current
► Two Current Ranges on 1610 and 1630
► Pre-Regulator—Limits Internal Dissipation for Higher Reliability
► Isolated Output—Either Polarity May Be Floated or Grounded
► Overload Protection—Fully Adjustable Current Limiting (from 5% to 100% of Maximum Output Current) Protects Circuit Under Test and Power Supply
► Reverse Polarity Protection—Prevents Damage to Power Supply from External Voltage of Reverse Polarity
► Parallel or Series Connection Flexibility—Two Models Can Be Hooked Up to Provide 0-60 V 1A or 3 A, or 0-30 V 2 A or 6 A Outputs

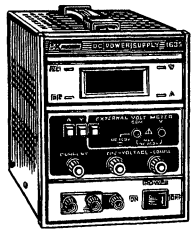
Applications: Electronics servicing, electronics manufacturing, design lab, education, battery charging. Monitors current and voltage simultaneously. Can be used for battery replacement, test and adjust modules or sub assemblies, incoming inspection, breadboards, experiments, or as a battery charger for lead-acid, nickel-cadmium or some alkaline types. **Specifications. Output Voltage:** 0 to 30 VDC, coarse and fine adjustment. **Output Current:** HI Range—0 to 3 A; LO Range—0 to 1.5 A. **Constant Voltage Operation. Voltage Regulation Line (110-130 V):** ≤ 0.02% + 2 mV. **Load (no load to full load):** ≤ 0.02% + 3 mV. **Recovery Time:** ≤ 200 μs typical. **Ripple Voltage:** Peak-to-Peak—≤ 2 mV; RMS—≤ 1 mV. **Temperature Coefficient:** (0° to + 35°C), 5 mV/°C typical. **Constant Current Operation. Adjustable Current Limits:** 5% to 100%, (0.15 A to 3 A). **Current Regulation:** Line (110-130 V)—≤ 5 mA typical, ≤ 9 mA max; Load—≤ 5 mA typical, ≤ 9 mA max.; Current Ripple—≤ 3 mA typical. **Protection:** Reverse polarity protection, Current limiting. **Metering. Voltmeter Range:** 0 to 32 V. Accuracy: ± 2.5%. **Ammeter:** HI Range—0 to 3.2A; LO Range—0 to 1.6 A. **Accuracy:** ± 2.5%. **Power Requirements:** 110/120/220/240 VAC ± 10%, 50/60 Hz. **Power Consumption:** Approx. 170 W or less at full load. **Temperature Range. Operation:** 0° to + 40°C. **Storage:** – 15° to + 70°C. **Dimensions (H × W × D):** 6 3/4″ × 4 11/16″ × 12″ (172 mm × 119 mm × 305 mm). **Weight:** 11 lbs. **Accessories Supplied:** Hook-up leads, 1 red, 1 black, Spare Fuse, Instruction Manual, Schematic Diagram and Parts List.
731-1630. Model 1630. 0-16 VDC, 0-10 Amp ..... **EACH 299.00**

Model 1650 Triple Output Power Supply



Triple output—functions as 3 separate supplies. Fully automatic, current-limited overload protection. Features an exclusive tracking circuit, fixed output 5 VDC, 5 A, and two 0-25 VDC outputs at 0.5 A. All three outputs may be connected in series or parallel, and both positive and negative terminals of each are fully isolated in all models. **Specifications. Input Voltage:** 105-125 VAC, 60 Hz. **Output Voltage:** 5 V Supply—5 VDC – 0/ + 2%; A and B Supplies—0 to 25 VDC. **Output Current:** 5 V Supply—5 A max.; A and B Supplies—0.5 A current limited. **Regulation (No Load to Full Load):** 5 V Supply—Less than 3% (150 mV); 25 V Supplies—Less than 0.1% (25 mV). **Noise Ripple:** 5 V Supply—Less than 10 mV rms; 25 V Supplies—Less than 5 mV rms. **Meter Accuracy:** ± 5% of F.S. **Dimensions:** 3.8 × 14.1 × 10″. **Weight:** 11 lbs. CSA Approved.
731-1650. Model 1650 ..... **EACH 510.00**

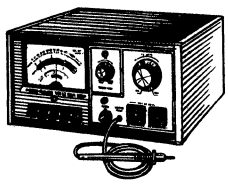
Model 1635 General Purpose Power Supply



► Excellent Regulation
► Low Ripple Characteristics
► Regulated Outputs—Constant Volt or Constant Current
► Built-in Metering—Digital on 1635
► Pre-Regulator—Limits Internal Dissipation for Higher Reliability
► Isolated Output—Either Polarity May be Floated or Grounded
► Overload Protection—Fully Adjustable Current Limiting (From 5% to 100% of Maximum Output Current) Protects Circuit Under Test and Power Supply
► Reverse Polarity Protection—Prevents Damage to Power Supply from External Voltage of Reverse Polarity

Specifications. Output Voltage: 0 to 30 VDC, coarse and fine adjustment. **Output Current. Range:** 0 to 3 A. **Constant Voltage Operation. Voltage Regulation:** Line (110-130 V)—≤ 0.02% + 2 mV; Load (no load to full load)—≤ 0.02% + 3 mV. **Recovery Time:** ≤ 200 μs typical. **Ripple Voltage:** Peak-to-Peak—≤ 2 mV; RMS—≤ 1 mV. **Temperature Coefficient:** (0° to + 35°C), 5 mV/°C typical. **Constant Current Operation. Adjustable Current Limits:** 5% to 100%, (0.15 A to 3 A). **Current Regulation Line (110-130 V):** ≤ 5 mA typical, ≤ 9 mA max. **Load:** ≤ 5 mA typical, ≤ 9 mA max. **Current Ripple:** ≤ 3 mA typical. **Protection:** Reverse polarity protection, Current limiting. **Metering. Type:** 3 1/2 digit LED Display 0.5″ high. **Functions:** Volts, Amps, External Volts. **Voltmeter Range:** 0 to 199.9 V. **Voltmeter Accuracy:** ± (0.5% + 2 digits). **Ammeter Range:** 0 to 19.99 A. **Ammeter Accuracy:** ± (0.5% + 2 digits). **Power Requirements.** 110/120/220/240 VAC ± 10%, 50/60 Hz. **Power Consumption:** Approx. 175 W or less at full load. **Dimensions (H × W × D):** 6 3/4″ × 4 11/16″ × 12″. **Weight:** 11 1/4 lbs. **Accessories Supplied:** Hook-up leads, 1 red, 1 black, spare fuse, instruction manual, schematic diagram and parts list.
731-1635. Model 1635 ..... **EACH 349.00**

Model 1655 Isolated-Variable AC Power Supplies

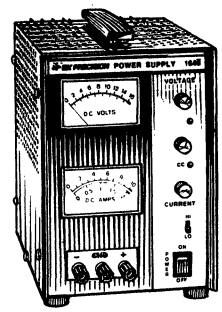


NEW

► Power Line Leakage Tester
► Variable-Isolated Output—0-150 VAC
► 3 Amp Continuous, 4 Amp Intermittent Output
► Built-In Solid State Soldering Iron Temperature Control
► Expanded Leakage Scale
► Circuit Breaker Overload Protection
► Displays Volts, Amps, VA, Leakage
► Two Volt-Amp Ranges (0-240, 0-480) for Convenient Load Requirements

Performance testing at normal, low and high line voltages. Troubleshooting equipment that blows fuses at normal line voltage. Bench testing and repair of equipment which operates at other than 120 VAC (e.g. 24 VAC Class II industrial control equipment). Troubleshooting of defects that occur only at low or high line voltages. Testing excessive or normal current drain in equipment. Incoming inspection of equipment to verify its electrical load specification. **Specifications. Voltage Adjustment Range:** 0-150 VAC, with input at 120 VAC. **Output Isolation:** leakage less than 0.1 mA (25°C, 50% relative humidity). **Current Ranges:** 0-2 A, 0-4 A. **Maximum Current (Isolated):** 3 A continuous, 4 A intermittent (0-130 V). **Peak Current (Inrush):** 30 A max. (inrush limited to one cycle at 30 A). **Voltage/Current Sensing:** Sine wave average, calibrated in RMS. **Volt-Amp Ranges:** 0-240 VA, 0-480 VA (voltage set at 120). **Leakage Range:** 0 to 5,000 microamps (expanded in 100-500 microamp portion, compressed to 5 mA full scale). **Meter:** 4 1/2″ multicolor scales, overrange protected. **Meter Accuracy:** ± 5% full scale (volts and current) ± 5% at 500 microamps (leakage). **Solder Iron Temperature Control:** 70%-99% of power line (100 W max.). **Power Requirements:** 120 VAC ± 10%, 60 Hz, 600 VA at maximum output. **Dimensions (H × W × D):** 12″ × 6″ × 11″ (30.5 cm × 15.2 cm × 28.0 cm). **Weight:** 22 lbs. (10 kg).
731-1655. Model 1655 ..... **EACH 449.00**

Model 1646 0-16 VDC, 0-10 A, Single Output Power Supply

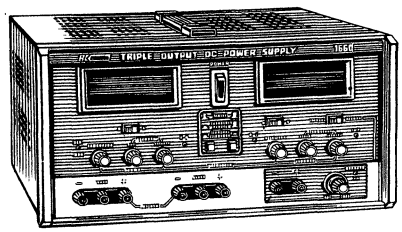


NEW

► Continuously Variable Voltage
► Continuously Variable Current
► Operates in Constant-Voltage and Constant Current Modes
► Analog Meters for Voltage and Current Monitoring
► 2 A and 10 A Current Range Limits
► Ideal as Bench Source for Servicing High-Performance Car Audio Equipment, Land Mobile Radio, CBs, Radar Detectors, Circuit Boards

Specifications. Constant Voltage Mode. Output Voltage: 0 V - 16 V, continuously variable. **Load Regulation:** ± (0.04% + 2 mV). **Line Regulation:** ± (0.2% + 2mV), 108-132 VAC. **Noise and Ripple:** ± 1 mV rms (8 mV pp). **Constant Current Mode. Current Limit:** 10 A Range—0.5-10 A adjustable; 2 A Range—0.1-2 A. **Load Regulation:** ± (0.4% + 5 mA). **Line Regulation:** ± (0.4% + 5 mA). **Noise and Ripple:** 1 mA rms (8 mA p-p). **Metering (2 Meters provided). Voltmeter Range:** 0-17 VDC. **Accuracy:** ± 5% of Full Scale. **Ammeter (2 ranges, switch-selectable):** 2 A Range—0 to 2.1 A; 10 A Range—0 to 11 A. **Accuracy:** ± 5% of full scale. **General. Protection:** Protection against reverse polarity, overvoltage, short circuit. Current limiter, fused primary. **Power Requirements:** 100, 126, 220, 240 VAC 50 60 Hz, 350 W. **Dimensions:** 8 3/4″H × 5 7/8″W × 11 3/4″D (22.2 cm H × 15 cm W × 29.8 cm D). **Weight:** 18.75 lbs. (8.5 kg).
731-1646. Model 1646 ..... **EACH 489.00**

Model 1660 Triple Output Power Supply



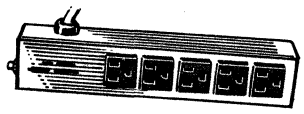
► Excellent Regulation
► Low Ripple Characteristics
► Two 0-30 VDC, 2 A Sections Capable of Independent or Tracking Operation (Master & Slave)
► One 4-6.5 VDC, 5 A Section
► Switchable Series/Parallel Operation—30 V Sections
► Adjustable Current Limit Controls—30 V Sections
► Two 3 1/2 Digit LED Displays—One Reads Volts or Amps of "Slave" Supply—One Reads Volts or Amps of "Master" Supply or 4 V-6.5 V Supply
► Constant Current and Constant Voltage Indicators—30 V Sections

Specifications. Output Voltage Range: 0 V (+ 0/ – 30 mV) to 30 V + (3% to 7%) (Master & Slave). **Output Current Limit Range:** OA (+ 0/ – 30 mA) to 2 A + (3% to 7%) (Master & Slave). **Load Regulation:** (Constant voltage) ≤ 0.01% + 3 mV (Master & Slave). **Line Regulation 108-132 V:** (c.v.) ≤ 0.01% + 3 mV (Master & Slave). **Load Regulation:** (Constant current) ≤ 0.2% + 3 mA (Master & Slave). **Line Regulation 108-132 V:** (c.c.) ≤ 0.2% + 3 mA (Master & Slave). **Ripple Current (at 108 V):** (c.c.) ≤ 3 mA RMS (Master & Slave). **Master/Slave Tracking:** (Series) ± 0.2% + 10 mV. **Output Voltage Adj. Range:** (4-6.5 V) from 4 V ± 5% to 6.5 V ± 5%. **Load Regulation:** (Constant voltage) ≤ 10 mV (4-6.5 V), (0-5 A Load). **Line Regulation 108-132 V:** (c.v.) ≤ 10 mV (4-6.5 V). **Ripple & Noise:** ≤ 2 mV RMS (4-6.5V). **Over Voltage Protection Threshold:** 6.8 V to 7.3 V. **General. Power Requirements:** 110/120/220/240 VAC ± 10%, 50/60 Hz. **Power Consumption:** Fully loaded approx. 320 W. **Protection:** Reverse polarity and current limiting. **Dimensions (H × W × D):** 12.4 × 15 × 6.5″. **Weight:** 10 lbs. **Accessories Supplied.** Two (2) 5 A, 250 V fuses (spares). Three (3) sets of leads. Manual. Schematic & Parts List.
731-1660. Model 1660 ..... **EACH 615.00**

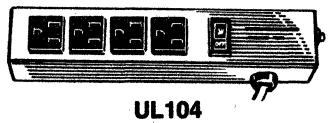
11

UL and CSA Listed Plug-In Power Outlet Strips

Grounded, pre-wired outlet boxes can be plugged in anywhere to give a convenient source of power. For use in home, office, shop or laboratory. Ready to use; easy snap-on mounting. Units are grounded electrically and mechanically. Built-in circuit breaker for overload protection. Underwriters Laboratory Listed 977E. Rated 15 amps at 125 volts. Non-corrosive extruded aluminum housings with baked-on silver gray (chip-proof) P.P.G. enamel; equipped with snap-on adjustable mounting hardware. LC-Series is U.L. Listed. Type LC4 is 10 × 2 × 1¾″; mounting center is 9″. Type LC6 is 13 × 2 × 1¾″; mounting center is 12″. Types UL207 and UL2064 have a pilot light. All types except UL100 and UL205 have a built-in switch. Units are 1¾ × 1⅝ × 9½″long except UL204 and UL207, 1¾ × 1⅝ × 12″; UL2064, 1¾ × 1⅝ × 72″; UL401, 1¾ × 1⅝ × 48″. Boxes have 6 or 15 foot cord attached (see table).



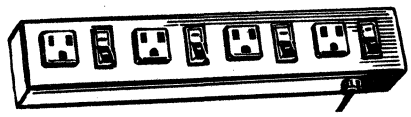
UL100



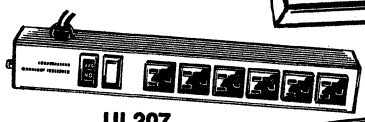
UL104

- UL Listed 977E
- CSA #LR62645
- Easy Snap-on Mounting

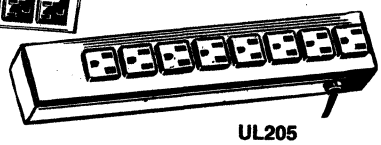
UL204



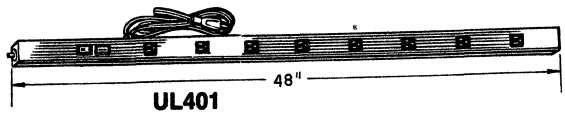
UL215



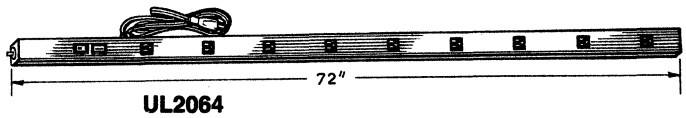
UL207



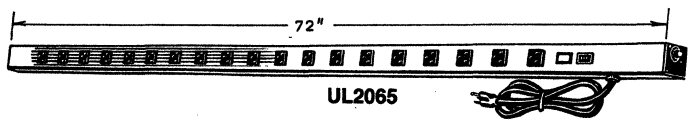
UL205



UL401



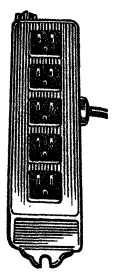
UL2064



UL2065

Stock No.	Mfr.'s Type	No. of Outlets	Combination Pilot Light/Switch	Cord L. Feet	EACH	
					1-9	10-49
533-1106	UL100BC	5	—	6	19.10	17.65
533-1107	UL100BD	5	—	15	23.75	21.95
533-1146	UL104BC	4	X	6	22.00	20.35
533-1147	UL104BD	4	X	15	27.25	25.15
533-1246	UL204BC	7	X	6	28.60	26.40
533-1247	UL204BD	7	X	15	33.10	30.55
533-1254	UL205BC	8	—	6	27.20	25.10
533-1255	UL205BD	8	—	15	31.60	29.15
533-1256	UL207BC	6	X	6	27.15	25.05
533-1257	UL207BD	6	X	15	30.95	28.55
533-1265	UL215BC	4	X	6	36.20	33.40
533-1266	UL215BD	4	X	15	40.50	37.40
533-0300	UL300BC	8	X	6	41.95	38.70
533-0301	UL300BD	8	X	15	47.20	43.55
533-2400	UL401BC	8	X	6	45.50	42.00
533-2401	UL401BD	8	X	15	49.20	45.40
533-0403	UL403BC	8	—	6	41.00	37.85
533-0404	UL403BD	8	—	15	44.60	41.15
533-2064	UL2064BC	9	X	6	46.95	43.35
533-2065	UL2064BD	9	X	15	50.85	46.95
533-2066	UL2065BC	19	X	6	66.60	61.50
533-2067	UL2065BD	19	X	15	70.20	64.80

11



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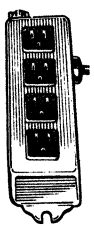
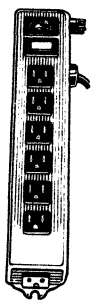


101



204

207

Standard-Line Plug-In Outlet Strips

Just plug in anywhere- these handy outlet boxes give you the power you require. All are ready to use in the shop, laboratory, office or home. Cases are made of heavy duty aluminum, finished in gray. Units are mechanically grounded and come with fuse or circuit breaker protection, except Type 100 which has ground outlets only. All are 3-wire grounded. Rated 15 amps, 125 volts. Types 100 and 101 are 8⅝ × 2 × 1¾″; mounting centers are 8¼″. Types 204 and 207 are 13⅝ × 2 × 1¾″; mounting centers are 12⅜″. All boxes have attached 6 or 15 foot cord (see table).

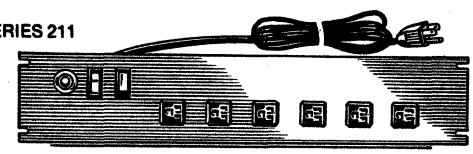
Stock No.	Mfr.'s Type	No. of Outlets	Fuse	Circuit Breaker	Cord L. Feet	EACH	
						1-9	10-49
533-7000	100C	5	—	—	6	13.35	12.35
533-7020	101BC	4	—	X	6	17.45	16.10
533-7025	101BD	4	—	X	15	21.25	19.65
533-7070	204BC	7	—	X	6	26.88	24.80
533-7110	207BC	6	—	X	6	25.50	23.55
533-7115	207BD	6	—	X	15	29.70	27.40

Rack Mount Energy Centers

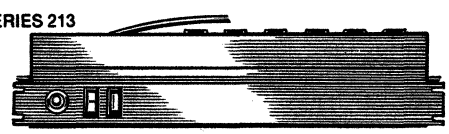
Rack mount units provide instant power distribution from either front or back; for racks, enclosures, desks or cabinets. Mechanically and electrically grounded. All units have a built-in circuit breaker. **Maximum rating:** 15 amps, 125V. **Power Cord:** 14/3 SJT molded plug. Heavy gauge metal housing with hammertone gray finish. All components are UL listed or recognized. Has pilot light and switch.

Stock No.	Mfr.'s Type	No. of Outlets	Combination Switch/Pilot Light	Cord Length	EACH	
					1-9	10-49
533-7190	211-BC	6	1	6′	42.50	39.25
533-7191	211-BD	6	1	15′	41.50	37.95
533-7192	213-BC	6	1	6′	40.85	37.70
533-7193	213-BD	6	1	15′	44.70	41.25

SERIES 211

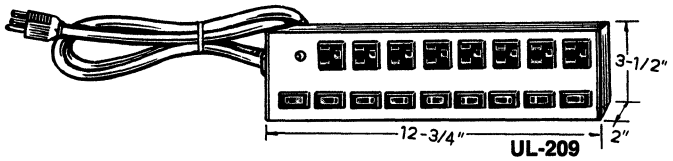


SERIES 213



200 Series Deluxe Control Outlet Strips

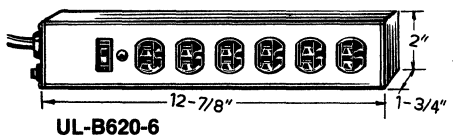
UL and CSA approved. Rated 15 amps, 125 V max. for the complete unit (not each outlet). Lightweight, noncorrosive aluminum construction with beige, PPG baked enamel finish. Features master On/Off lighted rocker switch and press-to-reset circuit breaker. Impact resistant plastic end caps. With key hold slots for fastening and four protective rubber feet for desktop protection.



Stock No.	Mfr.'s Type	No. of Outlets	Master Indiv. Combination Switch/ Pilot Light	Dimensions Inches			Cord Length	EACH	
				L	W	H		1-9	10-49
533-7194	UL-208-BC	4	Yes	7 1/2	3 1/2	2	6	44.95	41.50
533-7195	UL-208-BD	4	Yes	7 1/2	3 1/2	2	15	50.35	46.50
533-7196	UL-209-BC	8	Yes	12 3/4	3 1/2	2	6	63.70	58.80
533-7197	UL-209-BD	8	Yes	12 3/4	3 1/2	2	15	67.60	62.40
533-7198	UL-210-BC	10	No	12	3 1/2	2	6	36.50	33.70
533-7199	UL-210-BD	10	No	12	3 1/2	2	15	41.00	37.85

Heavy Duty 20 Amp Electrical Outlet Strips

Brooks heavy duty electrical outlet strips are rated at 20 amps 125 volts, 60 Hz, 2500 watts continuous duty. Units are equipped with 20 amp outlets, a 20 amp rated lighted rocker switch, a 20 amp circuit breaker and a 12/3 SJO cord and attachment plug. Fabrication housing is corrosion-proof aluminum, baked on decorative beige (chip proof) enamel. Unit has snap-on/slide-off mounting. UL and CSA listed.

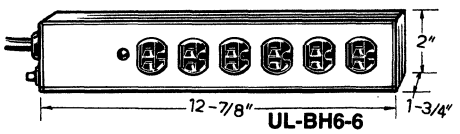


Stock No.	Mfr.'s Type	No. of Outlets	Individual Combination Switch/Pilot Light	Dimensions			EACH	
				L	W	H	1-9	10-49
533-7200	UL-B420-6	4	1	9 3/16"	2"	1 3/4"	67.65	62.55
533-7201	UL-B620-6	6	1	12 7/8"	2"	1 3/4"	69.85	64.45
533-7209*	UL-B420-15	4	1	9 3/16"	2"	1 3/4"	73.90	68.00
533-7210*	UL-B620-15	6	1	12 7/8"	2"	1 3/4"	74.65	68.90

*15' Cord

Hospital Grade Electrical Outlet Strips

Brooks hospital grade electrical outlet strips are designed for use in hospital and laboratory environments. Units have hospital grade receptacles and plugs. Each has a built in circuit breaker and a 14/3 SJT cord. Units feature aluminum housing with a baked on white enamel and snap-on slide-off mounting. Maximum electrical rating is 15 amps 125 volts, 60 Hz, and 1875 watts. 6 foot cord. U.L. listed.



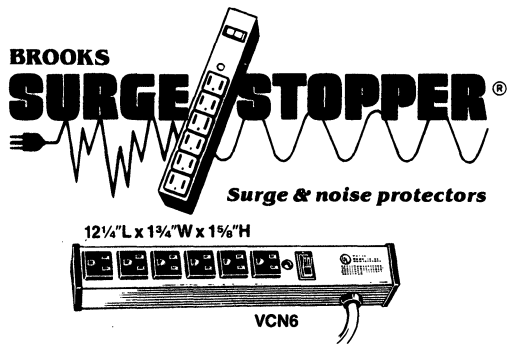
Stock No.	Mfr.'s Type	No. of Outlets	Dimensions			EACH	
			L	W	H	1-9	10-49
533-7202	UL-BH4-6	4	9 7/8"	2"	1 3/4"	42.25	39.00
533-7203	UL-BH6-6	6	12 7/8"	2"	1 3/4"	52.35	48.35

Above units also available with 15' cord.

Surge Stoppers

Surge stopper features easy installation, parallel hook up to prevent power interruptions during a failure mode, fast response time, 4 or 6 outlets, 15 amp circuit breaker, beige noncorrosive aluminum housing, and master combination switch pilot light. UL listed 1449. Meets IEEE A and B specifications.

Models VCN4-6, VCN6-6, VCN4-15 and VCN6-15
Surge Specification. Maximum Surge Voltage: 6000 V. **Clamping Surge Voltage:** 325 V. Maximum Surge Dissipation. 70 Joules, one time; 25 Joules repeated usage, self restoring. Common and normal mode. **Noise Specifications:** 100 kHz-30 Mz, 10-40 dB normal mode.

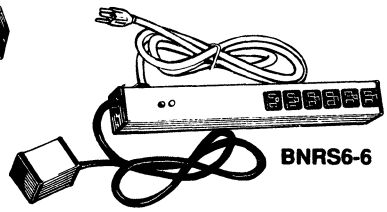


Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH	
				1-9	10-49
533-7204	VCN4-6	4	6 ft.	36.75	33.95
533-7205	VCN6-6	6	6 ft.	38.00	35.10
533-7211	VCN4-15	4	15 ft.	40.10	37.00
533-7212	VCN6-15	6	15 ft.	41.35	38.15
533-9166	VCNR56-6*	6	6 ft.	52.20	48.15
533-9615	VCNR56-15*	6	15 ft.	57.10	52.70

*Switch/pilot light located on 44" remote

Models BN4-6, BN6-6, BN4-15 and BN6-15

Surge Specification. Maximum Surge Voltage: 6500 V, clamping level (constant) 200 volts, 1 nanosecond response time. **Peak Surge Current:** 20,000 amperes. Common and normal mode protection indicator light to show surge suppressor is functioning properly. UL approved. **Noise Specifications:** 100 kHz-30 Mz, 10-60 dB common and normal mode.

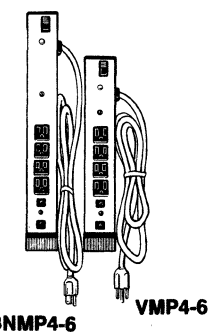


Stock No.	Mfr.'s Type	No. of Outlets	Cord Length	EACH	
				1-9	10-49
533-7206	BN4-6	4	6 ft.	76.00	70.15
533-7207	BN6-6	6	6 ft.	80.70	74.50
533-7213	BN4-15	4	15 ft.	78.75	72.70
533-7214	BN6-15	6	15 ft.	83.35	76.96
533-9266	BNRS6-6*	6	6 ft.	107.70	99.00
533-9715	BNRS6-15*	6	15 ft.	112.50	103.85

*Switch/pilot light on 44" remote.

FAX Protector

Incorporates either VCN or BN Series protection with a FAX Protector.
Specifications
Internal crossover type connection, can be used with standard telephone lines and most telephone systems. Universal type connector with 2 pins to 8 pins, also accepts keyed type. **Clamping:** Normal mode—330 volts @ 1 ma max. Tip-ring—500 volts @ 25 amps max. Common mode—165 volts @ 1 ma max. Tip or ring to ground—250 volts @ 25 amps max. **Maximum surge:** Waveform—8 × 20us non repetiive. Max voltage—10,000 volts. Max current—2,500 amps. Joule rating—16 joules with a 10 × 1,000 us waveform. Noise interference—100HZ to 1 MHZ = 20 DB, 2MHZ to 20 MHZ = 60 DB, 25MHZ to 80 MHZ = 40 DB.
533-9746. Model VMP4-6.....**EACH 57.45**
533-9756. Model BMP4-6.....**EACH 89.25**

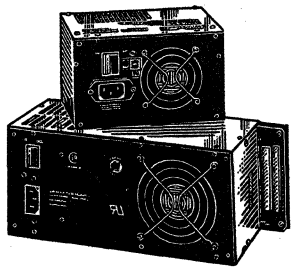


PAC Series

► VDE, IEC, U.L. and CSA Approved
► FCC Class B and VDE 0871 Class B Conducted and Radiated EMI Filtering
► Worldwide AC Input Ranges 90-132/180-264VAC with Auto-Switchover - No taps or Switches

These fully enclosed switching power supplies have a safe, ultra-compact design. Their extremely versatile output configurations are made for your tough and varied applications. The IEC AC input connector and VDE approved On/Off switch mean that no additional AC system wiring is required. Other features include an internal fan for full system cooling, high peak current disk drive outputs (as well as 3 terminal type closely regulated outputs), full load burn-in and a 2-year warranty. Plus, with the PAC Series, agency approvals are very easy since all critical parameters are controlled within the supply. There is an optional remote turn-on for add-on applications such as hard disk sub-systems. AC powerfail signal is provided on 150 and 185 watt units. **DIMENSIONS. 85/105 Models:** 5.75 × 3.70 × 4.20″; 2.1 lbs. **150/185 Models:** 10.00 × 4.00 × 4.10″; 3.0 lbs. **SPECIFICATIONS. AC INPUT:** 90-132/180-264VAC with fully automatic switch-over (no switches or taps required), 47-63 Hz, single phase. Input connections are made through standard IEC320/CEE-22 international type input connector. **AC SWITCH:** The input AC is controlled by a standard VDE approved DPST rocker switch. In addition, a remote turn-on option is available which allows the unit to be switched on by the application of a + 5V logic signal. It is particularly useful for add-on systems (hard disks, etc.) where the remote turn-on line is simply connected to the + 5V of the main computer.

Stock No.	Mfr.'s Type	Watts	Output	Voltage	Current	Initial Setting (+/–)	Output Regulation (+/–)	Notes	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
744-0200	PAC 85-01	85(130W PK)	1 2 3 4	+ 5V + 12V – 5V – 12V	7.0A 4.0A(7.0A PK) 0.5A 1.5A	Adj. 3.0% 4.0% 3.0%	0.5% 4.0% 1.0% 4.0%	A B C B	**175.00**	**164.50**	**154.00**	**143.50**
744-0205	PAC 85-03	85(130W PK)	1 2 3 4	+ 5V + 15V – 5V – 15V	6.0A 3.5A(6.0A PK) 0.5A 1.5A	Adj. 3.0% 4.0% 3.0%	0.5% 4.0% 1.0% 4.0%	A B C B	**175.00**	**164.50**	**154.00**	**143.50**
744-0210	PAC 85-05	85(130W PK)	1 2 3 4	+ 5V + 24V – 5V – 12V	7.0A 2.5A(4.0A PK) 0.5A 1.5A	Adj. 5.0% 4.0% 3.0%	0.5% 4.0% 1.0% 4.0%	A B C B	**175.00**	**164.50**	**154.00**	**143.50**
744-0215	PAC105-01	105(140W PK)	1 2 3 4	+ 5V + 12V – 5V – 12V	10.0A 5.0A(8.0A PK) 0.6A 2.0A	Adj. 3.0% 4.0% 3.0%	0.5% 4.0% 1.0% 4.0%	A B C B	**190.00**	**178.60**	**167.20**	**155.80**
744-0220	PAC 105-03	105(140W PK)	1 2 3 4	+ 5V + 15V – 5V – 15V	8.0A 5.0A(7.0A PK) 0.6A 2.0A	Adj. 3.0% 4.0% 3.0%	0.5% 4.0% 1.0% 4.0%	A B C B	**190.00**	**178.60**	**167.20**	**155.80**
744-0225	PAC 105-05	105(140W PK)	1 2 3 4	+ 5V + 24V – 5V – 12V	10.0A 3.0A(4.5A PK) 0.6A 2.0A	Adj. 5.0% 4.0% 3.0%	0.5% 4.0% 1.0% 4.0%	A B C B	**190.00**	**178.60**	**167.20**	**155.80**
744-0230	PAC 150-01	150(180W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	16.0A 5.0A(8.0A PK) 3.0A(4.5 PK) 3.0A 0.5A	Adj. 3.0% 3.0% 3.0% 4.0%	0.5% 4.0% 4.0% 4.0% 1.0%	A B B,D B C	**220.00**	**206.80**	**193.60**	**180.40**
744-0235	PAC 150-02	150(180W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	16.0A 5.0A(8.0A PK) 1.2A 1.2A 0.5A	Adj. 3.0% 4.0% 4.0% 4.0%	0.5% 4.0% 1.0% 1.0% 1.0%	A B C,D C C	**220.00**	**206.80**	**193.60**	**180.40**
744-0204	PAC 150-03	150(180W PK)	1 2 3 4 5	+ 5V + 15V Not used – 15V – 5V	14.0A 4.0A(6.0A PK) 3.0A(4.0A PK) 0.4A	Adj. 3.0% 3.0% 4.0%	0.5% 4.0% 4.0% 1.0%	A B B C	**220.00**	**206.80**	**193.60**	**180.40**
744-0245	PAC 150-04	150(180W PK)	1 2 3 4 5	+ 5V + 12V 15V Isolated – 15V – 5V	16.0A 5.0A(8.0A PK) 1.0A 1.0A 0.3A	Adj. 3.0% 4.0% 4.0% 4.0%	0.5% 4.0% 1.0% 1.0% 1.0%	A B C,D C C	**220.00**	**206.80**	**193.60**	**180.40**
744-0250	PAC 150-05	150(180W PK)	1 2 3 4 5	+ 5V + 12V 24V Isolated – 12V – 5V	16.0A 5.0A(8.0A PK) 2.5A(4.0 PK) 3.0A 0.5A	Adj. 3.0% 5.0% 3.0% 4.0%	0.5% 4.0% 4.0% 4.0% 1.0%	A B B,D B C	**220.00**	**206.80**	**193.60**	**180.40**
744-0255	PAC 185-01	185(225W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	20.0A 5.0A(8.0A PK) 3.0A(4.5 PK) 3.0A 0.5A	Adj. 3.0% 3.0% 3.0% 4.0%	0.5% 4.0% 4.0% 4.0% 1.0%	A B B,D B C	**240.00**	**225.60**	**211.20**	**196.80**
744-0260	PAC 185-02	185(225W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	20.0A 5.0A(8.0A PK) 1.2A 1.2A 0.5A	Adj. 3.0% 4.0% 4.0% 4.0%	0.5% 4.0% 1.0% 1.0% 1.0%	A B C,D C C	**240.00**	**225.60**	**211.20**	**196.80**
744-0265	PAC 185-03	185(225W PK)	1 2 3 4 5	+ 5V + 15V Not Used – 15V – 5V	16.0A 4.0A(6.0A PK) 3.0A(4.0A PK) 0.4A	Adj. 3.0% 3.0% 4.0%	0.5% 4.0% 4.0% 1.0%	A B B C	**240.00**	**225.60**	**211.20**	**196.80**
744-0270	PAC 185-04	185(225W PK)	1 2 3 4 5	+ 5V + 12V 15V Isolated – 15V – 5V	20.0A 5.0A(8.0A PK) 1.0A 1.0A 0.3A	Adj. 3.0% 4.0% 4.0% 4.0%	0.5% 4.0% 1.0% 1.0% 1.0%	A B C,D C C	**240.00**	**225.60**	**211.20**	**196.80**
744-0275	PAC 185-05	185(225W PK)	1 2 3 4 5	+ 5V + 12V 24V Isolated – 12V – 5V	20.0A 5.0A(8.0A PK) 2.5A(4.0 PK) 3.0A 0.5A	Adj. 3.0% 5.0% 3.0% 4.0%	0.5% 4.0% 4.0% 4.0% 1.0%	A B B,D B C	**240.00**	**225.60**	**211.20**	**196.80**
744-0280	PAC 185-06	185(225W PK)	1 2 3 4 5	+ 5V + 12V Not Used – 12V – 5V	24.0A 5.0A(8.0A PK) 3.0A 0.5A	Adj. 3.0% 3.0% 4.0%	0.5% 4.0% 4.0% 1.0%	A B B C	**240.00**	**225.60**	**211.20**	**196.80**



PAC 85/105 **PAC 150/185**

Notes:

A: Full regulated output. Voltage adjustable from 4.5V to OVP trip point. Initial setting of + 5.0V is ± 1.0%.

B. Quasi-Regulated output requires 20% minimum load to regulation specs. An additional cross regulation factor of ± 3.0% must be added in those applications where the main + 5V output varies ± 25%.

C: Fully regulated output utilizing fixed, 3 terminal regulator.

D: Fully isolated output. May be connected in series with other outputs for higher voltage applications. May be connected in parallel with another output if both outputs are the same voltage and quasi-regulated.

Options:

1. Mating AMP output connectors with pins are available.
MODEL 18-30234-0013. For PAC 85 and PAC 105.
744-0002 ..... **EACH 7.00**

MODEL 18-30234-0016. For PAC 150 and PAC 185 (these power supplies require 2 output connector kits).
744-0003 ..... **EACH 10.00**

2. A mating IEC 320/CEE-22 type AC input plug and cord set is available. This 6 ft. cord set comes with a standard 3-prong ground plug.
744-0004. MODEL 20-30793-0001 ..... **EACH 6.00**

3. Remote turn-on: This remote turn-on option allows the unit to be switched on by the application of a + 5VDC logic signal. 'ON' = 2.4 to 5.5VDC @ 25mA (5V). 'OFF' = 0 to 0.8VDC. This feature is particularly useful in add-on disk systems where the remote turn-on line is simply connected to the + 5V of the main computer. Add suffix 'R' to the mfr.'s part number for this non-stock option.

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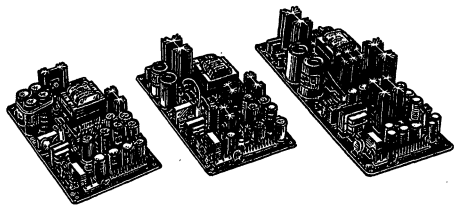
11

Value Line Switching Power Supplies

These VDE, IEC, UL and CSA approved switching power supplies feature full load burn-in and a 2-year warranty. V-Series types have high peak current disk drive outputs, as well as 3 terminal type closely regulated outputs. An internal AC fuse is provided on all units for input protection. All outputs are protected against the Class A conducted EMI filtering. **Dimensions. VFA Types:** 7.75 x 1.90 x 4.25″; 1.5 lbs. **VHA Types:** 8.40 x 2.20 x 4.60″; 1.6 lbs. **VKA Types:** 10.40 x 2.20 x 4.60″; 1.9 lbs. **VCA Types:** 6.3 x 3.90 x 1.65″; 14 ozs. **SPECIFICATIONS. AC Input:** 90-132/180-264VAC user selectable, 47-63 Hz single phase. **Overload Protection:** Fully protected against output overload and short circuit. Automatic recovery after removal of fault. **Reverse Voltage Protection:** All outputs protected against inadvertant application of reverse voltage. **Input Protection:** Internal AC fuse provided on all units. **Current Limit Adjustment:** Built in potentiometer factory set to begin current limiting at the following peak power output minimum under nominal line conditions. **VFA Series:** 130 Watts. **VHA Series:** 140 Watts. **VKA Series:** 155 Watts. **VCA Series:** 55 Watts. **Efficiency:** 70% ± 5% depending on model and load distribution. Measured at 100% of rated power. **Overvoltage Protection:** Built in on + 5V outputs with firing point set at 6.2V ± 0.6V. **Output Noise and Ripple:** 0.5% rms, 1.5% p-p maximum on all outputs.



Mating Connector With Pins. For value Line Switching power supplies.
744-0001 ..... **EACH 8.00**

Stock No.	Mfr's Type	Watts	Output	Voltage	Current	Notes	EACH 1-9	EACH 10-24
744-6000	VBA326	030W (040W PK)	1 2 3	+ 5V + 12V – 12V	3.0A 0.5A 0.5A	A C C	**75.00**	**72.00**
744-6010	VBA323	030W (040W PK)	1 2 3	+ 5V + 15V – 15V	3.0A 0.5A 0.5A	A C C	**75.00**	**72.00**
744-6020	VEA405	065W (080W PK)	1 2 3 4	+ 5V + 15V – 15V – 5V	6.0A 2.0A (3.5A PK) 0.7A 0.5A	E E C C	**80.00**	**76.20**
744-6025	VEA424	065W (080W PK)	1 2 3 4	+ 5V + 15V – 15V + 24V	6.0A 2.0A (3.5A PK) 0.7A 1.2A (2.0A PK)	E E C B	**80.00**	**76.20**
744-6030	VEA417	065W (080W PK)	1 2 3 4	+ 5V + 12V – 12V – 5V	6.0A 2.5A (4.0A PK) 1.0A 0.5A	E E B C	**80.00**	**76.20**
744-6035	VEA412	065W (080W PK)	1 2 3 4	+ 5V + 12V – 12V + 12V	6.0A 2.5A (4.0A PK) 1.0A 0.7A	E E B C	**80.00**	**76.20**
744-6040	VEA436	065W (080W PK)	1 2 3 4	+ 5V + 12V – 12V + 24V	6.0A 2.0A (3.5A PK) 0.7A 1.2A (2.0A PK)	E E C B	**80.00**	**76.20**
744-0405	VFA420	085W (130W PK)	1 2 3 4	+ 5V + 12V 12V Isolated – 12V	8.0A 2.5A (4.5A PK) 2.5A (4.5A PK) 2.5A	A B B,D B	**95.00**	**89.30**
744-0410	VFA421	085W (130W PK)	1 2 3 4	+ 5V + 12V 12V Isolated – 5V	8.0A 2.5A (4.5A PK) 2.5A (4.5A PK) 2.5A	A B B,D B	**95.00**	**89.30**
744-0415	VFA423	085W (130W PK)	1 2 3 4	+ 5V + 15V 15V Isolated – 5V	6.0A 2.5A (3.5A PK) 2.5A (3.5A PK) 2.5A	A B B,D B	**95.00**	**89.30**
744-0420	VFA430	085W (130W PK)	1 2 3 4	+ 5V + 12V 24V Isolated – 12V	8.0A 2.5A (4.5) 2.0A (4.0) 2.5A	A B B,D B	**95.00**	**89.30**
744-0425	VHA420	100W (140W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	10.0A 3.04 (4.5A PK) 3.0A (4.5A PK) 2.0A 0.5A	A B B,D B C	**115.00**	**108.10**
744-0430	VHA426	100W (140W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	10.0A 3.0A (4.5A PK) 1.0A 1.0A 0.2A	A B C,D C C	**115.00**	**108.10**
744-0435	VHA427	100W (140W PK)	1 2 3 4 5	+ 5V + 12V 15V Isolated – 15V – 5V	10.0A 3.0A (4.5A PK) 1.0A 1.0A 0.2A	A B C,D C C	**115.00**	**108.10**
744-0440	VHA423	100W (140W PK)	1 2 4 5	+ 5V + 15V – 15V – 5V	7.0A 2.5A (4.0A PK) 2.5A (4.0A PK) 0.2A	A B B C	**115.00**	**108.10**
744-0445	VHA428	100W (140W PK)	1 3 4 5	+ 5V 12V Isolated – 12V – 5V	13.0A 3.0A (4.5A PK) 2.0A 0.5A	A B,D B C	**115.00**	**108.10**
744-0450	VHA430	100W (140W PK)	1 2 3 4 5	+ 5V + 12V 24V Isolated – 12V 5V	10.0A 3.0A (4.5) 2.5A (4.0) 2.0A 0.5A	A B B,D B C	**115.00**	**108.10**
744-0455	VKA420	125W (155W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	15.0A 4.0A (6.0A PK) 3.0A 3.0A 0.5A	A B B,D B C	**125.00**	**117.50**
744-0460	VKA426	125W (155W PK)	1 2 3 4 5	+ 5V + 12V 12V Isolated – 12V – 5V	15.0A 4.0A (6.0A PK) 1.0A 1.0A 0.2A	A B C,D C C	**125.00**	**117.50**
744-0465	VKA427	125W (155W PK)	1 2 3 4 5	+ 5V + 12V 15V Isolated – 15V – 5V	15.0A 4.0A (6.0A PK) 1.0A 1.0A 0.2A	A B C,D C C	**125.00**	**117.50**
744-0470	VKA423	125W (155W PK)	1 2 4 5	+ 5V + 15V – 15V – 5V	10.0A 3.0A (4.0A PK) 3.0A (4.0A PK) 0.4A	A B B C	**125.00**	**117.50**
744-0475	VKA430	125W (155W PK)	1 2 3 4 5	+ 5V + 12V 24V Isolated – 12V – 5V	15.0A 4.0A (6.0A) 3.0A (4.5) 3.0A 0.5A	A B B,D B C	**125.00**	**117.50**

VCA Series

Stock No.	Mfr's Type	Watts	Output	Voltage	Current	Initial Setting (±)	Output Regulation (±)	Notes	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
744-0480	VCA326	45W (55W PK)	1 2 3	+ 5V + 12V – 12V	4.00A 3.00A (3.5 PK) 0.80A	Adj. 3% 4%	1.5% 1.5% 1.0%	E E C	**58.00**	**54.50**	**51.04**	**47.56**
744-0485	VCA426	45W (55W PK)	1 2 3 4	+ 5V + 12V – 12V – 5V	4.00A 3.00A (3.5 PK) 0.80A* 0.20A*	Adj. 3% 4% 4%	1.5% 1.5% 1.0% 1.0%	E E C C	**62.00**	**58.28**	**54.56**	**50.84**
744-0490	VCA423	45W (55W PK)	1 2 3 4	+ 5V + 15V – 15V – 5V	4.00A 2.00A (2.5 PK) 0.70A* 0.15A*	Adj. 3% 4% 4%	1.5% 1.5% 1.0% 1.0%	E E C C	**62.00**	**58.28**	**54.56**	**50.84**
744-0495	VCA420	45W (55W PK)	1 2 3 4	+ 5V + 12V – 12V – 5V	4.00A 3.00A (3.5 PK) 1.80A 0.25A	Adj. 3% 3% 4%	1.5% 1.5% 4.0% 1.0%	E E B C	**62.00**	**58.28**	**54.56**	**50.84**

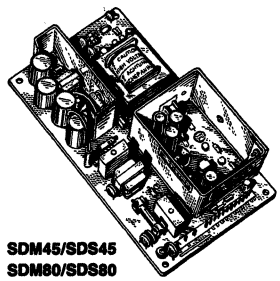
*Ratings of these negative outputs assume that other negative output is at no load. Total combined loading cannot exceed 100%; that is, if one negative output was running at 70% of rated load, then the other negative output cannot exceed 30% of rated load.

Notes: A: Full regulated output. Voltage adjustable from 4.5V to OVP trip point. Initial setting of + 5.0V is ± 1.0%. B: Quasi-Regulated output requires 20% minimum load to meet regulation specs. An additional cross regulation factor of ± 3% must be added in those applications where the main + 5V output varies ± 25%. C: Fully regulated output utilizing fixed, 3 terminal regulator. D: Fully isolated output. May be connected in series with any output, and may be connected for (–) or (+) output. May be paralleled when same output voltage and reg. type. (Quasi-Reg. and 3-pin outputs will not share loads if connected together.) E: Dual sensed regulated output. + 5V and + 12V outputs are sensed in combination to provide tighter regulation of the + 12V output. An additional cross regulation factor of ± 2.0% must be added in those applications where the main + 5V output varies ± 25%. Initial setting of + 5V output is ± 1.0%.

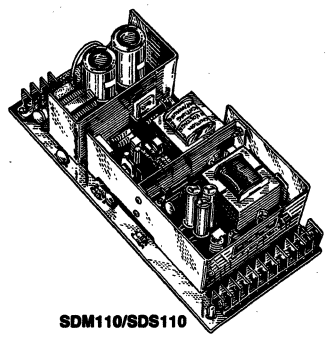
SDM/SDS International Specifications

SAFETY SPECIFICATIONS: SDM and SDS Series Safety Design Parameters. **Safety Spacings:** Primary to secondary circuitry 8.0 MM; primary to ground circuitry 4.0 MM; Secondary to ground circuitry 4.0 MM. **Leakage Current:** Input to ground 0.5 MA RMS. **Dielectric Withstanding Voltage:** Input to output 4000VAC RMSf; Input to ground 4000VAC RMS; output to ground 500VAC RMS. These safety design parameters meet or exceed the requirements of the following international safety specifications: IEC 435,Class 1 and 2; VDE 0730 Part 2P, Class 1 and 2; VDE 0806, Class 1 and 2; UL 478; UL 1012; BPO STD #26; CEE-10 Part 2, Class 1 and 2; CSA 22.2, No's 143 and 154; ECMA-57, Class 1 and 2; and IEC 380, Class 1 and 2. **EMI Specifications:** SMD and SDS Series EMI Design Parameters. All Condor International Series Switching Supplies are designed with built-in EMI filters on the input line to reduce conducted emissions to the following maximum levels: 150 KHz to 450 KHz, 54 DB V; 450 KHz to 30 MHz, 48 DB V. These EMI design parameters meet or exceed the requirements of the following EMI specifications down to 150 KHz, FCC 20870, Class A and B (V Series Class A only); VDE 0871, Class A and B. The level B specifications are the most stringent in the industry.

A-suffix models with quasi-regulated secondary outputs for high peak current capability are ideal for powering multiple floppy disk and Winchester systems. B-suffix units have tightly regulated secondary outputs—perfect for applications such as video display units and other linear applications. Versatility is unsurpassed on several models, since their isolated + 12V can be stacked with their existing + 12V to provide 24V. For very high + 12V peak loading applications, the floating 12V can be paralleled with the dedicated + 12V on several models.



SDM45/SDS45
SDM80/SDS80



SDM110/SDS110

SDS Output Rating Chart

45 Watt (58W PK)
Size: 3.94 × 6.30 × 1.83″

Stock No.	Mfr.'s Type	Volt	Nominal Current	Peak Current	EACH 1-9	EACH 10-24
744-5205	SDS45-5	5V	9.0A	11.3A	90.00	84.60
744-5210	SDS45-12	12V	3.8A	4.8A	90.00	84.60
744-5215	SDS45-24	24V	1.9A	2.4A	90.00	84.60

80 Watts (100W PK)
Size: 4.25 × 7.75 × 1.90″

744-5220	SDS80-5	5V	16.0A	20.0A	100.00	94.00
744-5225	SDS80-12	12V	6.7A	8.4A	100.00	94.00
744-5230	SDS80-24	15V	5.3A	6.6A	100.00	94.00

110 Watts (138W PK)
Size: 4.75 × 8.80 × 1.90″

744-5235	SDS110-5	5V	22.0A	27.5A	125.00	117.50
774-5240	SDS110-12	12V	9.2A	11.5A	125.00	117.50
774-5245	SDS110-24	24V	4.6A	5.8A	125.00	117.50

140 Watts (175W PK)
Size: 4.25 × 10.3 × 2.20″

744-5250	SDS140-5	5V	28.0A	35.0A	155.00	145.70
744-5255	SDS140-12	12V	11.7A	14.6A	155.00	145.70

200 Watts (250W PK)
Size: 4.75 × 12.8 × 2.45″

744-5260	SDS200-5	5V	40.0A	50.0A	180.00	169.20
744-5265	SDS200-24	24V	8.4A	10.5A	180.00	169.20

Connector Kit for SDS45/SDM45 and SDS80/SDM80 Units Only

744-2019. Type 18-30234-2019. . . . . **EACH 10.00**

Notes

A. Full regulated output. Voltage adjustable from 4.5V to OVP trip point. Initial setting of + 5.0V is + 1.0%.

B. Dual sensed regulated output. + 5V and + 12V outputs (*) are sensed in combination to provide tighter regulation of the + 12V output. An additional cross regulation factor + 2.0% must be added in those applications where the main + 5V output varies + 25%. Initial setting of + 5V output is + 1.0%.

C. Fully regulated output utilizing fixed 3-terminal regulator.

D. Quasi-regulated output requires 20% minimum load to meet regulation specs. An additional cross regulation factor of + 3% must be added in those applications where the main + 5V output varies 25%.

E. Fully isolated output. May be connected in series with any output, and may be connected for (–) or (+) output. May be paralleled with the same output voltage and reg type. (Quasi-Reg and 3-pin outputs will not share loads if connected together).

F. The total current for + 5V* and + 12V* outputs must not exceed 10A (14A PK).

G. The total current for + 5V* and + 12V* outputs must not exceed 13A (17A PK).

H. The total current for + 5V* and + 12V* outputs must not exceed 15A (20A PK).

J. The total current for + 5V* and + 12V* outputs must not exceed 20A (28A PK).

SDM Output Rating Chart

45 Watts (58W PK)

Stock No.	Mfr.'s Type	Output	Volt	Current	Initial Setting (+/–)	Output Reg. (+/–)	Notes	EACH 1-9	EACH 10-24
744-5405	SDM45A	1	+ 5V	5.0A	Adj.	1.5%	B	95.00	89.30
		2	+ 12V	2.0A (4A PK)	3.0%	1.5%	B		
		3	– 12V	1.0A	4.0%	1.5%	C		
744-5410	SDM45B	1	+ 5V	5.0A	Adj.	0.5%	A	95.00	89.30
		2	+ 12V	1.0A	4.0%	1.0%	C		
		3	– 12V	1.0A	4.0%	1.0%	C		

80 Watts (100W PK)

744-5415	SDM80A	1	+ 5V	9.0A	Adj.	0.5%	A	105.00	98.70
		2	+ 12V	3.0A (5A PK)	3.0%	3.0%	D		
		3	– 12V	2.0A	3.0%	3.0%	D		
		4	– 5V	0.6A	4.0%	1.0%	C		
744-5420	SDM80B	1	+ 5V	9.0A	Adj.	1.5%	B,F	105.00	98.70
		2	+ 12V	3.0A (5A PK)	3.0%	1.5%	B,F		
		3	– 12V	1.0A	4.0%	1.0%	C		
		4	– 5V	0.6A	4.0%	1.0%	C		

110 Watts (138W PK)

744-5425	SDM110A	1	+ 5V	12.0A	Adj.	0.5%	A	130.00	122.20
		2	+ 12V	3.0A (5A PK)	3.0%	3.0%	D		
		3	+ 12V*	3.0A (5A PK)	3.0%	3.0%	D,E		
		4	– 12V	3.0A	3.0%	3.0%	D		
		5	– 5V	0.6A	4.0%	1.0%	C		
744-5430	SDM110B	1	+ 5V	12.0A	Adj.	1.5%	B,G	130.00	122.20
		2	+ 12V	3.0A (5A PK)	3.0%	1.5%	B,G		
		3	+ 12V*	3.0A (5A PK)	3.0%	3.0%	D,E		
		4	– 12V	1.0A	4.0%	1.0%	C		
		5	– 5V	0.6A	4.0%	1.0%	C		
744-5435	SDM110G	1	+ 5V	12.0A	Adj.	0.5%	A	130.00	122.20
		2	+ 12V	3.0A (5A PK)	3.0%	3.0%	D		
		3	+ 24V*	1.5A (3A PK)	5.0%	3.0%	D,E		
		4	– 12V	3.0A	3.0%	3.0%	D		
		5	– 5V	0.6A	4.0%	1.0%	C		

140 Watts (175W PK)

744-5440	SDM140A	1	+ 5V	15.0A	Adj.	0.5%	A	170.00	159.80
		2	+ 12V	3.0A (5A PK)	3.0%	3.0%	D		
		3	+ 12V*	3.0A (5A PK)	3.0%	3.0%	D,E		
		4	– 12V	3.0A	3.0%	3.0%	D		
		5	– 5V	0.6A	4.0%	1.0%	C		
744-5445	SDM140B	1	+ 5V	15.0A	Adj.	1.5%	B,H	170.00	159.80
		2	+ 12V	3.0A (5A PK)	3.0%	1.5%	B,H		
		3	+ 12V*	3.0A (5A PK)	3.0%	3.0%	D,E		
		4	– 12V	1.0A	4.0%	1.0%	C		
		5	– 5V	0.6A	4.0%	1.0%	C		
744-5450	SDM140G	1	+ 5V	15.0A	Adj.	0.5%	A	170.00	159.80
		2	+ 12V	3.0A (5A PK)	3.0%	3.0%	D		
		3	+ 24V*	2.5A (4A PK)	5.0%	3.0%	D,E		
		4	– 12V	3.0A	3.0%	3.0%	D		
		5	– 5V	0.6A	4.0%	1.0%	C		

200 Watts (250W PK)

744-5455	SDN200A	1	+ 5V	20.0A	Adj.	0.5%	A	200.00	188.00
		2	+ 12V	5.0A (8A PK)	3.0%	3.0%	D		
		3	+ 12V*	5.0A (8A PK)	3.0%	3.0%	D,E		
		4	– 12V	3.0A	3.0%	3.0%	D		
		5	– 5V	0.6A	4.0%	1.0%	C		
744-5460	SDM200B	1	+ 5V	20.0A	Adj.	1.5%	B,J	200.00	188.00
		2	+ 12V	5.0A (8A PK)	3.0%	1.5%	B,J		
		3	+ 12V*	5.0A (5A PK)	3.0%	3.0%	D,E		
		4	– 12V	1.2A	4.0%	1.0%	C		
		5	– 5V	0.6A	4.0%	1.0%	C		
744-5465	SDM200G	1	+ 5V	20.0A	Adj.	0.5%	A	200.00	188.00
		2	+ 12V	5.0A (8A PK)	3.0%	3.0%	D		
		3	+ 24V*	4.0A (6A PK)	5.0%	3.0%	D,E		
		4	– 12V	5.0A	3.0%	3.0%	D		
		5	– 5V	0.6A	4.0%	1.0%	C		

*Isolated

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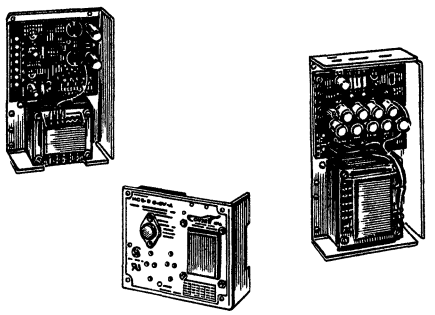
International II Linears



Features

- ► World-Wide AC Input Ranges
- ► World-Wide Safety Standards
- ► Industry Standard Packages
- ► VDE/IEC Transformer Construction
- ► UL Approved
- ► TUV Approved
- ► CSA Approval Pending
- ► 2-Hour Burn-In with Cycling
- ► 2 Year Warranty
- ► Capacitors Have Highest C/V and Ripple Current Ratings in Industry
- ► Anti-Latchup Circuit on Duals and Triples
- ► MTBF of Over 100,000 Hours per MIL Hndbk 217D on Most Units

Specifications

AC Input: 100/120/220/240 VAC + 10%, – 13%. 47-63 Hz. Tolerance for 230 VAC operation is + 15%, – 10%. Derate output current 10% for 50 Hz operation. **DC Ouput:** See charts. **Adjustment range:** ± 5% minimum. **Line Regulation:** ± .05% for a 10% change. **Load Regulation:** ± .05% for a 50% load change. **Output Ripple:** 2 to 15 V unit—5.0 mV PK-PK maximum; 20 to 200 V unit—.02% PK-PK maximum. **Transient Response:** 50 microseconds for 50% load change. **Short Circuit and Overload Protection:** Automatic current limit/foldback. **Overvoltage Protection:** Built-in on 5 V models, set at 6.2 V ± .4 V. Other models use optional overvoltage protection. **Remote Sensing:** On all models 3 Amps and above; open sense lead protection built-in. **Stability:** ± .05% for 24 hours after warm up. **Temperature Rating:** 0°C to 50°C, full rated, derated linearly to 40% at 70 C. **Temperature Coefficient:** ± .01%/ C maximum. **Efficiency:** 5V units – 45%; 12 V and 15 V units—55%; 20 V and 24 V units—60%. **Vibration:** Per MIL-STD-810B, Method 514, Procedure 1, curve AB (to 50 Hz). **Shock:** Per MIL-STD-810B, Method 516, Procedure V.

Single Output

Stock No.	Mfr.'s Type	+5 V	+12	+15	+24	+28 V	Dimensions H"	W"	D"	Wt. (Lb.)	EACH 1-9	EACH 10-24
744-5001	HA5-1.5/OVP-A*	1.5A	—	—	—	—	4.88	4.00	1.63	2.0	27.95	26.55
744-5003	HA15-0.9-A	—	0.9	—	—	—	4.88	4.00	1.63	2.0	27.95	26.55
744-5005	HA15-0.9-A	—	—	0.9A	—	—	4.88	4.00	1.63	2.0	27.95	26.55
744-5007	HA24-0.5-A	—	—	—	0.5A	—	4.88	4.00	1.63	2.0	27.95	26.55
744-5009	HA24-0.5-A	—	—	—	—	0.5A	4.88	4.00	1.63	2.0	27.95	26.55
744-5011	HB5-3/OVP-A*	3.0A	—	—	—	—	4.88	4.00	1.63	2.0	32.95	31.90
744-5012	HB12-1.7-A	—	1.7A	—	—	—	4.88	4.00	1.63	2.0	32.95	31.90
744-5013	HB15-1.5A	—	—	1.5A	—	—	4.88	4.00	1.63	2.0	32.95	31.90
744-5014	HB24-1.2-A	—	—	—	1.2A	—	4.88	4.00	1.63	2.0	32.95	31.90
744-5015	HB28-1-A	—	—	—	—	1.0A	4.88	4.00	1.63	2.0	32.95	31.90
744-5016	HC5-6/OVP-A*	6.0A	—	—	—	—	5.63	4.88	2.50	4.0	53.55	51.30
744-5017	HC12-3.4-A	—	3.4A	—	—	—	5.63	4.00	2.50	4.0	48.95	46.55
744-5018	HC15-3-A	—	—	3.0A	—	—	5.63	4.88	2.50	4.0	48.95	—
744-5019	HC24-2.4-A	—	—	—	2.4A	—	5.63	4.88	2.50	4.0	48.95	45.60
744-5020	HC28-2-A	—	—	—	—	2.0A	5.63	4.88	2.50	4.0	48.95	46.55
744-5021	HN5-9/OVP-A*	9.0A	—	—	—	—	4.88	7.00	2.75	7.0	73.95	70.30
744-5022	HN12-5.1-A	—	5.1A	—	—	—	4.88	7.00	2.75	7.0	68.95	65.55
744-5023	HN15-4.5-A	—	—	4.5A	—	—	4.88	7.00	2.75	7.0	68.95	65.55
744-5024	HN24-3.6-A	—	—	—	3.6A	—	4.88	7.00	2.75	7.0	68.95	65.55
744-5025	HN28-3-A	—	—	—	—	3.0A	4.88	7.00	2.75	7.0	68.95	65.55
744-5026	HD5-12/OVP-A*	12.0A	—	—	—	—	4.88	9.00	2.75	7.5	83.95	79.80
744-5027	HD12-6.8-A	—	6.8A	—	—	—	4.88	9.00	2.75	7.5	78.95	75.05
744-5028	HD15-6-A	—	—	6.0A	—	—	4.88	9.00	2.75	7.5	78.95	75.05
744-5029	HD24-4.8-A	—	—	—	4.8A	—	4.88	9.00	2.75	7.5	78.95	75.05
744-5030	HD28-4-A	—	—	—	—	4.0A	4.88	9.00	2.75	7.5	78.95	75.05
744-5031	HE5-18/OVP-A*	18.0A	—	—	—	—	4.88	14.00	2.75	10.0	118.45	112.55
744-5032	HE12-10.2-A	—	10.2A	—	—	—	4.88	14.00	2.75	10.0	108.45	103.05
744-5033	HE15-9-A	—	—	9.0A	—	—	4.88	14.00	2.75	10.0	108.45	103.05
744-5034	HE24-7.2-A	—	—	—	7.2A	—	4.88	14.00	2.75	10.0	108.45	103.05
744-5035	HE28-6-A	—	—	—	—	6.0A	4.88	14.00	2.75	10.0	108.45	103.05
744-5801	HC48-1	48.0	1.0A	—	—	—	4.88	2.50	5.63	—	56.00	52.30
744-5803	HD48-3	48.0	3.0A	—	—	—	9.00	2.50	4.88	—	86.00	81.80
744-5804	HE48-4	48.0	4.0A	—	—	—	14.00	2.75	4.88	—	121.00	114.00

Dual Outputs

Stock No.	Mfr.'s Type	+5V	+12V	+15V	–5V	–12V	–15V	Dimensions H"	W"	D"	Wt. (Lb.)	EACH 1-9	EACH 10-24
744-5036	HAA15-0.8-A	—	1.00A	or 0.8A	0.4A†	or 1.0A	or 0.8A	6.50	4.00	1.62	2.0	42.95	40.80
744-5037	HBB15-1.5-A	—	1.70A	or 1.5A	0.7A†	or 1.7A	or 1.5A	7.00	4.88	2.50	4.0	54.95	52.20
744-5038	HCC15-3.0-A	—	3.40A	or 3.0A	—	3.4A	or 3.0A	4.88	9.38	2.75	7.0	86.95	82.65
744-5039	HAA5-1.5/OVP-A	1.5A	—	—	1.5A	—	—	6.50	4.00	1.62	2.0	48.95	46.55
744-5040	HBB5-3/OVP-A*	3.0A	—	—	3.0A	—	—	7.00	4.88	2.50	4.0	63.95	60.80
744-5041	HAA512-A	2.0A*	0.50A*	or 0.5A**	—	—	—	6.50	4.00	1.62	2.0	48.95	46.55
744-5042	HBB512-A	3.0A*	1.25A**	or 1.25A**	—	—	—	7.00	4.88	2.50	4.0	61.00	59.00
744-5043	HCC512-A	6.0A*	2.50A**	or 2.5A**	—	—	—	4.88	9.38	2.75	7.0	94.00	89.30

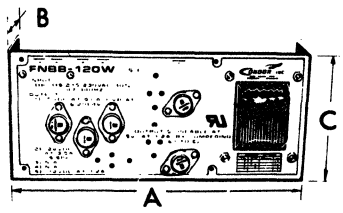
Triple Outputs

Stock No.	Mfr.'s Type	+5V	+12V	+15V	–5V	–12V	–15V	Dimensions H"	W"	D"	Wt. (Lb.)	EACH 1-9	EACH 10-24
744-5044	HTAA16W-A	2.0A*	0.40A**	or 0.4A**	0.2A†	or 0.4A**	or 0.4A**	6.50	4.00	1.62	2.0	53.95	51.30
744-5045	HBAA40W-A	3.0A*	1.00A	or 0.8A	0.4A†	or 1.0A	or 0.8A	4.00	10.2	52.50	5.0	74.95	71.25
744-5046	HCAA60W-A	6.0A*	1.00A	or 0.8A	0.4A†	or 1.0A	or 0.8A	4.88	9.00	2.75	7.5	88.95	84.55
744-5047	HCBB75W-A	6.0A*	1.70A	or 1.5A	0.7A†	or 1.7A	or 1.5A	4.88	11.00	2.75	8.0	98.95	94.05
744-5048	CP131-A	8.0A*	1.70A	or 1.5A	0.7A†	or 1.7A	or 1.5A	4.88	11.00	2.75	9.0	118.45	112.55
744-5049	HDBB105W-A	12.0A*	1.70A	or 1.5A	0.7A†	or 1.7A	or 1.5A	4.88	14.25	2.75	11.0	133.45	126.80
744-5050	HDCC150W-A	12.0A*	3.40A	or 3.0A	—	or 3.4A	or 3.0A	4.88	15.00	3.75	12.0	153.45	145.80

*Overvoltage protection provided. Set at 6.2 V ± 0.4 V. **9 to 15 V floating output. †Requires jumper on PCB for – 5 V.

Domestic Multiple Output Disk Drive and Printer Supplied

Stock No.	Mfr.'s Type	Output 1 VDC	Output 1 Amps	Output 2 VDC	Output 2 Amps	Output 3 VDC	Output 3 Amps	Size	EACH 1-9	EACH 10-24
744-2090	FCBB-90W	5	3A	24	3.0A (3.5pk)	5	1.0A	1	100.00	95.00
744-2120	FNBB-120	5	9A	24	3.5A (5.5pk)	– 5/ – 12	1.2A	1	130.00	123.65
744-2150	FNBB-140W	24	5A (6.0pk)	5	3.0A	5	1.0A	1	130.00	122.97



Domestic Microprocessor Supplies

Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Output 4	Size	EACH 1-9	EACH 10-24
744-0016	MPS-16W	+ 5V @ 2A/OVP	– 5V @ .4A*	+ 12V @ 4	– 12V @ .4*	2	68.00	64.75
744-0040	MPS-40W	+ 5V @ 3A/OVP	– 5V @ .5A*	+ 12V @ 1A/OVP	– 12V @ 1A/OVP*	3	88.00	83.75
744-0140	MPS-140W	+ 5V @ 15A/OVP	– 5V @ .5A	+ 12V @ 3.4A/OVP	– 12V @ 2.5A/OVP	4	152.00	144.40

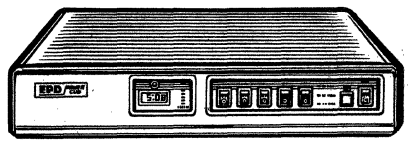
*Total current for these outpus must be less than – 12V rating.

Dimensions

Size	Dimensions A	Dimensions B	Dimensions C
1	11	2 3/4	4 7/8
2	6 1/2	1 5/8	3
3	10 1/4	2 1/2	3
4	14 1/4	2 3/4	3 7/8
6	15	3 3/4	4 7/8

Power Cub (Standby Power Supply)

Features
- ► Slimline design to fit between the CPU and monitor
- ► Power director controls power to CPU and four other peripherals
- ► Capacity load and overload LEDs
- ► System status LEDs with alarm
- ► LCD clock
- ► Emergency light illuminates keyboard when power fails
- ► Surge and EMI / RFI protection
- ► Modem protection
- ► Data Save Software automatically stores data through RS-232 port for MS DOS 2.0 or higher systems
- ► ≤ 4 ms transfer to battery
- ► 10 minute back-up at full load



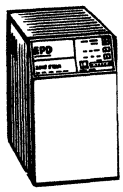
The Power Cub standby power supply offers unique user-friendly features in an attractive slimline design. The slimline packaging enables installation between the computer and monitor while providing immediate and complete protection of data resulting from blackouts, brownouts, power sags and surges.

When power is lost, the Power Cub transfers to battery in less than 4 ms and alerts the user both visually and with an audible alarm. An emergency light illuminates the keyboard enabling the user to continue operation or perform an orderly shutdown. If the terminal is unattended, the Power Cub will signal the CPU through the serial port, activating the Data Save software which automatically takes the appropriate action to store the data and shut down the system. And it's available in either 300 or 550 Watt rating for 10 minutes of backup power.

The Power Cub's unique features also include: a power director which controls power to the computer and four other peripherals, surge protection, modem protection, LCD clock, and load capacity LEDs.

Stock No.	Mfr.'s Type	Power	EACH
644-5101	PC-300	300 VA	699.00
644-5201	PC-550	550 VA	899.00

Line Star® (AC Line Conditioner)



The Line Star is a microprocessor-controlled electronic AC line conditioner that protects sensitive electronic equipment such as mini/microcomputers, terminals or test equipment from virtually all AC power problems except total power failure. The attractive, compact design and quiet operation is ideal for the office but rugged enough to endure installation in harsh environments.

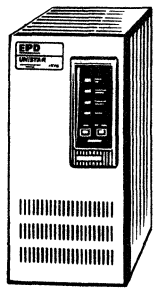
The Line Star constantly monitors the AC line and corrects for voltage fluctuations ranging from 84 VAC to 138 VAC while maintaining a constant 120 VAC ± 6 percent output to the load. In addition, the Line Star will handle high inrush currents and crest factors (up to 3.0) with virtually no distortion or voltage drop. Exceptional noise reduction capabilities (130 db common-mode and 60 db normal-mode noise attentuation) is also provided to isolate the critical load from damaging power transients.

Available in 300 VA to 3000 VA. Other unique features include: status and load indicators, audible alarms when the input or output voltages exceed safe operating parameters, automatic shut down when the output voltage exceeds 134 VAC or drops below 106 VAC and full load operating efficiencies greater than 90 percent.

Dimensions (W × D × H). LS-300: 11″ × 17½″ × 6½″; weight—30 lbs. **LS-500:** 11″ × 17½″ × 6½″; weight—34 lbs. **LS-1000:** 11″ × 17½″ × 6½″; weight—52 lbs. **LS-2000:** 16″ × 19½″ × 9¼″; weight—95 lbs. **LS-3000:** 16″ × 19½″ × 9½″; weight—119 lbs.

Stock No.	Mfr.'s Type	Power	EACH
644-6103	LS-300	300 VA	429.00
644-6105	LS-500	500 VA	519.00
644-6110	LS-1000	1000 VA	629.00
644-6120	LS-2000	2000 VA	999.00
644-6130	LS-3000	3000 VA	1299.00

Unistar® (On-Line UPS)



The Unistar uninterruptible power supply represents total and complete power protection for minicomputers and other critical systems. Advanced, 20 kHz transistor pulse width modulated inverter technology provides exceptional line/load regulation and performance usually found in larger more expensive systems.

Ideal for the multiuser and networked computer systems, the Unistar provides a new dimension in power protection. Housed in an attractive space-saving vertical configuration, Unistar has an extremely small footprint and produces very little audible noise (less than 55 db) making it perfect for installation in office environments.

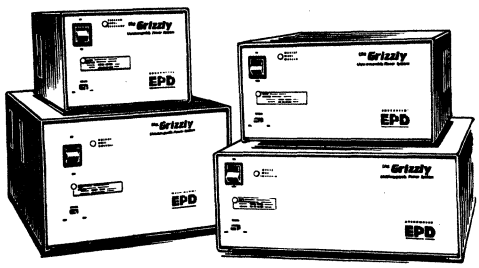
Available from 1000 VA to 3000 VA, Unistar's features include: 8 to 15 minutes of battery backup, complete status indicators with audible alarms, and a static switch that automatically transfers to the utility source upon internal fault or overload.

The one KVA model weighs only 99 pounds, and measures 19″H × 8½″W × 20¼″D. The two and three KVA models weigh 240 pounds, and measure 26¾″H × 10¾″W × 24½″D. This unique tower design is attractive as well as functional, minimizing floor space for installation.

Stock No.	Mfr.'s Type	Power	EACH
644Q7110	U-1000	1 KVA	2699.00
644Q7120	U-2000	2 KVA	4599.00
644Q7130	U-3000	3 KVA	5499.00

11

"The GRIZZLY™" Uninterruptible Power Systems



► **The GRIZZLY™—The one species that never hibernates!**

An uninterruptible power supply (UPS) which gives you battery backup power in the event of a slight brownout or a complete power failure. When your power goes down, the GRIZZLY gives you immediate full power while it alerts you with light and a sonar alarm. You'll have adequate time to calmly shut down your system and avoid critical data loss. You'll also have a warm, fuzzy feeling knowing that the GRIZZLY also gives you complete surge protection. **Battery:** rechargeable sealed maintenance-free lead calcium. **Cooling:** convection. **Input Connection:** 6 ft. power cord. **Operating Temperature:** 0 to + 40°C. UL Listed.

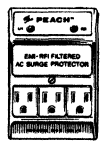
Common Specifications

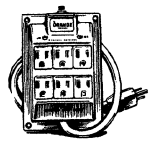
Input				
Voltage	± 10% 115 VAC	± 10% 230 VAC	± 10% 115 VAC	± 10% 230 VAC
Frequency	60 Hz ± 5%	60 Hz ± 5%	50 Hz ± 5%	50 Hz ± 5%
Output	Pulse Width Modulated (PWM) Regulation			
Voltage (5%-100% load) (when input is lost or in brownout)	± 5% 115 VAC	± 5% 240 VAC†	± 5% 115 VAC	± 5% 240 VAC†
Frequency (on battery)	60 Hz ± 0.1%	60 Hz ± 0.1%	50 Hz ± 0.1%	50 Hz ± 0.1%
Protection	Panel mounted input fuse. Electronic current limiting. Input transient suppression.		Optional: Remote Alarm	
Transfer Time (Total Sense & Transfer)	Two Milliseconds Maximum*			

*2000 watt, 4 milliseconds maximum. †Contact Allied for price and delivery.

Stock No.	Mfr.'s Type	Output Rating	Weight Lbs.	EACH
644-4500	EPD-0.5K126R	500 VA	50	799.99
644-4600	EPD-1K126R	1000 VA	99	1299.99
644-4700	EPD-2K126R	2000 VA	160	1999.99

Personal and Professional Series Surge Protectors



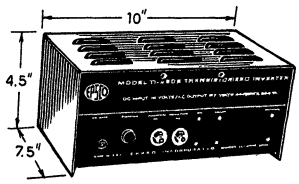


EPD's complete line of surge protectors utilize advanced high speed semiconductor technology and metal oxide varistor circuitry to protect your equipment by absorbing over-voltages smoothly, completely and effectively. All products offer LEDs for visual verification that surge circuitry if functioning properly, and, unlike many other low priced surge protectors, provide line-to-line as well as line-to-ground protection. Designed to meet IEEE (Institute of Electrical and Electronic Engineers) standards, EPD's personal and professional series is a complete product line that offers convenient, cost effective power protection for every need.

Technical Specifications

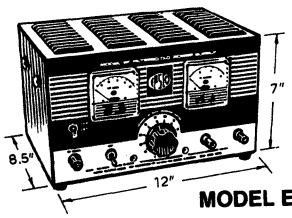
Personal Series	**The Lemon™**	**The Lime™**	**The Peach™**	**The Orange™**	**The Kiwi™**
Stock No.	**644-0100**	**644-0120**	**644-0140**	**644-0110**	**644-0150**
Professional Series	**EC-I™**	**EC-II™**	**EC-IV™**	**EC-V™**	—
Stock No.	**644-0105**	**644-0125**	**644-0145**	**644-0115**	—
Electrical					
Maximum Surge Energy Dissipation	All Models—Total of 114 joules, 38 joules on each of three lines				
Maximum Surge Voltage	All Models—6000 Volts				
Clamping Surge Voltage†	All Models—340 Volts				
Maximum Surge Current†	All Models—4500 Amps				
Clamping Response Time	All Models— ≤ 5 Nanoseconds				
Mode of Surge Protection	All Models—Normal (Transverse) and Common				
Noise Rejection Frequency			150 kHz-30 MHz	150 kHz-30 MHz	
Attenuation			5 dB-37 dB	5 dB-37 dB	
Mode of Noise Protection	Filtered Models—Multi-stage Normal (Transverse) and Common				
Maximum Rating	All Models—15 amp. 125 VAC, 1875 Watts				
Controls and Indicators					
On/Off Switch		Push/Pull		Push/Pull	
Overload Protection		15 amp circuit breaker		15 amp circuit breaker	
Normal Mode Surge Protection (line to neutral)	All Models Red LED				
Common Mode Surge Protection (line to ground and neutral to ground)	All Models Green LED				
Mechanical					
Number of Outlets	6	6	6	6	1
Line Cord		6 ft. with NEMA 5-15P plug		6 ft. with NEMA 5-15P plug	
EACH	**39.95**	**54.99**	**49.99**	**79.99**	**14.99**

Transistorized Inverter

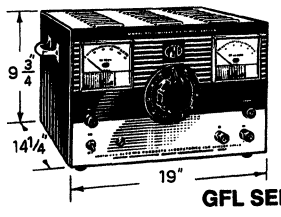


A dependable source of power to operate standard 117 V, 60 Hz AC equipment. Its 250 VA output is ample for portable TV sets, radios, soldering irons, portable electric tools, CB equipment, PA systems and many other appliances. Features automatic electronic overload protection. When output is accidentally shorted or overloaded, inverter turns off instantly; turns back on when short is removed. Relay in circuit assures 100% reverse polarity protection, unit and battery. Indicator light gives low battery charge warning; warns when output is shorted or overloaded. **Input Voltage:** 12 VDC. **Output Voltage:** nominal 117 V, 60 Hz. **Voltage Regulation:** 15% max., no load to full load constant battery voltage. **Frequency Regulation:** 4 Hz max., no load to full load. **Input Terminals:** for connecting 12 VDC source (battery) to inverter (connecting leads included). **Fuse:** 30 amps. **ON-OFF Switch:** controls DC voltage to inverter. **Output Receptacle:** for appliance plugs. **Size:** 4½″H × 10″W × 7½″D. **Weight:** 13 lbs.
780-6312. Model TI-250B ..... **EACH 207.50**

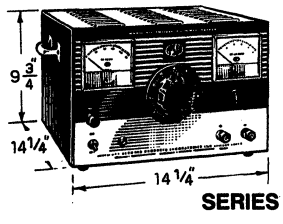
Power Supplies



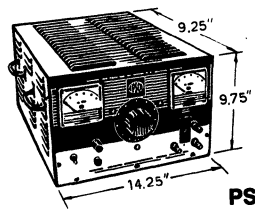
MODEL EF



GFL SERIES



SERIES NFB



PS-1000

Model EF Medium Duty Power Supply
Features continuously variable 2 **DC Output:** 0-28 VDC or 0-14 VDC up to 5 amps, continuous duty. Up to 10 amps at intermittent loads. **Ripple:** less than 1% at 5 amps. **Load Regulation:** 0.9 V/A (1 to 5A) for 0-28 V range. 0.6 V/A (1 to 5A) for 0-14 V range. **DC Impedance:** 0.9 (1 to 5A) for 0-28V range; 0.6 (1 to 5 A) for 0-14 V range. **Overload Protection:** primary fuse. **AC input:** 117 V 60 Hz. 6′ heavy duty line cord with three prong molded plug. **Panel Components:** two 2% D'Arsonval meters—output 0-50 VDC; 0-6 ADC. Off-on switch. Variable voltage control knob; 0-14/0-28 VDC range selector switch. Primary fuse. 5-way binding posts. **Cabinet:** 7″H × 12″W × 8½″D. Heavy steel, blue hammerloid finish. **Weight:** 21 lbs.
780-2200. Model EF ..... **EACH 327.50**

Model EFB and EFBR Power Supplies
DC Output: 0-32VDC continuously variable, up to 4 ADC. 0-16 VDC continuously variable, up to 8 ADC. **Ripple:** less than 0.1% rms. **Load Regulation:** 32 V range—output voltage varies 1.25 volts for each ampere of load current change between 0 and 4 amps; 16V range—output voltage varies 1 volt for each ampere of load current change between 0 and 8 amps. **DC Impedance:** 1.25 ohms for 32 VDC range, 1.0 ohms for 16 VDC range (no load to full load). **AC Input:** 117 V, 60 Hz. 6′ cord. **Overload Protection:** primary fuse. **Panel Components:** variable voltage control knob. Two 2% D'Arsonval meters, voltameter has two scales for easy reading, 0-40 and 0-20 VDC; Ammeter—0-10 ADC. 0-32/0-16 VDC selector switch. On-off switch. ″5-way″ binding posts. **Cabinet:** 7″H × 12″W × 8½″D. **Model EFBR has 8¾″ high × 19″ wide rack panel to fit Western Electric and EIA racks.** 18 gauge steel, blue hammerloid finish. **Weight:** Model EFB—26 lbs. Model EFBR—34 lbs.
780-2300. Model EFB ..... **EACH 370.50**
780-6301. Model EFBR ..... **EACH 429.50**

GFL Series Power Supplies
GFL Series delivers up to 625 watts of well filtered DC power. **DC Output:** 0-125 VDC continuously variable, up to 5 ADC. **Ripple:** less than 0.5% rms with continuous 5 A, 125 V load. **Load Regulation:** output voltage varies 1.5 volts for each ampere of load current from 0 to 5 A. **DC Impedance:** 1.5 ohms, no load to full load. **AC Input:** 117 V, 60 Hz. 8′ cord. **Overload Protection:** both primary and secondary circuit fuses. **Panel Components:** pilot light. Variable output voltage control knob. Two 2% D-Arsonval meters, 0-150 VDC, 0-5 ADC. On-off switch. 5-way binding posts. **Cabinet:** 14¼″D × 19″W × 9¾″H. **Model GFLR:** has 10½″H × 19″ wide rack panel to fit Western Electric and EIA racks. Blue hammerloid finish. **Weight:** GFL—88 lbs. GFLR—100 lbs.
780-6302. Model GFL ..... **EACH 797.50**
780-6303. Model GFLR ..... **EACH 867.50**

Model D-612T Heavy Duty Power Supply
Two continuously variable ranges: 0-8 VDC, 10 ADC and 0-16 VDC, 10 ADC; up to 20 volts for milliampere loads. **Extremely low ripple:** less than 0.5% rms up to 5 A; less than 2% at 10 A. **Load Regulation:** on 16 V range—output voltage varies 3.1 volts with load change from 3 A to 10 A. On 8 V range—output voltage varies 2.1 volts with load change from 3 A to 10 A. **AC Input:** 117 V, 60 CPS. 6′ heavy-duty line cord with three prong molded plug. **Overload Protection:** secondary circuit fuse. **Panel Components:** continuous variable voltage control knob. 2 meters: output voltage—0-20 VDC and output current—0-10 ADC. 0-8, 0-16 VDC selector switch. On-off switch. Secondary fuse. Output terminals. **Cabinet:** 7″H × 12″W × 8½″D. 18-gauge steel; blue hammerloid finish. Rubber feet. **Weight:** 22 lbs.
780-1000. D-612T ..... **EACH 249.50**

Model H Dual Range Power Supply
DC Output: 6 VDC up to 20 ADC continuous duty; 12 VDC up to 10 ADC continuous duty. Up to 50% overload for short periods. **Ripple:** less than 5% rms at maximum rated current. **Load Regulation:** on 12 V range—output voltage varies 1.6 V with load change from 3 A to 10 A. On 6 V range—output voltage varies 2.1 V with load change from 3 A to 20 A. **AC Input:** 117 V, 60 Hz. 6′ heavy-duty line cord with three-prong molded plug. **Overload Protection:** primary fuse. **Panel Components:** 8-position voltage control knob. 2 meters: output voltage—0-20 VDC and output current—0-30 ADC. On-off switch. Primary fuse. ″Five-way″ binding post terminals. 6/12 VDC selector switch. **Cabinet:** 7″H × 12″W × 8½″D. 18-gauge steel; blue hammerloid finish. Rubber feet. **Weight:** 30 lbs.
780-6308. Model H ..... **EACH 279.50**

Series NFB Power Supplies
Delivers up to 480 watts of well-filtered DC power. **DC Output:** 0-32 VDC continuously variable, up to 15 ADC. **Ripple:** less than 0.75% at top load. **Load Regulation:** 0.4 change in output voltage for each ampere of load change from 0-15 amps. **DC Impedance:** 0.4 ohms (no load to full load). **AC Input:** 117 V, 60 Hz. 8′ cord. **Overload Protection:** primary circuit fuse. Output circuit instantaneous-trip circuit breaker. **Panel Components. Two meters:** output voltage—0-50 VDC; output current—0-25 ADC. Variable voltage control knob. On-off switch. Pilot light. 5-way binding posts. **Cabinet:** 9¾″H × 14¼″W × 14¼″D. **Model NFBR:** has rack panel to fit Western Electric and EIA racks, 10½″H × 19″W. 18 gauge steel, blue hammerloid finish. **Weight:** NFB—84 lbs. NFBR—97 lbs.
780-5000. Model NFB ..... **EACH 745.50**
780-6304. Model NFBR ..... **EACH 797.50**

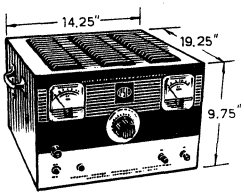
PS-5 and PS-5R Power Supplies
DC Output: 0-55 VDC continuously variable up to 10 ADC. **Ripple:** 0.5% rms at max. rated current. **Load Regulation:** output voltage changes only 0.8 volts for each ampere of load change from 0-10 amps. **DC Impedance:** 0.7 ohms (no load to full load). **AC Input:** 117 V, 60 Hz. 8′ cord. **Overload Protection:** both primary and secondary circuit fuses. **Panel Components. Two meters:** output voltage—0-75 VDC; output current—0-15 ADC. Variable voltage control knob. On-off switch. Primary and secondary fuses. Pilot light. 5-way binding posts. **Cabinet:** 9¾″H × 14¼″W × 14¼″D. **Model PS-5R:** has rack panel to fit Western Electric and EIA racks 10½″H × 19″W. 18 gauge steel, blue hammerloid finish. **Weight:** PS-5—70 lbs. PS-5R—89 lbs.
780-2500. PS-5 ..... **EACH 709.50**
780-6305. PS-5R ..... **EACH 765.50**

PS-1000 Heavy Duty Industrial Power Supply
DC Output (continuously variable): PS-1000-32—0-32 VDC, 0-30 A; PS-1000-55—0-55 VDC, 0-20 A; PS-1000-125—0-125 VDC, 0-8 A. **Ripple (at max. rated current):** less than 1% rms. **Load Regulation (no load to full load):** PS-1000-32—0.2 V/A; PS—1000-55—0.5 V/A; PS-1000-125—1.0 V/A. **DC Impedance (no load to full load):** PS-1000-32—0.2 ohms; PS-1000-55—0.5 ohms; PS-1000-125—1.0 ohms. **AC Input:** 117 V, 60 Hz. **Overload Protection:** primary fuse, output circuit breaker. **Panel Components:** voltage control knob. Primary fuse, output circuit breaker. On-off switch. Pilot light. 5-way binding posts. Two meters: PS-1000-32—0-50 V, 0-30 A; PS-1000-55—0-75 V, 0-30 A; PS-1000-125—0-150 V, 0-10 A. **Cabinet:** 9¾″H × 14¼″W × 19¼″D. 18 gauge steel, blue hammerloid finish. **Weight:** 113 lbs.
780-2600. Model PS-1000-32 ..... **EACH 1035.50**
780-6306. Model PS-1000-55 ..... **EACH 1035.50**
780-6307. Model PS-1000-125 ..... **EACH 1035.50**

Model EC-1 DC Power Supply
New space-saving design can be used vertically or horizontally. Use the EC-1 for ″warm-up″ and ″check out″ or as a low cost power source for FM and AM radio demonstrations. Features adjustable DC output range, very low ripple, full 5-amperes output, and patented conduction cooling. **DC Output:** 12 VDC, adjustable. **Ripple:** only 0.5% rms at 5 A. **Load Regulation:** output voltage changes only 1.4 volts for each ampere of load current change from no-load to full load. **DC Impedance:** 1.4 ohms, no load to full load. **AC Input:** 117 V, 60 Hz. 6′ line cord with three prong molded plug. **Panel Components:** 3-position voltage adjustment (plus ″off″ position) switch. Pilot light. Wing nut output terminals. **Cabinet:** 10¾″H × 4¾″W × 6½″D. Heavy gauge steel, two-tone gray enamel finish. Rubber feet and carrying handle. **Weight:** 11 lbs.
780-6309. Model EC-1 ..... **EACH 119.50**

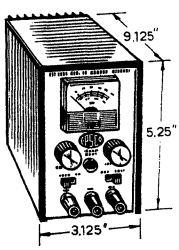
Model EC-2 DC Power Supply
Features continuously variable DC voltage, low ripple and a combination voltmeter/ammeter edge-view meter. Patented conduction cooling. Model EC-2 can be used for all auto radio and transistor portable servicing needs. **DC Output:** 0-16 VDC continuously adjustable. **Ripple:** 0.5% rms at 5 A. **Load Regulation:** output voltage changes only 1.8 volts for each ampere of load current change from no-load to full load. **DC Impedance:** 1.8 ohms (no load to full load). **Overload Protection:** secondary circuit fuse. **AC Input:** 117 V, 60 Hz. 6′ line cord with three prong molded plug. **Panel Components:** continuously variable voltage control. 0-20 V/0-10 A combination edge-view meter function switch. Pilot light. On-off switch. 5-way binding posts. **Cabinet:** 10¾″H × 4¾″W × 6½″D. Heavy gauge steel, two-tone gray enamel finish. Rubber feet and carrying handle. **Weight:** 11 lbs.
780-2100. Model EC-2 ..... **EACH 185.50**

Models PS-30, PS-50



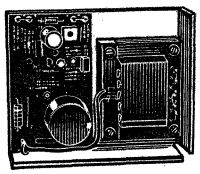
General purpose power supplies feature primary fuse overload protection and an 8-position tap switch for flexible voltage adjustment. **DC Output:** PS-30—12 VDC up to 30 A continuous duty; PS-50—12 VDC up to 50A continuous duty. **Ripple:** PS-30—less than 1% rms at max. rated current; PS-50—0.5% rms at max. rated current. **Load Regulation:** PS-30—output varies 0.12 volts/ampere with load change from 6 A to 30 A; PS-50—output varies 0.17 volts/ampere no-load to full load. **DC Impedance:** PS-30—0.27 ohms, no load to full load; PS-50—0.17 ohms, no load to full load. **AC Input (both models):** 117 V, 60 Hz. 8′ heavy-duty line cord with 3-prong molded plug. Cabinet is 18-gauge steel with blue hammerloid finish. Solid carrying handles. Rubber feet. **Size:** PS-30—9¾″H × 14½″W × 14¼″D; PS-50—9¾″H × 14½″W × 19¼″D.
780-6200. Model PS-30. 68 lbs ..... **EACH 557.50**
780-6311. Model PS-50. 106 lbs ..... **EACH 755.50**

Models PSR-12-25 and PSR-12-50

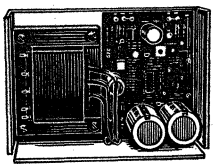


Regulated transistorized 0.01% load regulation and only .0001 volts ripple. Solid state circuitry throughout including IC Op Amp. **DC Output:** PSR-12-25—0-25 VDC at 0-500 mA; PSR-12-50—0-50 VDC at 0-250 mA. **Impedance:** DC-1 kHz, 0.05 ohms; 1kHz-50 kHz, 0.5 ohms; 50 kHz-500kHz, 3 ohms. **AC Input:** 105-125 V, 50/60 Hz. 6′ heavy-duty line cord with 3-prong molded plug. **Panel Components:** voltage control knobs. 2% accuracy D'Arsonval meter calibrated for two ranges; output voltage and output current. Meter range switch. DC output terminals and chassis terminal. Neon pilot light. On-off switch. Fuse on rear panel. **Overload Protection:** primary fuse, current-limiting. **Cabinet:** 5¼″H × 3⅛″W × 9⅛″D. Recessed panel. 18-gauge steel. Black textured finish. **Weight:** 6 lbs.
780-6300. Model PSR-12-25 ..... **EACH 259.50**
780-2400. Model PSR-12-50 ..... **EACH 259.50**

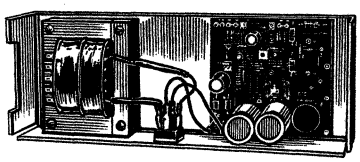
Global Series



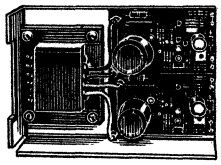
GHOF 1 SERIES



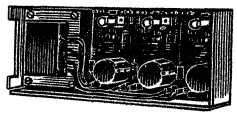
GHOF 3 SERIES



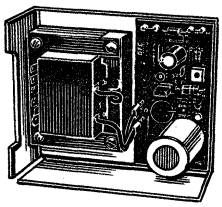
GHOF 5 SERIES



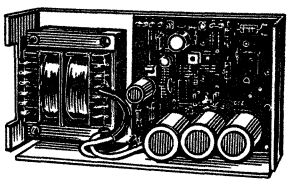
GHOF 1D SERIES



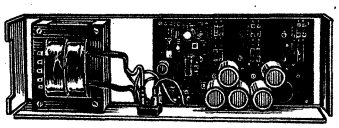
GHHD SERIES



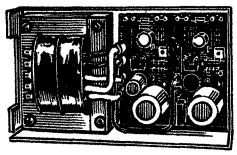
GHOF 2 SERIES



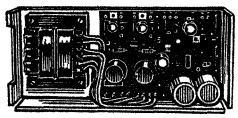
GHOF 4 SERIES



GHOF N SERIES



GHOF 2D SERIES



GHOF 2TA SERIES

Features

- **Engineered for greater reliability**
- **Designed to comply with UL 478 and CSA 22.2 specifications for Data Processing equipment**
- **Multi AC primary input: 100/120/220/240 VAC 47-63 Hz (user selectable)**
- **User replaceable ICs**
- **Remote sensing on all models**
- **Fold back current limiting**
- **Lo-flux transformers for minimum magnetic interference with CRT screens**
- **Industry standard frame sizes for simplified second sourcing**
- **Delivery from stock**
- **Unconditionally guaranteed for two years**
- **Manufacturing and serviced in the U.S.A. and Canada**

Specifications. Input: 100/120/220/240 VAC 47-63 Hz. **Line Regulation:** 0.05% over entire operating range. **Load Regulation:** 0.15% for no load to full load current. **Output Ripple & Noise:** 1 mV peak-to-peak typical DC to 100 kHz. **Remote Sensing:** Standard on all models. **Overload Protection:** SCK crowbar on SV units. Optional on other models (factory installed). **Temperature Co-efficient:** .02%/°C, 0.002%/°C typical. **Over Voltage Protection:** Optional. **Cooling:** Convection cooled. **Isolation:** Floating outputs must not exceed 500 VDC to ground. **Ambient Operating Temperature:** Full rating from 0°C to 50°C. Derate to 50% full rating @ 70°C. **Mounting:** Multi-surface mounting with 8-32 captive hardware. **Package size:** See dimensions below. **Construction:** Heavy gauge aluminum. **Finish:** Clear anodized aluminum.

GHOF 1 Series

Stock No.	Mfr.'s Type	Volts	Amps	EACH
836-1006	GHOF 1-5*	5	3.0	**36.80**
836-1011	GHOF 1-12	12	1.7	**36.80**
836-1016	GHOF 1-15	15	1.5	**36.80**
836-1021	GHOF 1-24	24	1.2	**36.80**
836-1026	GHOF 1-28	28	1.0	**36.80**

*Overall Chassis Size—4.87″ × 4.00″ × 1.62″

GHOF 2 Series

836-2006	GHOF 2-5*	5	6.0	**58.80**
836-2011	GHOF 2-12	12	3.4	**55.80**
836-2016	GHOF 2-15	15	3.0	**55.80**
836-2021	GHOF 2-24	24	2.4	**55.80**
836-2026	GHOF 2-28	28	2.0	**55.80**

*Overall Chassis Size—4.88″ × 5.63″ × 2.50″

GHOF 3 Series

836-3006	GHOF 3-5*	5	12.0	**91.35**
836-3011	GHOF 3-12	12	7.0	**89.35**
836-3016	GHOF 3-15	15	6.2	**89.35**
836-3021	GHOF 3-24	24	4.8	**89.35**
836-3026	GHOF 3-28	28	4.0	**89.35**

*Overall Chassis Size—9.00″ × 4.88″ × 2.75″

GHOF 4 Series

836-4006	GHOF 4-5*	5	18.0	**122.90**
836-4011	GHOF 4-12	12	10.2	**122.90**
836-4016	GHOF 4-15	15	9.0	**122.90**
836-4021	GHOF 4-24	24	6.0	**122.90**
836-4026	GHOF 4-28	28	5.0	**122.90**

*Overall Chassis Size—14.00″ × 4.88″ × 2.750″

GHOF 5 Series

836-6010	GHOF 5-5*	5	25.0	**173.20**
836-6015	GHOF 5-12	12	16.0	**173.20**
836-6020	GHOF 5-15	15	15.0	**173.20**
836-6025	GHOF 5-24	24	12.0	**173.20**
836-6030	GHOF 5-28	28	10.0	**173.20**

*Overall Chassis Size—16.75″ × 4.88″ × 3.50″

GHOF N Series

Stock No.	Mfr.'s Type	Volts	Amps	EACH
836-5010	GHOF N-5*	5	9.0	**80.20**
836-5015	GHOF N-12	12	5.1	**78.20**
836-5020	GHOF N-15	15	4.5	**78.20**
836-5025	GHOF N-24	24	3.6	**78.20**
836-5030	GHOF N-28	28	3.0	**78.20**

*Overall Chassis Size—7.00″ × 4.87″ × 2.75″

GHOF 1D Series

Stock No.	Mfr.'s Type	Output 1		Output 2		EACH
		Volts	Amps	Volts	Amps	
836-7010	GHOF 1DA	12-15	1.5	12-15	1.5	**61.40**
836-7015	GHOF 1DB	5*	3.0	5*	3.0	**75.60**
836-7020	GHOF 1DC	5*	3.0	12-15	1.5	**67.00**
836-7025	GHOF 1DD	5*	3.0	24	0.4	**67.00**

*Overall Chassis Size-4.87″ × 7.00″ × 2.50″

GHOF 2D Series

836-7030	GHOF 2DA	12-15	3.0	12-15	3.0	**98.30**
836-7035	GHOF 2DB	5*	6.0	5*	6.0	**108.35**
836-7040	GHOF 2DC	5*	6.0	12-15	3.0	**106.10**
836-7045	GHOF 2DD	5*	6.0	24	2.3	**106.10**

*Overall Chassis Size—9.38″ × 4.88″ × 2.750″

GHDD Series—Isolated Outputs

Stock No.	Mfr.'s Type	Output 1		Output 2		Output 3		EACH
		Volts	Amps	Volts	Amps	Volts	Amps	
836-7050	GHDD 100	24	2.0	5*	1.5	5*	0.5	**84.85**
836-7055	GHDD 101	12-15	1.0	5*	3.0	12-15	1.0	**84.85**
836-7060	GHDD 102	24	2.0	5*	1.0	12-15	0.7	**84.85**

*Overall Chassis Size—10.25″ × 4.00″ × 2.50″

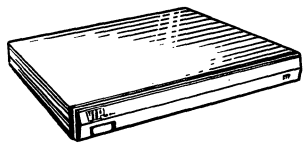
GHOF 2TA Series—Isolated Outputs

836-7065	GHOF 2TA	5*	8.0	12-15	1.5	12-15	1.5	**134.00**

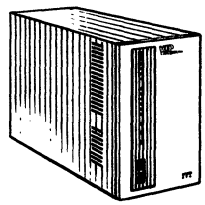
*Overall Chassis Size—11.00″ × 4.88″ × 2.75″

VIP™ Executive Desktop Series

400VA, 800 VA, and 1250 VA
- ► **Endorsed by BYTE Magazine**
- ► **Advanced Microprocessor Control for More Precise Internal Control, Better Regulation, and Faster Dynamic Response**
- ► **High Overall Efficiency—80%**
- ► **Continuous On-Line Sinewave Operation**
- ► **Intelligent Power Interface**
- ► **Space Saving Compact Design**
- ► **Designed for Non-Linear Loads**
- ► **UL Listed**
- ► **One-Year Warranty**



NEW

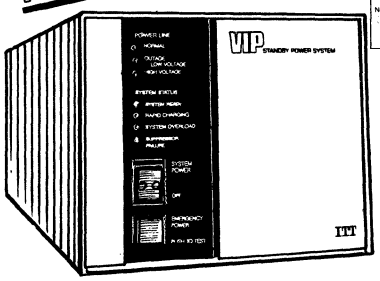


NOVELL LABS TESTED AND APPROVED NetWare Compatible NOVELL

ITT PowerSystems' VIP™ Series is a culmination of the innovation and experience gained through building quality power products for over 50 years. The VIP™ Executive product line is designed to meet the power protection needs of small to medium business computer systems, local area networks, private business telephone systems and point of sale applications. These high quality units provide from 400VA to 1250VA of true on-line, sinusoidal power. And, each one is backed by the proven experience and resources of ITT, one of the world's largest corporations. **Colors/Finish:** Off white and gray, textured. **Audible Noise:** Less than 46 db. Low battery protection.

Stock No.	Mfr.'s Type	Model	Output Capacity			Width In. (mm)	Depth In. (mm)	Height In. (mm)	Weight Lbs. (kg)	Fuse	Reserve (100% load)	Time (50% load)	EACH
			UPS	Filtered	Total								
957-1010	6101101	400 VA	400 VA	480 VA	880 VA	16.0 (400)	15.2 (380)	1.9 (48)	20 (9)	10A	4 min.	10 min.	**999.00**
957-1015	6101102	800 VA	800 VA	480 VA	1280 VA	6.0 (150)	16.0 (400)	10.0 (250)	39 (18)	20A	10 min.	25 min.	**1699.00**
957Q1020	6101103	1250 VA	1250 VA	—	1250 VA	6.0 (150)	19.8 (500)	10.0 (250)	63 (29)	20A	10 min.	25 min.	**2699.00**

NEW



NOVELL LABS TESTED AND APPROVED NetWare Compatible NOVELL

Standby Power Systems

300 VA, 500 VA, 800 VA, 1200 VA
- ► **Switches to Backup Power in Less Than 1 Millisecond**
- ► **Protects Against Data Loss Caused by Sudden Line Fluctuations**
- ► **Novell Labs Tested and Approved**
- ► **High Grade Surge Suppressor(480 Joules) to Protect All Three Modes on the Power Line**
- ► **Protection So Complete that Surge Suppressors and Noise Filters are Rendered Obsolete**
- ► **Highline and Lowline Transfer for Output Regulation**

ITT Power Systems' Standby Power Systems (SPS) guarantee information networks the ability to withstand power disturbances and keep their databases in perfect order. With ITT's SPS as an integral part of your network, you can count on effective power in every situation.

The SPS emulates the features of an online UPS while avoiding the high cost, noisy operation, and extensive space requirements generally associated with such units. The ITT PowerSystems' SPS has virtually no restrictions—it can protect any computerized equipment or system from any type of power disturbance. **Transfer Time:** Less than 1 millisecond.

Stock No.	Mfr.'s Type	Model	Nominal Input/ Output Voltage	Input/Output Frequency	Width In. (mm)	Depth In. (mm)	Height In. (mm)	Weight Lbs. (kg)	Battery Time	EACH
957-1030	610070	300 VA	117/117	60 Hz	8.5 (216)	15.75 (400)	6.0 (153)	29 (14)	10 min.	**324.00**
957-1040	610071	500 VA	117/117	60 Hz	8.5 (216)	15.75 (400)	6.0 (153)	37 (17)	8 min.	**454.00**
957-1050	610073	800 VA	117/117	60 Hz	8.5 (216)	23.25 (591)	6.0 (153)	48 (22)	10 min.	**714.00**
957-1060	610072	1200 VA	117/117	60 Hz	8.5 (216)	23.25 (591)	6.0 (153)	62 (29)	8 min.	**877.00**

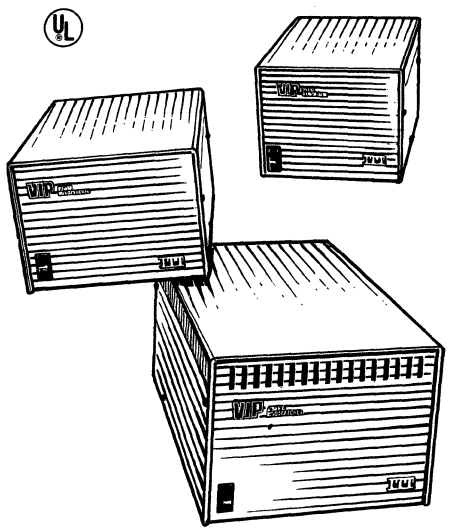
11

VIP™ Power Conditioners

150VA, 300VA, 450VA, 600VA, 800VA, 1000VA, 1200VA

NEW

- ► **Comprehensive Protection Against Spikes, Noise, and Brownouts**
- ► **Available in a Range of Sizes to Meet Your Specific System Requirements**
- ► **Unconditionally Guaranteed/One-Year Warranty**
- ► **Backed by a Comprehensive Nationwide Support Network**



To protect your system from the ill effects of "dirty power," ITT Power Systems has designed VIP™ Power Conditioners. At a remarkably low cost-per-system, VIP™ Power Conditioners protect against **all** potential power problems except the total loss of the Utility.

The VIP™ Power Conditioner reduces voltage spikes to harmless levels, preventing system damage. All voltage fluctuations are smoothed by VIP™ Power Conditioners—even fluctuations to brownout levels. The result is an effective shielding of systems from "dirty power," including protection from surges, transients and other electrical noise.

Specifications. Output Voltage: 120 VAC. **Regulation:** ± 5%. **Noise Rejection:** Common mode 120 db; transverse mode 60 db. **Response Time:** Instantaneous. **Power Interruption:** Full power maintained up to 3 milliseconds. **Short Circuit Protection:** Approximately 200% of load current—no damage will occur. **Harmonics:** Less than 3%. **Output Receptacles:** NEMA 5-15R; 150 VA, 300 VA—4; 450 VA to 1200 VA—6. **Input Voltage:** 95 to 130 VAC. **Frequency:** 60 Hz.

957-1065. 6100060. 150 VA ..... **EACH 104.00**
957-1070. 6100061. 300 VA ..... **EACH 139.00**
957-1075. 6100062. 450 VA ..... **EACH 188.00**
957-1080. 6100063. 600 VA ..... **EACH 216.00**
957-1085. 6100064. 800 VA ..... **EACH 321.00**
957-1090. 6100065. 1000 VA ..... **EACH 349.00**
957-1095. 6100066. 1200 VA ..... **EACH 398.00**

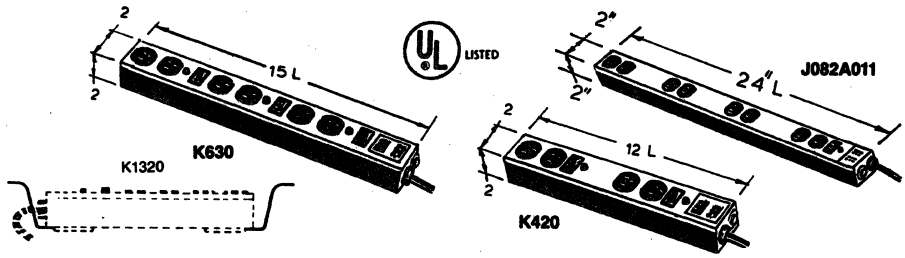
ITT Power Systems Products Also Available From Allied:

For Mini/LAN Applications:
- ► **VIP Executive (UPS) Tower Series (1 kVA, 1.25 kVA, 1.50 kVA, 2 kVA, 2.5 kVA, 3 kVA)**
- ► **VIP (UPS) 1000 Series (3 kVA, 5 kVA, 8 kVA, 10 kVA)**

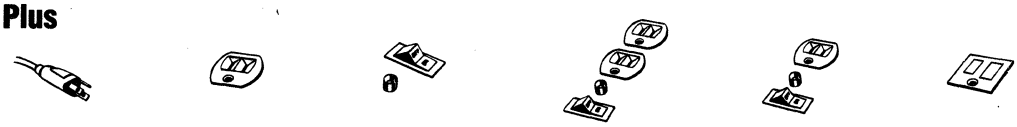
For Mainframe Applications:
- ► **VIP (UPS) 3000 Series (10 kVA, 18.75 kVA, 25 kVA, 37.5 kVA, 56.25 kVA)**

Multiple Outlet Strips

Industrial multiple outlet strips are ideal for auxillary work stations, assembly line, maintenance and repair, machine shops, test stations, and much more. U.L. listed models distribute power safely and conveniently. Overload protected, built-in 15 amp circuit breaker shuts off power here, not down the line. Rated 1875 watts, 125V, 15 amps. U-ground outlets with electrically-wired ground; phosphor bronze, dual wiping contacts. Double insulated #14/3 'SJT' line cord. Top is baked-on silver paint over a zinc phosphate undercoating, resulting in a hard, corrosion resistant surface. Sides are zinc dichromate and have thick (14 mil) black mylar panels, providing added protection, plus handsome appearance.



Sockets Plus

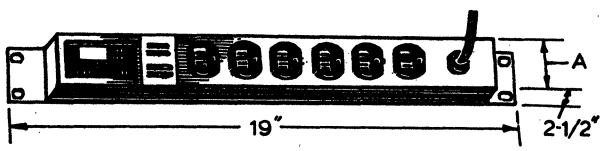


Stock No.	Mfr.'s Type	Cord Length (Feet)	Number of Outlets	Master Switch and Indicator Light	Switched Outlet Pairs With Indicator Light	Individually Switched Outlets With Indicator Lights	"Live" Outlets	Case Length	EACH 1-23	EACH 24-Up
891-0400	K400	6	4	—	—	—	—	9″	22.60	18.35
891-0410	K410	6	4	1	—	—	—	9″	24.80	18.24
891-0420	K420	6	4	—	2	—	—	12″	28.40	21.85
891-0440	K440	6	4	—	—	4	—	15″	36.60	28.61
891-0510	K510	6	5	1	—	—	1	12″	28.00	23.33
891-0600	K600	6	6	—	—	—	—	12″	25.00	19.23
891-0610	K610	6	6	1	—	—	—	12″	27.10	22.60
891-0630	K630	6	6	—	3	—	—	15″	34.20	28.50
891-0710	K710	6	7	1	—	—	1	15″	31.40	24.20
891-0800	K800	6	8	—	—	—	—	15″	28.20	21.70
891-0810	K810	6	8	1	—	—	—	15″	30.30	23.30
891-0402	K402	12	4	—	—	—	—	9″	26.60	20.28
891-0412	K412	12	4	1	—	—	—	9″	28.80	21.64
891-0422	K422	12	4	—	2	—	—	12″	32.40	25.92
891-0442	K442	12	4	—	—	4	—	15″	37.80	31.20
891-0512	K512	12	5	1	—	—	1	12″	32.00	26.68
891-0602	K602	12	6	—	—	—	—	12″	29.00	24.20
891-0612	K612	12	6	1	—	—	—	12″	31.10	25.90
891-0632	K632	12	6	—	3	—	—	15″	38.20	31.83
891-0712	K712	12	7	1	—	—	1	15″	35.40	27.20
891-0802	K802	12	8	—	—	—	—	15″	32.20	24.80
891-0812	K812	12	8	1	—	—	—	15″	34.30	26.40
891-8201	J082A011*	6	8	1	—	—	—	24″	48.00	40.70
891-8401	J084A011†	6	8	1	—	—	—	48″	55.60	47.10
891-8448	J164A011*	6	16	1	—	—	—	48″	64.15	53.30
891-8472	J126A011†	6	12	1	—	—	—	72″	68.80	57.70
891-8272	J246A011*	6	24	1	—	—	—	72″	76.60	64.90
891-8202	J082A211*	12	8	1	—	—	—	24″	51.35	43.60
891-8402	J084A211†	12	8	1	—	—	—	48″	58.90	49.80
891-8248	J164A211*	12	16	1	—	—	—	48″	67.45	57.10
891-8200	J126A211†	12	12	1	—	—	—	72″	71.90	60.90
891-8210	J246A211*	12	24	1	—	—	—	72″	79.90	67.70

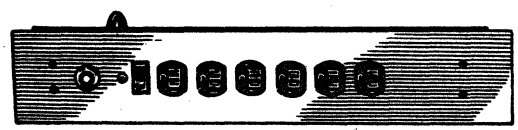
Outlet Spacing: * 3 inches. † 9 inches.

Model K1320 Accessory Cord Keeper. Two brackets install easily on bottom of unit for coiling power cord.
891-0320. 1-23 ..... **EACH 6.75** **24-Up** ..... **EACH 5.40**

Industrial Rack Mount Outlet Strips U.L. Recognized



J06B0



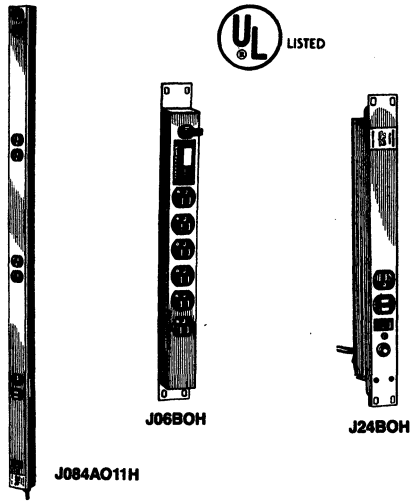
J60A0

Ideal for computer stations, laboratory test equipment, power control center, rack and cabinet equipment. Fronts are baked-on silver hammerstone paint over a zinc phosphate undercoating resulting in a hard, corrosion resistant surface. Rated 1875 watts, 125V, 15A. Overload protected, built-in 15 amp circuit breaker shuts off power here-not down the line. Mounts in standard 19″ cabinet racks. Double-insulated #14/3 'SJT' line cord on back of unit. All units have on/off switch, indicator light and circuit breaker reset on front plate. U-ground outlets; phosphor bronze, dual wiping contacts. **NOTE: These strips also available from the factory in black.**

Stock No.	Mfr.'s Type	Length Cord	Outlets Front	Outlets Back	Front Panel Height	Mounting Centers	EACH 1-23	EACH 24-Up
891-7060	J06A0	6 ft.	0	6	3 1/2″	3″	40.80	32.64
891-7061	J06B0	6 ft.	0	6	1 3/4″	1 1/4″	44.90	34.60
891-7240	J24A0	6 ft.	2	4	3 1/2″	3″	44.90	34.60
891-7241	J24B0	6 ft.	2	4	1 3/4″	1 1/4″	44.90	34.60
891-7600	J60A0	6 ft.	6	0	3 1/2″	3″	44.90	34.60
891-7601	J60B0	6 ft.	6	0	1 3/4″	1 1/4″	44.90	34.60
891-7062	J06A2	12 ft.	0	6	3 1/2″	3″	48.90	37.65
891-7063	J06B2	12 ft.	0	6	1 3/4″	1 1/4″	48.90	37.65
891-7242	J24A2	12 ft.	2	4	3 1/2″	3″	48.90	37.65
891-7243	J24B2	12 ft.	2	4	1 3/4″	1 1/4″	48.90	37.65
891-7602	J60A2	12 ft.	6	0	3 1/2″	3″	48.90	37.65
891-7603	J60B2	12 ft.	6	0	1 3/4″	1 1/4″	48.90	37.65

Hospital Grade Industrial/Scientific/Medical Outlet Strips

This industrial/scientific/medical series of multiple outlet strips is specifically designed for high-abuse applications. Plugs and receptacles meet or exceed these "Hospital Grade" U.L. tests: Abrupt removal of plug, ground pin retention, terminal strength, assembly security, face impact, ground contact temperature, ground contact resistance, fault current test and mold stress relief. All units have 6-foot double-insulated #14/3 "SJT" line cord. All are overload protected by a built-in 15 amp circuit breaker.



High Abuse Industrial U.L. Listed

Stock No.	Mfr.'s Type	Number of Outlets	Outlet Spacing	Case Length	Front Panel Height	Mounting Centers	EACH 1-23	EACH 24-Up
891-3410	K410H	4	—	9″	—	—	49.70	42.10
891-3610	K610H	6	—	12″	—	—	60.80	51.50

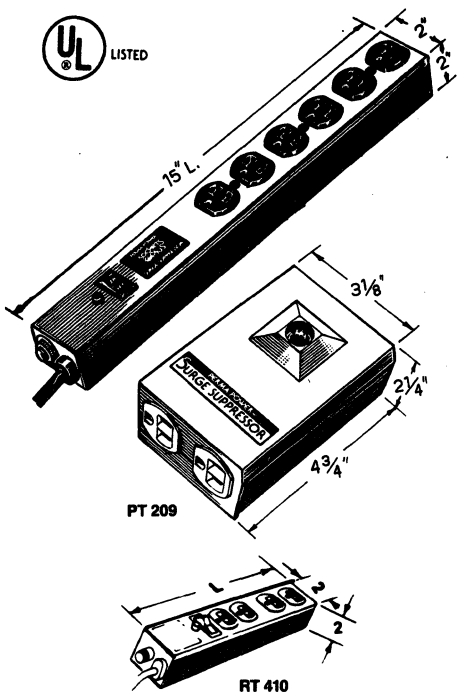
High Abuse Rack Mount U.L. Recognized

891-3024	J24A0H	2* 4†	—	—	3½″	3″	76.70	65.00
891-3025	J24B0H	2* 4†	—	—	1¾″	1¼″	76.70	65.00
891-3060	J06A0H	0* 6†	—	—	3½″	3″	76.70	65.00
891-3061	J06B0H	0* 6†	—	—	1¾″	1¼″	76.70	65.00

High Abuse 4-Foot and 6-Foot Strips U.L. Listed

891-3084	J084A011H	8	9″	48″	—	—	84.90	67.90
891-3126	J126A011H	12	9″	72″	—	—	109.00	87.20

*Number of outlets on front, †number on back.



Surge Suppressor Outlet Strips

All Perma Power® Surge Suppressors provide protection to sensitive equipment against both normal mode surges (line to line) and common mode surges (line to ground). Perma Power Surge Suppressors feature single-stage filtering, provided by three metal oxide varistors. Provides protection on all three conductors in a typical 120 VAC circuit. Extended Life models feature four-element, two-stage filtering, provided by a uniquely engineered combination of metal oxide varistors and silicon avalanche diodes. These models assure you of both normal and common mode surge protection, and of an almost unlimited operating life. All models feature a unique positive shutdown mechanism to prevent inadvertent operation of unprotected equipment in the event of a suppression element failure. A visual indication of shutdown is provided by the pilot lamp. Strip models have a 6-foot double-insulated #14/3 "SJT" line cord, master switch and indicator light and act as a power control center. **Case Style and Color (prefix):** P-tan plastic case. R-Tan baked enamel on steel. K-silver and textured black plastic on steel. J-Rack mount baked enamel on steel; black front, silver back. 12 foot power cord on Models 891-1007 and 891-2007. Standard models. Lifetime warranty.

SPECIFICATIONS	Perma Power Surge Suppressors	Extended Life Surge Suppressors
Electrical Rating	1875 watts	1875 watts
Resettable Circuit Breaker	15 amperes	15 amperes
Protection Modes	Normal (line-to-neutral) Common (line-to-ground) Common (neutral-to-ground)	Normal (line-to-neutral) Common (line-to-ground) Common (neutral-to-ground)
Response Time[1]	1 nanosecond	5 picoseconds
Energy Dissipation	80 joules each mode (210 total)	80 joules each mode (210 total)
Clamping Threshold (Nominal)	225 Volts DC 156 Volts RMS	225 Volts DC 156 Volts RMS
Let-Through Voltage[2]	500 Volts	330 Volts
Pulse-Life[3]	10^6 cycles	10^6 cycles
Pulse-Life[4]	10^4cycles	10^8 cycles
Steady State Power	0.8 watts	5.0 watts
Maximum Transient Voltage[5]	Greater than 6000 Volts	Greater than 6000 Volts
Noise Filtering	More than 10 dB.,5-50 MHz	More than 20 db.,2-100 MHz
Warranty	Lifetime	Lifetime

TEST WAVES. 1. Manufacturer's specification for the intrinsic component material. 2. UL Std. 1449, Revisions effective July, 1987; 1.2 × 50 μs 6000 Volt; 8 × 20 μs, 500 Amp. 3. ANSI Std. C62.41 (IEEE 587-1980); 0.5 μs, 100 KHz., 6000 Volt, 200 Amp., ringwave. 4. 5 KW peak, 10 × 1000 μs, exponential. (Accepted industry test impulse for inductive load switching transients.) 5. Limited in 120 VAC distribution systems by wiring devices arc-oer to 6000 Volts peak (ANSI Std. C62.41).

Perma Power Surge Suppressors

Stock No.	Mfr.'s Type	Number of Outlets	Master Switch	Indicator Light	Size H × W × D	EACH 1-23	EACH 24-Up
891-1109	PT209	2	—	1	3⅛ × 2¼ × 4¾	36.20	27.90
891-1410	RT410	4	1	1	2 × 2 × 12	53.90	41.50
891-1411	KT410	4	1	1	2 × 2 × 12	55.00	42.40
891-1610	RT610	6	1	1	2 × 2 × 15	56.10	43.20
891-1611	KT610	6	1	1	2 × 2 × 15	57.30	44.08
891-1006*	JT06B0B	6*	1	1	1¾ × 2½ × 19	73.60	56.60
891-1007*	JT06B2B	6*	1	1	1¾ × 2½ × 19	77.40	56.60

*On Back Panel.

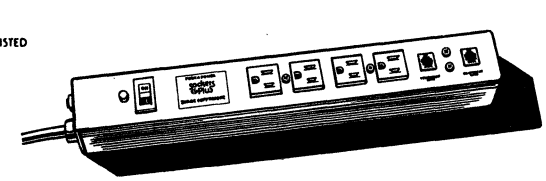
Extended Life Surge Suppressors

Stock No.	Mfr.'s Type	Number of Outlets	Master Switch	Indicator Light	Size H × W × D	EACH 1-23	EACH 24-Up
891-2109	PS209	2	—	1	3⅛ × 2¼ × 4¾	68.20	52.50
891-2410	RS410	4	1	1	2 × 2 × 12	90.30	69.50
891-2411	KS410	4	1	1	2 × 2 × 12	91.30	70.30
891-2610	RS610	6	1	1	2 × 2 × 15	92.60	71.30
891-2611	KS610	6	1	1	2 × 2 × 15	87.80	70.20
891-2006*	JS06B0B	6*	1	1	1¾ × 2½ × 19	110.80	85.30
891-2007*	JS06B2B	6*	1	1	1¾ × 2½ × 19	114.90	82.10

Model RTD410 Communications Surge Suppressor

Now for protection of facsimile, computers with modems and electronic telephones is the Communications Surge Suppressor. It is UL listed for both Surge Suppression (1449) and Secondary Protectors (497). The Surge Suppression portion features the Fail-Safe Automatic Shutdown, and the Telephone Surge Suppressor is dual stage to suppress telephone line surges to a safe, low value. 1800 Watts; 15-amp resettable circuit breaker; 1 nanosecond response time.

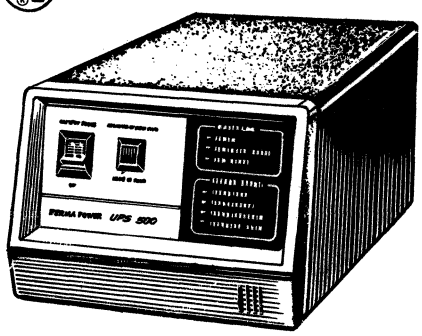
891-9110. RDT410 ..... **EACH 72.60**



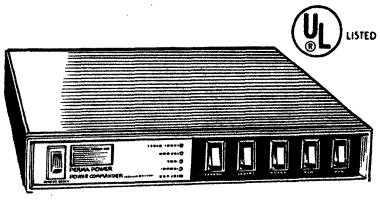
Perma Power® SPS-500 And SPS-1200

Standby Power Protection System
For mini, micro, and LAN applications. The SPS-500 is the total solution to power line related computer problems with the economy of a standby power system. Protects against blackouts, brownouts, high voltage, transient surges, RFI/EMI noise, and overload. **Safe:** Circuit analyzes the AC line before connecting it to the computer. Features constant monitoring- if the load exceeds the unit's rating during standby, backup is automatically disabled, and a warning is given. Automatic reset and rapid or trickle charge panel LEDs, and audible alarm. **Panel Controls:** Output Power and Backup Power/push to test. **Panel Indicators:** Power Line Normal, Power Line Outrage/Low, Power Line High, System Ready, Rapid Charging, System Overloading, and Surge Suppressor Failed. **Audible Indicator:** Intermittant buzzer for backup, overload, and surge suppressor worn or burned out. Constant buzzer during last 2 minutes of backup time.
891-9300. SPS-500 ..... **EACH 762.40**
891-9400. SPS-1200 ..... **EACH 1190.00**

SPECIFICATIONS. Backup Rating: 500VA (400W) maximum; 125VA (120W) minimum. **Output Voltage During Backup (125-500VA):** 117 VAC (±10%). **Output Energy During Backup (Rated Loads):** Sine wave RMS equivalent by pulse width modulated square wave. **Inverter Frequency:** 60 HZ (+0Hz/–.7Hz). **Backup Time:** 8 minutes at 500VA; 10 minutes as 400 VA; 25 minutes at 300VA; 40 minutes at 200 VA. **Transfer From Line To Battery:** Less than 1ms total sense and transfer. **Transfer From Battery To Line:** Less than 1ms transfer time. **Battery Type:** Rechargeable sealed maintenance-free lead calcium. **Recharge Time:** 3.5 hours maximum. **Protection Modes:** Normal (lines/neutral); common (line/ground); common (neutral/ground). **Energy Dissipation:** 420 joules (total of components). **Response Time:** 1ns (manufacturer's specification for the intrinsic component material). **Noise Suppression:** 20 dB, 50 KHz-100 MHz **Dimensions:** SPS-500 — 6 × 8 × 16; SPS-1200 — 6 × 8 × 23. **Weight:** SPS-500 — 37 lbs; SPS-1200 — 62 lbs.

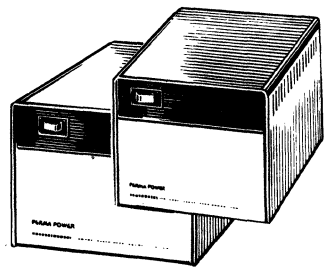


Power Commanders™



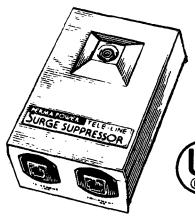
Two models, RS 562 and RS 562-4. Power Commander Power Control Centers for data equipment protection against transient power line surges and EMI/RFI noise reduction. Provides five outlets for simple hook-up of computer, monitor, and printer plus two auxillary peripherals. Can be controlled by individual component controls or by single master switch. Both RS 562 and RS 562-4 feature Extended Life Surge Suppression for protection of normal and common mode power lines and Fail-Safe Positive Shutdown for prevention of inadvertent operation of unprotected equipment in case of suppressor element failure. **Model RS 562-4** includes additional features — Tele-Line Surge™ protection to protect against phone line transients; Static-Safe™ Touchplate for safe discharge of potentially damaging static electricity; Automatic Overvoltage Shutdown for automatic disconnection within 2 cycles of overvoltage conditions; and Power Minder™ Line Voltage Monitor for visual warning of power line under-and overvoltages. **SPECIFICATIONS Overload Protection:** 15 amp circuit breaker. **Dimensions:** (W × H × D) 12 × 2¼ × 13″ (30.48 × 5.715 × 33.02cm). **Surge Suppressor Specifications. Clamping Threshhold:** 225 Volts. **Response Time:** 5 Pico seconds. **Let-Through Voltage:** 400 Volts peak. **Maximum Transient Voltage:** 6000 Volts. **Power Rating(load of 1875 watts):** 125 Volts, 60Hz. Noise Filtering (better than 20 dB):2-100 MHz.
891-9000. Model RS 562. **1-4** ..... **EACH 108.00**
5-Up ..... **EACH 100.20**
891-9004. Model RS 562-4 ..... **EACH 188.52**

Power Conditioners



Instant response to power line voltage changes. Supplies a constant 120VAC for input voltages of 90-140. Features built-in surge suppressor for spike protection and isolation against RFI/EMI interference. Choice of two models, RV 250 or RV 550. **SPECIFICATIONS. Voltage Rating:** RV 250-250VA; RV 550-550VA. **Input:** 95 to 135V (RMS), 60 Hz. **Output:** 118 Volts (RMS) ±3%. **Harmonics:** Approximately 3% T.H.D. at 120V (RMS) input, 1.0 P.F. full load. **Efficiency:** 90% minimum at 120V (RMS) input, 1.0 P.F. full load. **Isolation:** Complete; less than 2 pF effective capacitance. **Noise Rejection:** Normal or Traverse mode-60 db; Common mode-120db. **Line Interruption:** Maintains full voltage output for 3 milliseconds. **Short Circuit Protection:** 200% of load/no damage will occur. **DIMENSIONS RV 250:** (H × W × D) 5½ × 6½ × 9½″ (13.97 × 16.51 × 24.13cm); 20 lbs (9.072 kg). RV 550: 6¼ × 8½ × 11¼″ (15.875 × 21.59 × 28.578cm); 45 lbs (20.412 kg). **Operating Temperature:** 60°C max. on enclosure. UL Listed. Decorative beige case.
891-9250. Model RV 250 ..... **EACH 169.00**
891-9550. Model RV 550 ..... **EACH 352.00**

Tele-Line™ Surge Suppressor

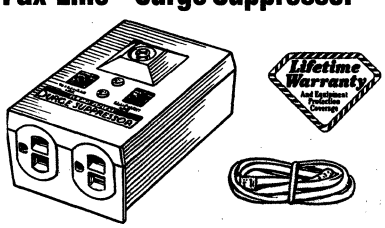


PD 200 protects data communications equipment from transient voltage surges on telephone lines. The Tele-Line™ Surge Suppressor utilizes a 3-element gas tube and 3 Metal Oxide Varistors (MOV) in a coordinated circuit for complete protection. **SPECIFICATIONS. Connectors:** Two RJ-modular Tele-Line™ jacks; 7′ jumper wire included. **Indicator Light:** Earth ground. **Dimensions:** 3⅛″W × 4¾″H × 2¼″D. **Protection Modes:** Normal/metallic (line-to-line); Common/longitudinal (lines-to-ground). **Clamping Voltage:** 180V. **Let-through Voltage[1]:** 350 V. Peak. **Response Time:** 1 nanosecond. **Pulse Life[2]:** 10,000 cycles. **Warranty:** One year. **TEST WAVES.** 1. FCC Docket 19528 (Part 68, Subpart D). 2. I.E.E.E. Standard 587 (8 × 20 μs., 500A., unipolar current wave)
891-9200. PD 200 ..... **EACH 39.00**

Cable-Line™ Surge Suppressor

Protects TV, VCR, Stereo and Satellite from surges on the cable or antenna line and the power line.
Television sets and VCRs manufactured after 1984 usually incorporate sensitive electronics, which are highly susceptible to damage from transient voltage surges during thunderstorms and electric company switching. Additionally, satellite dish systems are highly vulnerable to damage from power surges and lightning, even several miles away. Such surges can pass through to your equipment from its connection to a cable, antenna, or satellite dish as well as through the power line.
Connecting your electronic equipment to a Perma Power CABLE-LINE Surge Suppressor will protect sensitive equipment from surge damage.
891-1115. PTC209 ..... **EACH 59.90**

Fax-Line™ Surge Suppressor

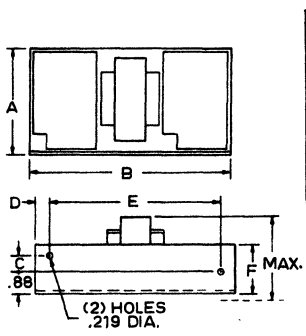


Prevent damage and erratic operation from transient surges on the power line and on the telephone line. Meets the new (July 1987), more stringent UL standards. 1 year warranty.
Specifications. Electrical and Power Line Surge Suppressor. Electrical Rating: 1800 watts. **Energy Dissipation:** 80 joules each mode; 240 joules (total). **Response Time[1]:** 1 nanosecond. **Clamping Voltage (Nominal):** 156V RMS; (220V Peak). **Protection Modes:** Normal (lines/neutral); Common (line/ground); Common (neutral/ground). **Resettable Circuit Breaker:** 15 amperes. **Let-Through Voltage[2]:** 600 volts. **Pulse Life[3]:** 10^6 cycles. **Pulse Life[4]:** 10^4 cycles. **Steady State Power:** 1 watt. **Peak Current[5]:** 6000 amperes. **Maximum Transient Voltage[6]:** Greater than 6000 volts. **Dimensions:** 3⅛″W × 4¾″H × 2¼″D. **Suppression Failure Protection:** Fail Safe Cut Off plus Indicator Light.
Tele-Line Surge Suppressor Connectors: Two Miniature 6-position jacks (For use with RJ-11 connection). **Protection Modes:** Normal/metallic (line-to-line); Common/longitudinal (lines-to-ground). **D.C. Breakdown Voltage:** 140 Volts. **Let-Through Voltage[7]:** 300 volts Peak. **Response Time[1]:** 1 nanosecond. **Pulse Life[8]:** 10,000 cycles. **Jumper Cord:** 7′.
891-1110. PTD 209 ..... **EACH 59.90**

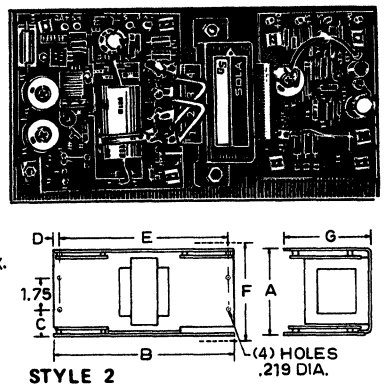
Double and Triple Output Microprocessor Power Supplies

Designed for both bench and rack use. Vertical or horizontal mounting. Isolated independent outputs for either positive or negative operation. Integrated circuit regulation. Remote sensing/programming and reverse voltage protection. Series or parallel operation. Convection cooled. Short cicuit protected: automatic current limiting. Constant voltage. Recovering time is less than 50 Microseconds 1/2L to FL. **Input voltage range:** 104-127/208-254VAC. **Input freq. range:** 50-400 Hz. **Regulation line and load combined:** 0.1%. **Output ripple:** 0.05% rms(10 MHz Band Width). **Input/Output isolation:** 1000 Megohms D.C., 2500VAC. **Temp. coefficient:** 0.01/°C. **Operating Temp.:** 0°C to +55°C without Derating, −20°C to +80°C with Performance Derating.

Stock No.	Mfr.'s Type	Output Voltage	Output Current	Chassis Style	EACH 1-4	EACH 5-9	EACH 10-Up
921-8200	83-81-2225	+5V 9 to 12V	2.50A 0.50A	1	110.00	104.00	101.00
921-8210	83-82-2230	+5V −5V	3.00A 0.10A	1	110.00	104.00	101.00
921-8240	83-83-3225	+5V +9 to 12V −9 to −12V	2.50A 0.25A 0.25A	2	141.00	133.00	129.00
921-8260	83-83-3250	+5V +9 to +12V −9 to −12V	5.00A 0.50A 0.50A	2	167.00	157.00	152.00
Linear Dual Output							
921-8265	83-81-2250	5V +9 to +12V	5.00A 0.80A	1	120.00	114.00	110.00

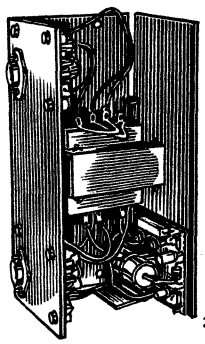


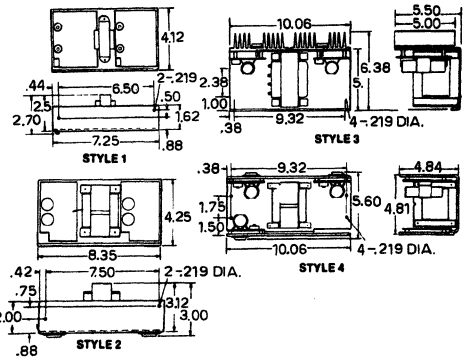
STYLE 1



STYLE 2

Mfr.'s Type	Style Number	Dimensions A	B	C	D	E	F	G
83-81-2225	1	4.12	8.20	.50	.85	6.50	1.62	2.70
83-82-2230	1	4.12	7.74	.50	.62	6.50	1.62	2.70
83-81-2250	1	4.84	9.50	.75	1.00	7.50	2.00	3.60
83-83-3225	2	4.20	8.66	1.32	.33	8.00	4.62	4.14
83-83-3250	2	4.00	9.50	1.18	.38	8.75	4.50	4.84





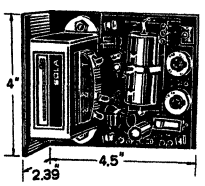
Regulated Linear Dual and Triple Output Series

Features split bobbin transformer design for maximum isolation of outputs from primary (2500V hi-pot tested). Versatile packaging allows vertical or horizontal mounting. Designed for both bench and rack use. Other features include integrated circuit regulation, constant voltage, remote sensing/programming, fully isolated independent outputs for either positive or negative operation, reverse voltage protection, and convection cooling. **Source and load effect combined (regulation-line and load):** ±0.1%. **Periodic deviations (ripple):** 0.01% rms. Completely protected short circuit proof; automatic foldback current limiting. Series of parallel operation. Full rated output 0° to +55°C, ambient. 120/240 VAC, 50/60/400 Hz source. U.L. recognized.

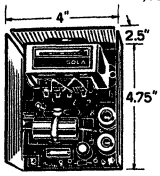
Stock No.	Mfr.'s Type	Output Voltage	Output Current	Chassis Style	EACH 1-4	EACH 5-9	EACH 10-Up
921-7010	83-12-2180	±12	0.8A	1	80.00	76.00	72.00
921-7020	83-15-2170	±15	0.7A	1	80.00	76.00	72.00
921-7030	83-12-2218	±12	1.8A	2	120.00	113.00	110.0
921-7040	83-15-2216	±15	1.6A	2	120.00	113.00	110.0
921-7050	83-12-2250	±12	5.0A	3	237.00	223.00	216.00
921-7060	83-15-2240	±15	4.0A	3	237.00	223.00	216.00
921-7070	83-12-3218	5 ±12	6.0A 1.8A	4	196.00	185.00	179.00

11

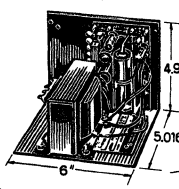
OEM Series Regulated DC Power Supplies



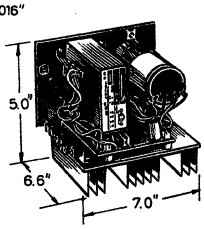
15 WATT



30 WATT



60 WATT



120 WATT

► **Convection Cooled**
► **Complete Serviceability**
► **Constant Voltage**
► **Overvoltage Protection Available**

Low cost DC power supplies give you a precise integrated circuit regulator with superior drift characteristics. U.L. recognized to Spec. 478 and 414. Features short circuit protection, automatic foldback current limiting, automatic reset, and isolated, floating output. Low noise and ripple (pard). Designed for both bench and rack use. **Specifications. Source (Input) Voltage Range:** 104-127 VAC; 208-254 VAC (15 watt types, 104-127 VAC only). **Source Frequency Range:** 50-400 Hz. **Source and Load Effect (regulation-line and load) combined:** ±0.1%. **Pard (ripple and noise):** 0.1% pp. **Periodic Deviations (ripple):** 10mV rms; 30, 60, 120 watt (with either positive or negative terminal grounded). **Temperature Effect Coefficient:** 0.03%°C. **Polarity:** may be used positive or negative. **Short Circuit Protection:** automatic circuit protects the power supply if the output is shorted continuously. Automatic return upon removal of short circuit. **Operating Ambient Temperature:** 0°C to +55°C; with typical mounting and natural convection cooling, all units derate linearly to zero amps out at 85°C. **Storage Ambient Temperature:** −40°C to +85°C. **Overvoltage Protection:** available for all models as an option. Provides both transient and power supply malfunction protection.See below. **Recovery Time:** less than 20 μsec., 1/2L to FL. **Output Voltage Adjustment:** ±5% minimum.

Stock No.	Mfr.'s Type	DC Output Volts	DC Output Amps	Watts	Overvoltage Protection Type	EACH 1-4	EACH 5-9	EACH 10-Up
921-6400	81-05-230-1	5-6	3.0-2.5	15	999-226-05	48.00	46.00	45.00
921-6410	81-12-215-1	12-15	1.5-1.2	15	999-226-12	48.00	46.00	45.00
921-6420	81-24-180-1	24	0.8	15	999-226-24	48.00	46.00	45.00
921-6430	83-05-230-2	5	3.0	15	999-219-5	55.00	52.00	51.00
921-6440	83-12-218-2	12	1.8	30	999-219-12	55.00	52.00	51.00
921-6450	83-15-216-2	15	1.6	30	999-219-15	55.00	52.00	51.00
921-6460	83-24-212-2	24	1.2	30	999-219-24	55.00	52.00	51.00
921-4850	83-05-260-2	5	6.0	30	999-189-5	112.00	105.00	101.00
921-6510	83-12-250-2	12	5.0	60	999-189-12	112.00	105.00	101.00
921-4853	83-24-335-2	24	2.5	60	999-189-24	112.00	105.00	101.00
921-8000	83-05-312-2	5	12.0	60	999-189-5	167.00	157.00	152.00
921-8005	83-12-310-2	12	10.0	120	999-189-12	167.00	157.00	152.00
921-8010	83-15-280-2	15	8.0	120	999-189-15	167.00	157.00	152.00
921-8015	83-48-230-3	48	3.0	120	999-189-48	167.00	157.00	152.00

Overvoltage Protection
This low cost option for 81 and 83 types (sold above) is easily added. If the output voltage rises 10% or 2 volts (whichever is greater) above the nominal voltage, an SCR crowbar is fired which will reduce the output to below the nominal setting in 10 microseconds.

Stock No.	Mfr.'s Type	Power Supply	Overvoltage Protection	EACH 1-4	EACH 5-9	EACH 10-Up
921-7001	999-226-05	15 Watts	5V/6V	33.00	32.00	31.00
921-7002	999-226-12	15 Watts	12V/15V	33.00	32.00	31.00
921-7006	999-226-24	15 Watts	24V	33.00	32.00	31.00
921-7104	999-219-05	30 Watts	5V	33.00	32.00	31.00
921-7105	999-219-12	30 Watts	12V	33.00	32.00	31.00
921-7106	999-219-15	30 Watts	15V	33.00	32.00	31.00
921-7107	999-219-24	30 Watts	24V	33.00	32.00	31.00
921-7101	999-189-05	60 Watts	5V	33.00	32.00	31.00
921-7102	999-189-12	60 Watts	12V	33.00	32.00	31.00
921-7103	999-189-24	60 Watts	24V	33.00	32.00	31.00

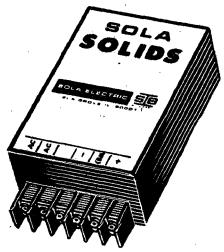
Solid Power Supplies

Printed Circuit Mounting

Series Regulated Solid Power Supplies are designed for printed wiring board mounting and point of use regulation. Single, dual or triple tracking outputs are available. Solid power supplies feature automatic overload protection, Operation at rated load from −25°C to 50°C ambient. Fully tested and 'burned-in' three times. **SPECIFICATIONS. Source (Input) Voltage:** 115VAC ±10VAC (50 to 400 Hz); **Output Voltage Accuracy:** ±2%; **Operating Ambient Temp.:** −25°C to 50°C; **Temp. Effect Coefficient:** 0.02% per °C; **Storage Temp.:** −25°C to 85°C; **Source (Input) Isolation:** 50 megohms; **Source (Line Regulation):** ±.02% or 2.5mV. U.L. Recognized.

Chassis Mount Power Modules

The 85-Series Direct Chassis Mount Modular Power Supplies are designed for applications where printed circuit mounting is impractical or undesirable. Total epoxy encapsulation is an advantage where high vibration or adverse atmospheric conditions exsist. The convenience of threaded insert mounting and terminal strip connections allows easy prototyping and efficient one-shot design work. Single, dual or triple outputs are available. Single output models come with overvoltage protection. Overvoltage crowbar, set to trip at 6.2V nominal. Specifications for chassis mount models are the same as those for printed circuit mount models.



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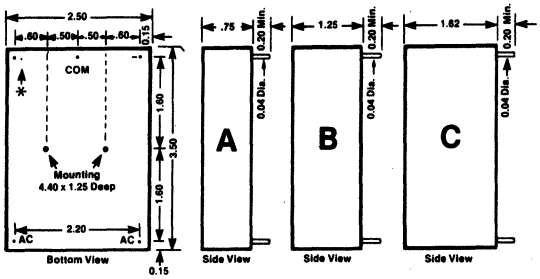

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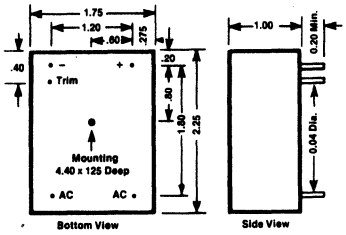

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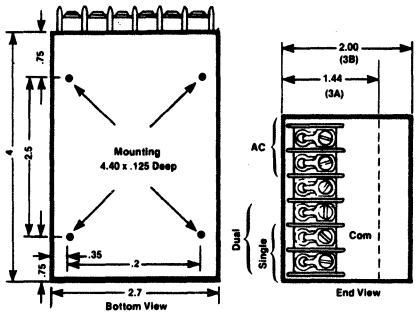


Printed Circuit Mounting

Single Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH 1-4	EACH 5-9	EACH 10-Up
921-9005	84-05-150	+5V@500mA	1.0mV rms	1A	92.00	90.00	86.00
921-9012	84-12-110	+12V@100mA	0.5mV rms	2	57.00	56.00	54.90
921-9024	84-24-050	+24V@50mA	1.0mV rms	2	57.00	56.00	54.50
921-9010	84-05-210	+5V@1000mA	1.0mV rms	1B	129.00	127.00	124.00
921-9020	84-05-220	+5V@2000mA	1.0mV rms	1C	165.00	162.00	158.00
921-9015	84-10-112	+10V@120mA	1.0mV rms	2	57.00	56.00	54.90
921-9025	84-15-110	+15V@100mA	1.0mV rms	2	57.00	56.00	54.90

Dual Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH 1-4	EACH 5-9	EACH 10-Up
921-9212	84-12-2112	±12V@120mA	0.5mV rms	1A	92.00	90.00	86.00
921-9213	84-12-2124	±12V@240mA	0.5mV rms	1B	129.00	125.72	122.50
921-9215	84-15-2110	±15V@100mA	0.5mV rms	1A	92.00	90.00	86.00
921-9216	84-15-2120	±15V@200mA	0.5mV rms	1B	129.00	125.72	122.50
921-9217	84-15-2135	±15V@350mA	0.5mV rms	1C	185.00	180.00	175.00
921-9220	84-15-2025	±15V@25mA	1.0mV rms	1A	66.00	65.00	63.90

Triple Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH 1-4	EACH 5-9	EACH 10-Up
921-9305	84-15-13115	+5V@1000mA, ±15V@150mA	1.0mV rms	1C	200.00	194.00	189.00
921-9310	84-15-5310	+5V@500mA, ±15V@100mA	1.0mV rms	1B	146.00	142.00	139.00

Linear Encapsulated Power Modules—Chassis Mount

Single Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH 1-4	EACH 5-9	EACH 10-Up
921-9505	85-05-210	5V@1000mA	2.0mV	3A	149.00	145.00	141.00
921-9506	85-05-220	5V@2000mA	2.0mV	3B	185.00	180.00	175.70
921-9500	85-05-150	+5V@500mA	1.0mV rms	3A	120.00	118.00	115.00

Dual Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH 1-4	EACH 5-9	EACH 10-Up
921-9512	85-12-2140	±12V@400mA	1.0mV	3B	204.00	198.50	185.00
921-9515	85-15-2120	±15V@200mA	1.0mV	3A	149.00	147.00	143.00
921-9516	85-15-2135	±15V@350mA	1.0mV	3B	204.00	198.50	185.00
921-9517	85-15-2150	±15V@500mA	1.0mV	3B	233.00	227.00	220.00
921-9514	85-12-2124	±12V@240mA	1.0mV rms	3A	149.00	147.00	143.00
921-9525	85-15-2110	±15@100mA	1.0mV rms	3A	121.00	119.00	116.00

Triple Output

Stock No.	Mfr.'s Type	Output	PARD	Case Size	EACH 1-4	EACH 5-9	EACH 10-Up
921-9530	85-15-33115	+5V@300mA, ±15V@150mA	1.0mV rms	3A	205.00	200.00	194.50
921-9535	85-15-13115	+5V@1000mA, ±15V@150mA	1.0mV rms	3B	272.00	265.00	259.00

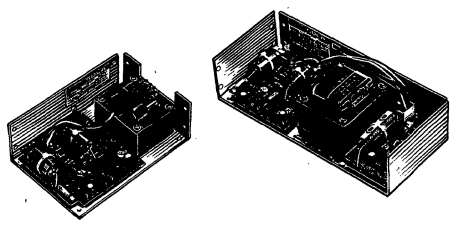
Sola Silver Line Linears

Features

- Tight Regulation, 0.10% line and load combined
- Full Output Ratings to 50C
- Built-in OVP on 5V models (optional on 12V, 15V, 24V)
- Foldback current limiting
- 100% Four-hours Burn-in
- Warranted for 1 full year
- UL recognized, CSA and TUV
- These models are form, fit and function replacement for most major manufacturers

Specification Summary

- Input AC voltage selectable 100/120/220/230/240
- Input Frequency 47 to 440 Hz
- Ripple 3.0MV maximum p-p
- D.C. output adjustment ±5% minimum
- Transient response time, 50U sec for 50% load changes
- Remote sensing
- Operating Temperature 0 to +50C
- EM/RFI meets FCC Class B and VDE 0871 for Class B
- Shock/Vibration per Mil-STD-810C



Stock No.	Mfr.'s No.	Output 1	Output 2	Output 3	Dimensional Data in inches	EACH
921-9300	SLS-05-030-1	5V@3A			4.84 x 3.99 x 2.07	50.00
921-9455	SLS-05-060-1	5V@6A			5.62 x 4.87 x 2.95	62.00
921-9460	SLS-05-090-1	5V@9A			7.00 x 4.87 x 3.30	96.00
921-9315	SLS-05-120-1	5V@12A			9.00 x 4.87 x 3.30	112.00
921-9320	SLS-12-017	12V@1,7A			4.84 x 3.99 x 2.07	40.00
921-9325	SLS-12-034	12V@3.4A			5.62 x 4.87 x 2.95	58.00
921-9330	SLS-12-051	12V@5.1A			7.00 x 4.87 x 3.30	85.00
921-9335	SLS-12-068	12V@6.8A			9.00 x 4.87 x 3.30	126.00
921-9340	SLS-15-015	15V@1.5A			4.84 x 3.99 x 2.07	40.00
921-9345	SLS-15-045	15V@4.5A			7.00 x 4.87 x 3.30	85.00
921-9350	SLS-15-060	15V@6A			9.00 x 4.87 x 3.30	120.00
921-9355	SLS-24-012	24V@1.2			4.84 x 3.99 x 2.07	40.00
921-9360	SLS-24-024	24V@2.4A			5.62 x 4.87 x 2.95	58.00
921-9365	SLS-24-036	24V@3.6A			7.00 x 4.87 x 3.30	85.00
921-9670	SLD-12-1010-12	12V@1A	−12V@1A		6.50 x 4.00 x 2.07	50.00
921-3575	SLD-12-1818-12	12V@1.8A	−12V@1.8A		7.00 x 4.87 x 2.95	69.00

Stock No.	Mfr.'s No.	Output 1	Output 2	Output 3	Dimensional Data in inches	EACH
921-9380	SLD-12-3434-12	12V@3.4A	−12V@3.4A		9.00 x 4.87 x 3.30	98.00
921-9385	SLD-15-808-15	15V@.8A	−15V@.8A		6.50 x 4.00 x 2.07	50.00
921-9390	SLD-15-1515-15	15V@1.5A	−15V@1.5A		7.00 x 4.87 x 2.95	69.00
921-9395	SLD-15-3030-15	15V@3A	−15V@3A		9.00 x 4.87 x 3.30	98.00
921-9400	SLD-12-6034-05	5V@6A	12V@3.4A		9.00 x 4.87 x 3.30	104.00
921-9405	SLD-12-3015-05	5V@3A	12V@1.5A		7.00 x 4.87 x 2.95	73.00
921-9410	SLT-12-20404-12	5V@2A	12V@.4A	−12v@.4A	6.50 x 4.00 x 2.07	62.00
921-9415	SLT-12-31010-12	5V@3A	12V@1A	−12V@1A	10.25 x 4.00 x 2.95	82.00
921-9420	SLT-12-61010-12	5V@6A	12V@1A	−12V@1A	9.00 x 4.87 x 3.30	104.00
921-9425	SLT-12-61818-12	5V@6A	12V@1.8A	−12V@1.8A	11.00 x 4.87 x 3.30	112.00
921-9430	SLT-24-30530-05	5V@3A	−5V@3A	24V@.5A	11.00 x 4.87 x 3.30	129.00

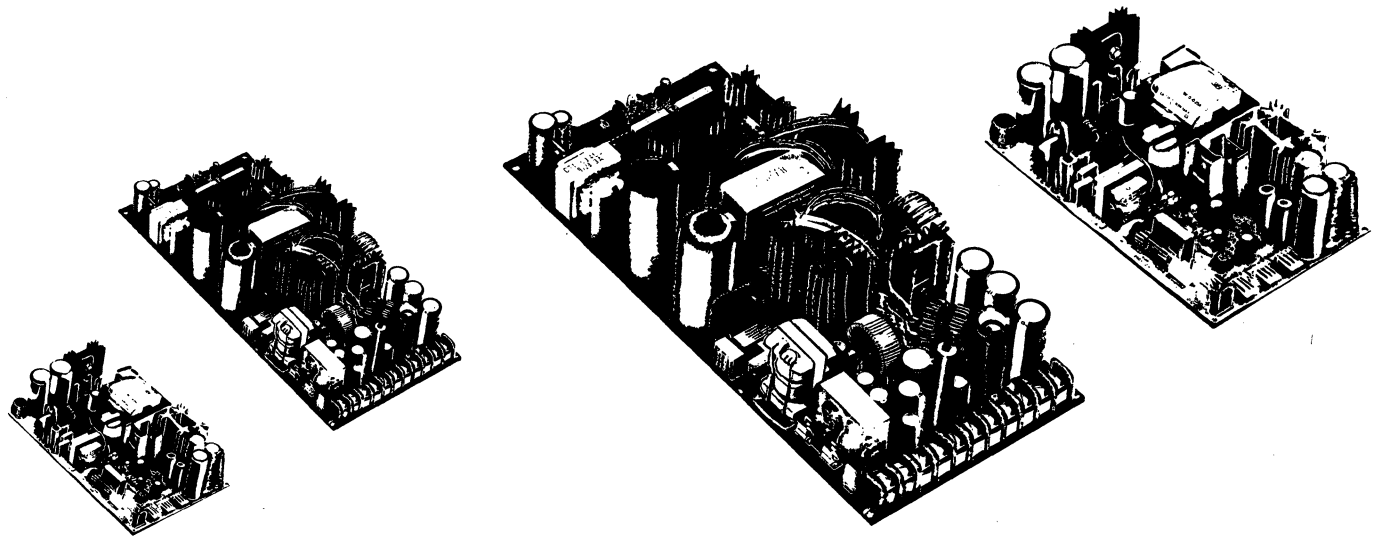
Overvoltage Protectors (OVP)

921-9435	SLO-12-000-1	6.2V to 34V*			1.50 x 1.55 x .56	11.50

*Adjustable@8A

Low Wattage Single and Multi Output Switchers

Designed to provide the industry with a quality power supply at competitive prices.



Features
- ► High Efficiency
- ► Built in EMI Filter
- ► UL Recognized
- ► CSA Certified
- ► VDE Certifications in Process (except 50 watt single output)
- ► Industry Standard Packages
- ► Meets FCC and VDC Class A Emissions
- ► 100% Burn in for 24 hrs.
- ► Dual Input Voltage 115/230 VAC
- ► Over Voltage Protection on +5V Outputs
- ► Short Circuit Protection

Applications
- ► CRT Monitors
- ► Disk Drives
- ► Terminals
- ► Peripheral Equipment
- ► Testing Equipment
- ► Microprocessor Based Systems

Specifications Summary
- ► All Unit Voltage Selectable 90-130 VAC/180-260 VAC; Except for 50 Watt Single Output
- ► AC input Frequency -47-440 Hz
- ► 65% Efficiency Typical
- ► Overcurrent Protection on all outputs
- ► ISMS Hold uptime @ full load
- ► MTBF Greater than 50k hrs. @ full load
- ► In Rush current 40/50 30 Amps/115 VAC 60 Amps/230 VAC 65/90 10 Amps/115 VAC 20 Amps/230 VAC All @ 25°C Ambient Cold Start-Single 50 Watt 20 Amps/115 VAC

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40 Watt Models

Stock No.	Mfr.'s Type	Output 1	Output 2	Output 3	Output 4	Output 5	Dimensional Data In Inches	EACH
921-9100	86-30040-41	5V @ 3.5A	12V @ 2A/3 PK	– 12V @ 1A	—	—	6.30L × 3.94W × 2.40H (max.)	**72.00**
921-9105	86-30040-42	5V @ 3.5A	12V @ 2A/3 PK	– 5V @ .25A	—	—	6.30L × 3.94W × 2.40H (max.)	**72.00**
921-9110	86-40040-33	5V @ 3A	12V @ 1A	– 12V @ 1A	– 5V @ .5A	—	5.93L × 3.83W × 2.40H (max.)	**74.00**
921-9115	86-40040-53	5V @ 5A	12V @ .5A	– 12V @ .5A	– 5V @ .5A	—	6.30L × 3.92W × 2.00H (max.)	**74.00**

50 Watt Models

921-9120	86-05-1310	5V @ 10A	—	—	—	—	6.50L × 4.00W × 2.06H (max.)	**85.00**
921-9125	86-12-1240	12V @ 4.2A	—	—	—	—	6.50L × 4.00W × 2.06H (max.)	**85.00**
921-9130	86-15-1230	15V @ 3.3A	—	—	—	—	6.50L × 4.00W × 2.06H (max.)	**85.00**
921-9135	86-24-1220	24V @ 2.1A	—	—	—	—	6.50L × 4.00W × 2.06H (max)	**85.00**
921-9140	86-30050-61	5V @ 6A	12V @ 2A/4 PK	– 12V @ .5A	—	—	6.30L × 3.94W × 1.75H (max.)	**76.00**
921-9145	86-30050-62	5V @ 6A	12V @ 1A	– 5V @ .5A	—	—	7.75L × 4.25W × 2.40H (max.)	**76.00**
921-9150	86-40050-53	5V @ 5A	12V @ 1A	– 12V @ 1A	– 5V @ .5A	—	5.93L × 3.83W × 2.40H (max.)	**76.00**
921-9155	86-40050-54	5V @ 5A	– 5V @ .25A	15V @ 1A	– 15V @ 1A	—	5.93L × 3.83W × 2.40H (max.)	**76.00**

65 Watt Models

921-9160	86-40065-53	5V @ 5A	12V @ 2A	– 12V @ 1A	– 5V @ .5A	—	7.75L × 4.25W × 2.40H (max.)	**99.00**
921-9165	86-40065-54	5V @ 5A	– 5V @ .5A	15V @ 2A	– 15V @ 1A	—	7.75L × 4.25W × 2.40H (max.)	**99.00**

80 Watt Models

921-9170	86-40080-83	5V @ 8A	12V @ 2.5A/5 PK	– 12V @ .6A	– 5V @ .6A	—	8.25L × 4.25W × 2.10H (max.)	**110.00**
921-9175	86-40080-81	5V @ 8A	12V @ 2A	12V @ .25A/5 PK	– 12V @ .6A	—	8.25L × 4.25W × 2.10H (max.)	**110.00**

90 Watt Models

921-9180	86-50090-63	5V @ 6A	12V @ 1A	– 12V @ 1A	– 5V @ .5A	12V @ 2.5A	9.00L × 5.00W × 2.40H (max.)	**132.00**

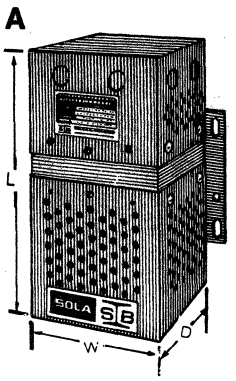
100 Watt Models

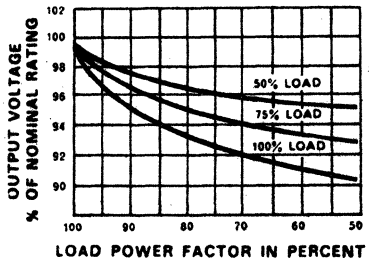
921-9185	86-40100-03	5V @ 12A	12V @ 4A/8 PK	– 12V @ .6A	– 5V @ .6A	—	9.00L × 4.75W × 2.10H (max.)	**138.00**

150 Watt Models

921-9190	86-50150-05	5V @ 15A	12V @ 3A	24V @ 2A	– 12V @ 1A	– 5V @ .15A	10.18L × 4.75W × 2.40H (max.)	**188.00**

Type CVS (Constant Voltage) Transformers to Solve Any Voltage Problems





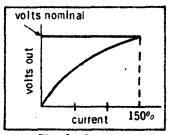


Fig. 2. Overload

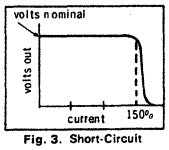


Fig. 3. Short-Circuit

Brown-outs are due to low line voltage caused by power cutbacks; increase of power line transients from lighting or switching of power or equipment; increased speed and sensitivity of new EDP equipment and computers. These factors create the necessity of achieving consistent reliable power—and the constant voltage transformer below can solve that problem. These compact, rugged, versatile voltage transformers can eliminate voltage variations. Static-magnetic voltage regulators accept input variations up to ± 15% and regulate to ± 1%. Response time 1½ Hz(25 msec) or less. CVS: less than 3% harmonic distortion at full load; newer CVS delivers sine wave output; recommended for all AC applications. No moving parts, nothing to service or replace. Figure A exposed core, end housings, screw type terminals in outlet box. See below for cord and receptacle adapter kits for 'A' structures.

Load Power Factor

'Median' value of output voltage will vary from nameplate rating if load has power factor other than that for which the transformer was designed. Load regulation will also be relatively greater as inductive load power factor is decreased. However, resulting median values of output voltage will be regulated against line changes at any reasonable load of power factor. **Change in 'Median' Output Voltage Versus Load Power Factor**

Current Limitation

As a load is increased beyond the rated value, the output voltage drops rapidly to zero. At short-circuit, the output current is limited to approx. 125-200% of rated value. Units can be operated indefinitely at short-circuit without damage.

Sinusoidal Types CVS-60 Hz Duty

Stock No.	Mfr.'s Type	Voltage Rating		VA	Nominal Size (Inches)		Nominal Size (Millimeters)		Fig.	Wt., Lbs.	EACH	
		Output	Input		Outline	Mounting	Outline	Mounting			1-4	5-Up
921-3150	23-13-030-2	120	95-130	30	6 1/8 × 4 × 5 3/16	3 × 3 1/2	155.6 × 101.6 × 131.8	76.2 × 88.9	A	8	**131.00**	**121.00**
921-3200	23-13-060-2	120	95-130	60	6 15/16 × 4 × 5 3/16	3 × 3 1/2	176.2 × 101.6 × 131.8	76.2 × 88.9	A	10	**152.00**	**138.00**
921-3300	23-22-112-2	120	95-130/190-260	120	8 × 4 × 5 3/16	3 × 3 1/2	203.2 × 101.6 × 131.8	76.2 × 88.9	A	14	**207.00**	**188.00**
921-3350	23-23-125-8	120	95-130/190-260	250	9 7/8 × 7 7/16 × 5 3/8	4 1/8 × 4 3/4	250.9 × 188.9 × 136.6	104.8 × 120.7	A	28	**282.00**	**256.00**
921-3400	23-23-150-8	120	95-130/190-260	500	12 11/16 × 9 × 6 7/8	5 5/8 × 8 1/8	332.3 × 228.6 × 163.6	142.9 × 206.4	A	42	**429.00**	**389.00**
921-3800	23-23-175-8	120/240	95-130/175-235/190-260	750	13 11/16 × 9 × 6 7/16	5 5/8 × 8 1/8	347.7 × 228.6 × 163.6	142.9 × 206.4	A	52	**575.00**	**545.00**
921-3850	23-23-210-8	120/240	95-130/175-235/190-260	1000	16 3/4 × 9 × 6 7/8	5 5/8 × 8 1/8	425.4 × 228.6 × 174.7	142.9 × 206.4	A	65	**668.00**	**650.00**
921Q3950	23-23-220-8	120/240	95-130/175-235/190-260	2000	17 5/16 × 12 3/4 × 9 11/32	3 7/8 × 11 3/4	439.7 × 323.8 × 237.2	98.5 × 298.4	A	111	**1137.00**	**1032.00**
921Q4000	23-23-230-8	120/240	95-130/175-235/190-260	3000	18 11/16 × 12 3/4 × 9 11/32	5 1/4 × 11 3/4	474.7 × 323.8 × 237.2	133.3 × 298.4	A	142	**1573.00**	**1525.00**

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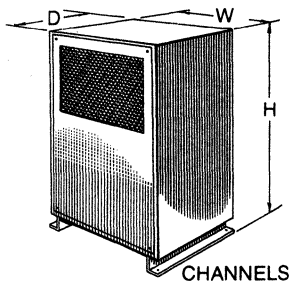


1. Minimum clearance behind cabinet, 10" for air flow.
2. Minimum clearance above unit, 16" for air flow.
3. Cable entry from bottom or side.
4. Front and rear panel screened.
5. Channel mounting feet must be used for air flow.
6. Front and rear base must be kept clear for air flow.

Solatron/Acuvolt for Computers

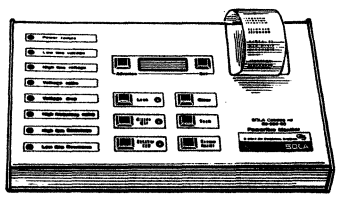
The computer Line Solatron/Acuvolt is designed to meet stringent requirements of data processing equipment. It provides tighter regulation, faster response time to dynamic line and load changes, and most importantly, it clips and filters noise from the incoming line. It is available only in a 3 phase configuration and will regulate loads in a Delta or a WYE configuration. All units are UL Listed and are capable of supplying either Delta or WYE loads. Units contain neither motor nor moving parts, so maintenance is required. Solatron/Acuvolts are available in various sizes from 10-300 KVA.

Specifications

Input Voltage. Nominal 208 to 230 volts 3 line-to-line. **Range:** + 10 – 20% of output setting. **Output Voltage. Nominal:** 208/230 Volts. **Regulation:** ± 1% for any combination of line, load, thermal drift, warm up & frequency. Capable of remote sensing. **Frequency:** 57 to 63 Hz. **Output Voltage. Adjustability:** From 208 to 230 volts. **Transient Response Time:** Starts immediately. Typically complete within 5 cycles. **Power Efficiency (Watts):** 95% typical. **VA Efficiency:** 75% typical. **Load Power Factor:** With little derating—.75 lagging to .95 leading. Without derating—.95 lagging to unity. **Regulation:** Line Regulation ± 1/4%. Load Regulation ± 1/4%. Line & Load ± 1/2%. **Typical Harmonics:** Balanced line & load 3%. Unbalanced line and/or load 6%.

Stock No.	Mfr.'s Type	Output KVA	Weight	Dimensions (inches)			EACH
				H	W	D	
921Q9601	39-59-310	10	670	50	27	20	**8,728.00**
921Q9602	39-59-315	15	721	50	27	20	**9,768.00**
921Q9603	39-59-325	25*	1310	65	36	27	**10,756.00**
921Q9604	39-59-350	50*	1852	65	36	27	**17,172.00**
921Q9605	39-59-375	75	2020	65	36	27	**25,607.00**

*300 KVA not UL Listed



Power Line Monitor

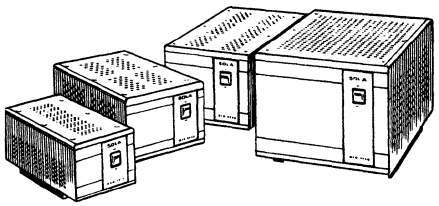
Power Line Monitor identifies dangerous or disruptive power line disturbances that can cause sensitive electronic equipment to malfunction, lose memory or even crash. The monitor pinpoints power failures, low line voltage, high line voltage, voltage spikes, voltage drops or high frequency noise. After the audible alert sounds, flip the monitor over to find the probable causes and solutions for the indicated problem. Can be used to examine potential sites for electronic equipment or to monitor power already being fed to microcomputers, P.O.S terminals, medical and test equipment, word processors or communications systems. The unit is completely portable. To install simply plug into any standard power outlet.

Standard Printing Monitor. Connections: One 3-wire ground input cord plug. **Controls:** 'Clear'. 'test', 'lock', 'alarm', 'printer', 'paper feed', 'clock advance', and 'set'. **Indications:** Eight red LEDs indicating power failure, low line voltage, high line voltage, voltage spike, voltage drop, high frequency noise, high line frequency and low line frequency, audible alarm, thermal printer and external alarm contacts. **Size:** 11 1/8 × 3 3/4 × 3 3/8". **Weight:** 6 1/2 lbs.

Stock No.	Mfr.'s Type	Volt	Freq.	Printer	Power Failure		Low Line		High Line		Voltage Spike		Voltage Drop		High Freq. Noise		High Line Freq.		High Line Freq.		EACH
					Level	Time	Level	Time	Level	Time	Level (Peak)	Time	Level	Time	Level	Time	Level	Time	Level	Time	
921Q6390	80-023-60	120V	60 Hz	Yes	80V	500 msec	105 V	100 msec	125 V	100 msec	200 V	54 sec	70 V	10 msec	2 V pp	100 msec	61 Hz	500 msec	59 Hz	500 sec	**1,860.00**

Portable Mini/Micro Computer Regulators

Listed to UL 1012
CSA Certified to C22.2 No. 66
Meets UL 478
Suppresses ANSI/IEEE C62.41-1980 CLASS A and B Waveforms to Safe Levels
Formerly IEEE 587-1980



► **Designed for Micro/Mini Computer Equipment**
► **Protects Against Overloads and Isolates the Load**

These units may be installed in any protected environment. Allow 60cm above and 30cm on either side of the installation. Dimensions of the portable regulators are given below. The line cord has a 3-wire pigtail, therefore the plug is user installed. Designed and built per VDE 0550 and 0805 and 0806 specifications (compatible with IEC 380/435).

Especially designed for office type environment, these minicomputer regulators are quieter than similar models, below normal office levels, and are rated at 45 dB. Common mode noise rejection of 120 dB. Useful in computer applications where noise and transients cause errors; or low voltage and short duration disruptions can cause loss of memory. Regulators are completely portable and easy to install, simply plug regulator in and it's ready to go. Effective capacitance less than 0.1 μfd. Brownout protection is an additional bonus feature. Input line variations of ± 15% are regulated to ± 3% variation on output. Operating range from – 20°C to + 50°C. Full load efficiency of 85%. Includes on-off switch and dual output receptacles. UL listed. (60 Hz meet the intent of IEEE Specs.)

60 Hertz Single Phase-MCR Series

Stock No.	Mfr.'s Type	Max. Output VA Rating	Nominal Output Voltage	Input Voltage Range	Weight (Lbs.)	NEMA		Dimensions			EACH	
						Plug	Receptacle	A	B	C	1-4	5-9
921-4950	63-13-070-6	70	120	95-130	16	5-15P	5-15R/4	9.25	6.75	6.25	**157.00**	**135.00**
921-4960	63-13-115-6	150	120	95-130	20	5-15P	5-15R/4	9.25	6.75	6.25	**248.00**	**231.00**
921-4980	63-13-125-6	250	120	95-130	32	5-15P	5-15R/4	9.25	6.75	6.25	**343.00**	**297.85**
921-5000	63-13-150-6	500	120	95-130	34	5-15P	5-15R/4	16.00	8.50	8.50	**475.00**	**441.00**
921-5010	63-13-175-6	750	120	95-130	62	5-15P	5-15R/4	16.00	8.50	8.50	**605.00**	**562.00**
921-5020	63-13-210-6	1000	120	95-130	70	5-15P	5-15R/4	16.00	8.50	8.50	**700.00**	**655.00**
921Q5040	63-13-220-6	2000	120	95-130	117	L5-30P	L5-30R/1	16.88	11.38	10.62	**1186.00**	**1100.00**
921Q5050	63-13-230-6	3000	120	95-130	150	5-50P	L5-30R/1	16.88	11.38	10.62	**1658.00**	**1540.00**

Portable Mini/Micro International Regulators

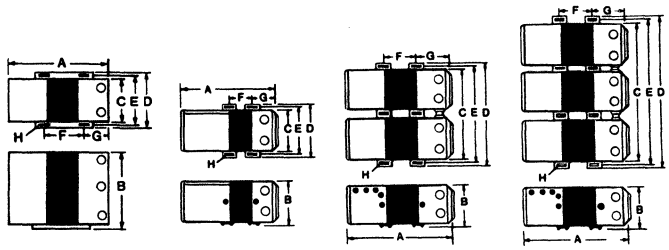
50 Hz Models†† (250 to 2000VA)

Stock No.	Mfr.'s Type	Max. Output VA Rating	Nominal Output Voltage	Weight (KG)	NEMA		Dimensions (CM)			EACH	
					Plug	Receptacle	A	B	C	1-4	5-9
921-5060	63-13-625-8	250	220/240	15.50	—	—	33.66	19.56	17.93	**394.00**	**375.00**
921-5070	63-13-650-8	500	220/240	20.00	—	—	41.27	21.60	21.59	**560.00**	**525.00**
921Q5080	63-13-710-8	1000	220/240	23.63	—	—	41.27	21.60	21.59	**808.00**	**751.00**
921Q5090	63-13-720-8	2000	220/240	53.18	—	—	41.27	27.94	26.34	**1378.00**	**1280.00**

Hard-Wired Mini/Micro Computer Regulators-60 Hz

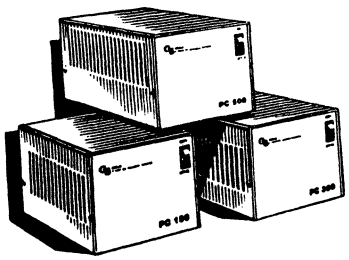
Listed to UL 1012-CSA-Certified to C22.2 No. 66

The Hard-Wired Minicomputer Regulator provides ultra isolation from both transverse and common mode noise for any type of load. It suppresses transients, protects against over loads and serves as a portable dedicated line. Output voltage is instantaneously regulated to ± 3% for voltage variations as great as ± 15%, supplying excellent brownout protection. The output waveshape is sinusoidal with less than 3% total harmonic distortion. Hard-wired models are designed for wall mounting. Regulator is built around a constant voltage sinusoidal transformer.



Stock No.	Mfr.'s Type	Max. Output VA Rating	Regulated Output Volts	Regulated Input Volts	Fig.	Weight (Lbs.)	Dimensions (Inches)								EACH	
							A	B	C	D	E	F	G	H	1-4	5-9
921-5091	63-23-112-4	120	120	1	A	15	8.62	5.19	3.31	4.00	3.50	3.00	2.44	.22 × .59	**226.00**	**212.00**
921-5092	63-23-125-4	250	120	1	A	27	9.88	7.44	4.50	5.38	4.75	4.12	2.19	.31 × .69	**296.00**	**275.00**
921-5093	63-23-150-8	500	120 or 208 or 240	1	B	37	12.69	6.44	7.78	9.00	8.12	5.62	3.06	.38 × .81	**450.00**	**420.00**
921-5094	63-23-175-8	750	120 or 208 or 240	1	B	52	13.69	6.44	7.78	9.00	8.12	5.62	3.06	.38 × .81	**571.00**	**530.00**
921-5095	63-23-210-8	1000	120 or 208 or 240	1	B	62	16.76	6.44	7.78	9.00	8.12	5.62	5.25	.38 × .81	**682.00**	**630.00**
921Q5096	63-23-215-8	1500	120 or 208 or 240	1	B	95	16.44	9.03	10.56	12.75	11.75	3.00	5.19	.44 × .69	**917.00**	**872.00**
921Q5097	63-23-220-8	2000	120 or 208 or 240	1	B	109	17.31	9.03	10.56	12.75	11.75	3.88	5.19	.44 × .69	**1161.00**	**1080.00**
921Q5103	63-23-230-8	3000	120 or 208 or 240	2	B	142	18.69	9.03	10.56	12.75	11.75	5.25	5.19	.44 × .69	**1663.00**	**1545.00**
921Q5105	63-23-250-8	5000	120 or 208 or 240	2	B	222	28.19	9.03	10.56	12.75	11.75	8.25	8.88	.44 × .69	**2600.00**	**2420.00**
921Q5106	63-28-275-8	7500	120 or 208 or 240	2	C	362	26.56	9.03	22.81	25.81	24.81	6.62	8.88	.44 × .69	**3197.00**	**2970.00**
921Q5107	63-28-310-8	10000	120 or 208 or 240	2	C	446	28.19	9.03	22.81	25.81	24.81	8.25	8.88	.44 × .69	**5205.00**	**4835.00**
921Q5108	63-28-315-8	15000	120 or 208 or 240	2	D	710	28.19	9.38	35.56	38.25	37.22	8.25	8.88	.56 × .69	**6403.00**	**5950.00**

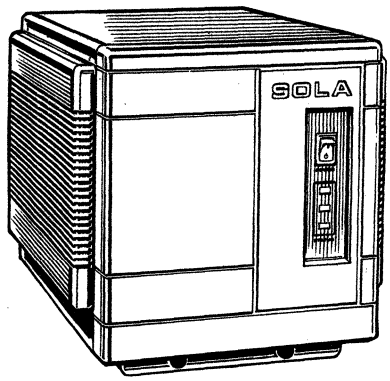
1 = 95-130 or 175-235 or 190-260 or 380-520. 2 = 175-235 or 190-260 or 380-520.



PC Regulators

Especially designed for PC applications, this series offers an economical advantage to power conditioning. These units have the same 120 dB common mode noise regulation and 60 dB transverse mode of the mini computer regulators. Suppresses transients, protects against overloads and serves as a portable dedicated line. Output voltage is instantaneously regulated to ± 5% for input voltage variations as great as ± 15%. Output wave is sinusoidal with less than 3% total harmonic distortion. Includes on/off switch and output receptacle. U.L. listed.

Stock No.	Mfr.'s Type	Maximum Output VA Rating	Nominal Output Voltage	Input Voltage Range	Shipping Weight	Dimensions			EACH
						L	W	H	
921-0150	PC150	150	120	95-130	14	9.00	6.30	5.40	**105.00**
921-0300	PC300	300	120	95-130	20	9.00	6.30	5.40	**125.00**
921-0500	PC500	500	120	95-130	28	12.00	6.50	5.50	**175.00**



EPC Series

► **The EPC provides triple stage filtering and meets ANSI and IEEE 587 category A and B specifications for withstanding surge voltages.**

► **Low output impedance is ideal for switching power supply loads, such as micro and mini computers.**

► **Response time for voltage correction is typically one cycle for a wide input voltage variation.**

► **The EPC has surge current capability for non-linear loads and disk drives.**

► **Typical AC to AC efficiency is 95%.**

► **The EPC has lighted indicators for system status monitoring.**

► **All EPC models conform to stringent UL, CSA and FCC requirements.**

The newest addition to the Sola power conditioning product line is the EPC series of electronic power conditioners, in sizes from 500 VA to 2kVA.

The EPC series features a **micro-processor** based design that maintains output voltage regulation to ±5% with an input variation of +15/−25%. To achieve dynamic regulation, along with common mode and transverse mode noise rejection, the system combines state-of-the-art electronic sensing and control with an isolated transformer.

Specifications

Compact Size. Measuring just 8.75″H × 8.5″W × 12″D, the EPC is available with output capacities of 500, 1000 and 2000 VA. All EPC models are UL-listed, CSA-certified, conform to FCC Class B requirements and feature a limited one-year warranty. The units are available in 60 Hz models rated for nominal outputs of 120, 208, and 240 volts. **Protection. Over/Under Voltage:** Automatic shutdown when input voltage exceeds +24/−40% of nominal line. **Overtemperature:** Automatic shutdown due to high temperature conditions. **Noise Rejection. Noise Band Range:** 1kHz to 1 mHz. **Common Mode Noise:** 140 db. **Transverse Mode Noise:** 60 db. **Warranty:** A limited 1-year warranty covers defects in material and workmanship. **Input. Voltage:** 120 Volt AC. **Frequency:** 60 Hz. **Input Voltage Range:** +15% to −25%. **Control:** AC enable switch with input protection. **Output. Nominal Voltage:** 120 Volt AC. **Frequency:** 60 Hz. **Voltage Regulation:** ±5%. **Distortion:** Less than ½% added to input line. **Power. Efficiency:** 95% typical. **Response Time:** 1 cycle typical. **Overload Capacity:** 1400% One cycle, 700% 10 cycles, 500% 1 second. **Crest Factor Loading:** Maximum 3% peak voltage drop with 3.0 crest factor load. **Dynamic Response:** Output voltage measured continuously and corrected every ½ cycle. **Surge Suppression. IEEE 587-80:** The EPC meets the intent of category A & B, 6000 volt spikes are suppressed to safe levels. **Status Indication. Front Panel Switch Off:** Red. **Over/Under Voltage Protection Activated:** Red. **Overcurrent:** Red. **Overtemperature:** Red. **Turn On Sequence in Process:** Yellow. **Input Voltage Below Specified Range:** Yellow. **Input Voltage Above Specified Range:** Yellow. **System Normal:** Green. **Environmental. Operating Ambient:** 0 to 40°C. **Storage Temperature:** −40°C to 75°C. **Relative Humidity:** 0-95% non-condensing. **Acoustical Noise:** Less than 45db at one meter. **Altitude:** 0 to 8,000 ft.

Model Selection Chart Portable Units

Stock No.	Mfr.'s Type	Model	VA	Input	Input Plug (NEMA)	Output	Output Receptacle (NEMA)	Shipping Weight (lbs.)	EACH
921-0001	66-100-01	EPC 150-60	500	120	5-15P to IEC 320/CEE-22	120	5-15R	26	**550.00**
921-0101	66-101-01	EPC 210-60	1000	120	5-15P to IEC 320/CEE-22	120	5-15R	43	**690.00**
921-1012	66-101-02	EPC 210-61	1000	208	6-15P to IEC 320/CEE-22	208	6-15R	43	**725.00**
921-1013	66-101-03	EPC 210-62	1000	240	6-15P to IEC 320/CEE-22	120/240	L14-20R, 5-15R	43	**725.00**
921-0201	66-102-01	EPC 220-60	2000	120	L5-30P Attached to EPC	120	L5-20R, 5-15R	50	**1175.00**
921-1022	66-102-02	EPC 220-61	2000	208	6-15P to IEC 320/CEE-22	208, 120	6-15R, 5-15R	50	**1235.00**
921-1023	66-102-03	EPC 220-62	2000	240	6-15P to IEC 320/CEE-22	120/240	L14-20R, 5-15R	50	**1235.00**

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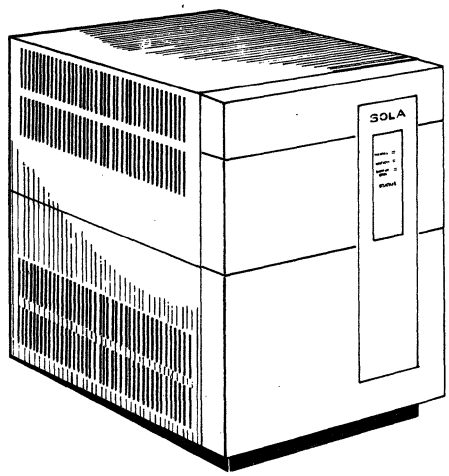
SOLA EPC Series 5-15 KVA

Specifications on 5-15 KVA Units are the same as shown above except as noted below. All 5-15 KVA Units are hardwired using a circuit breaker for input protection. Output connections are by terminal block.



Specifications

Input. Voltage: 120,208,240,480 V. **Frequency:** 60 Hz. **Input Voltage Range:** +15%/−25%. **Protection:** Input circuit breaker. **Connection:** Hardwired (terminal block). **Output Voltage:** 120, 120/208/240 V. **Frequency:** 60 Hz. **Voltage Regulation:** ±5%. **Distortion:** <1% THD added. **Output:** Hardwired (terminal block) or optional output receptacle panel. **Power Efficiency:** 96%. **Response Time:** 1 cycle typical. **Overload Capacity:** 1400%-one cycle, 700%-ten cycles, 500%-one second, 300%-ten seconds. **Crest Factor Loading:** Max. 3% peak voltage drop with 3:1 crest factor load. **Dynamic Response:** Output voltage corrected every half cycle. **Power Factor Range:** 0.6 leading or lagging. **Protection Over/Under Voltage:** Automatic shutdown when output voltage is over +12% or under −25% of the nominal voltage (manual restart). **Overtemperature:** Automatic shutdown for high temperature. **Overload:** Automatic shutdown if 125% overload 5 minutes. **Loss of Regulating Capability:** If unit loses its regulating capability the output will automatically bypass the internal regulating circuit without loss of isolation or filtering of spikes and surges.

Model Selection Chart*

Stock No.	Mfr.'s Type	Model	KVA	Input	Regulated Output Voltage	Shipping Weight (lbs.)	EACH
921Q1200	66-103-100-00	EPC 250-60	5	120	120	265	**3668.00**
921Q1210	66-104-200-00	EPC 310-61	10	208 or 240	120, 208, or 240	425	**5699.00**
921Q1215	66-104-400-00	EPC 310-63	10	480	120, 208, or 240	425	**5699.00**
921Q1220	66-105-200-00	EPC 315-61	15	208 or 240	120, 208, or 240	480	**7348.00**

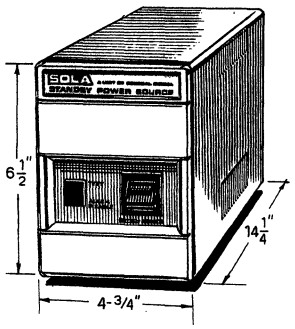
***Other units also available having optional output panels.**

Off Line Power Source

Economical off line power systems are designed to protect personal, micro, and minicomputers from AC line disturbances and failures. They provide clean, regulated AC power to critical loads when the commercial AC line fails or drops 15% below normal. The units contain a sealed, maintenance-free battery that will operate the inverter until the AC returns, or until you complete your computer activity.

When the AC is present, it supplies filtered power to the load and maintains the batttery in a charged condition. Equipped with 6-foot power cord with NEMA 5-15P plug for 60Hz, European or British standard for 50 Hz, and NEMA 5-15R duplex receptacle.

SPS-300 and SPS-450A Desk Top SPS



Designed specifically to protect desk top computers from blackouts, providing from 7 to 45 minutes of backup, more than ample for an orderly computer shutdown. Also provides primary protection against noise, surges, sags, and brownouts when on line. Lighted power on/off switch. **TEST/ALARM DISABLE switch** intermittant tone on fault, continuous tone prior to low-battery shutdown. Operates efficiently for light loads as well as its full 300VA rating. **Backup Time:** 5 min. at 200W, 15 min. at 100W, 30 min. at 60W, and 45 min. at 40W. Battery recharge time is 10 hrs. **Dimensions:** 6½″H × 4¾″W × 14¼″D. **Shipping weight:** 24 lbs. Four receptacles on back. 6 ft. line cord provided. Beige color. **Operating temperature:** 0-45°C; 0-10,000 ft. above sea level; 0-95% relative humidity. 3 Amp fuse, 80 joule 6500 Amp surge suppressor protection. 1 Amp DC charger. 120VAC/60 Hz single phase, 3 wire power cord (Nema 5-15P). **Battery and Charger:** 12 volt, 6 Amp hr., maintenance free sealed lead acid battery with 0.5 Amp maximum charging current. 13.7 volt DC charge float voltage (fully charged battery). 8-12 hr. typical recharge time. 30 Amp DC fuse; low-battery shutdown and battery overcharge protection.

Stock No.	Mfr.'s Type	Output Power (VA)	In/Out Volts (VAC)	EACH
921-1600	SPS-300	300	120	**389.00**
921-1601	SPS-450A	450	120	**489.00**

SPS-400, 800, 1200VA Units

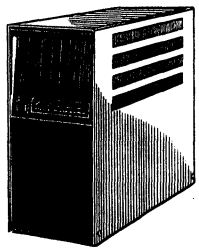
- **Noise and Transient Protection when the AC line is present. (40 dB minimum at 100 kHz)**
- **Fast Response, ¼ to ½ cycle, when the AC line fails.**
- **Inverter Overcurrent Protection, even into a short circuit.**
- **Simplified Installation and Operation, just plug it in and turn it on.**
- **Compact, Lightweight Design, with hands-off operation, including Maintenance-Free Battery.**
- **Relay Contact and Audible Alarm for user annunciation of AC line failure.**
- **U.L. listed.**
- **EMI/RFI Attenuation: Units meet FCC Docket 20780, Part 15, Subpart J, Class B (60 Hz units): VDE 0871, Level B (50 Hz units) conducted and radiated emmissions standard. (800VA and 1200VA units)**

The Sola SPS is an economical Off Line System designed to protect personal, micro, and minicomputers from AC line disturbances and failures. It provides clean, regulated AC power to your critical load when the commercial AC line fails or drops 15% below nominal. The unit contains a sealed, maintenance-free battery that will operate the inverter until the AC returns, or until you complete your computer activity. When the AC is present, the unit supplies filtered power to the load and maintains the battery in a charged condition.

SPECIFICATIONS. Mechanical. Operating Temp.: 0°C to 40°C. **Operating Humidity:** 0% to 95%, without condensation. **Operating Altitude:** 0 to 8000 ft. **Dimensions:** 15″H × 7″W × 18.5″D. **Alarm Relay:** Dry form C contacts through a ¼″ phone jack.

Dimensions

VA Types	Inches H	W	D
800VA	15	7	18.5
1200VA	16	8	19.5



Weight

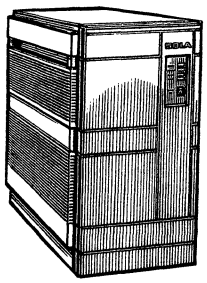
800VA — 100 lbs.
1200VA — 110 lbs.

The SPS has three modes of operation:
1. Normal: The load is supplied by the primary AC line. The rectifier/charger derives power from the primary AC line to float charge the battery.
2. Standby: The load is supplied by the inverter during a primary AC line failure. The battery supplies power to the inverter.
3. Recharge: The load is supplied by the primary AC line after its restoration. The rectifier/charger supplies DC power to recharge the battery.

Electrical. 120VAC Input: +10%, −15%, 60 Hz ±10%. **220/240VAC Input:** +10%, −15%, 50 Hz ±10%. **Output: 120VAC Output:** ±3%, 60 Hz ±1%. **220/240VAC Output:** ±3%, 50 Hz ±1%. **Sine Wave:** less than 5% T.H.D. 130% overload for 3 seconds. Current limited inverter for short circuit protection. Line to inverter transfer, 4 to 10 milliseconds at −15% of nominal voltage. Inverter to line retransfer, 2 to 4 milliseconds at −10% of nominal voltage. Noise attenuation at 10 kHz and above, 40 dB minimum at 100 kHz.

Stock No.	Mfr.'s Type	Output Power (VA)	Input/Output Voltage (VAC)	Input/Output Frequency (Hz)	Typical Reserve Time (Minutes) ½ Load	¾ Load	Full Load	EACH
921Q1620	SPS-400B*	400	220/240†	50	30	20	12	**779.00**
921Q1640	SPS-400C**	400	220/240†	50	30	20	12	**779.00**
921Q1650	SPS-800A	800	120	60	30	20	12	**829.00**
921Q1660	SPS-800B*	800	220/240†	50	30	20	12	**949.00**
921Q1670	SPS-800C**	800	220/240†	50	30	20	12	**949.00**
921Q1675	SPS-1200A***	1200	120	60	17	10	7	**1175.00**
921Q1680	SPS-1200B*	1200	220/240†	50	17	10	7	**1369.00**
921Q1685	SPS-1200C**	1200	220/240†	50	17	10	7	**1369.00**

* Equipped with British type plugs and outlets. ** Equipped with European type plug and outlet. *** SPS-120A is CSA certified to C22.2 No. 107. † Set for 240VAC instructions included for 220VAC. ‡ Designed exclusively for IBM, AT&T computer models.



SPS/R Series Regulating Standby Power Source

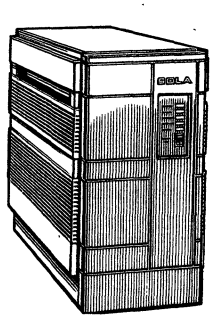
- **Regulation even when utility power is available.**
- **Computer interface (RS 232 or relay contacts).**
- **Suppresses ANSI/IEEE Class 'A' and 'B' waveforms to safe levels.**
- **Meets FCC emissons requirements.**
- **Transfer time of 1 millisecond typical.**
- **UL Listed, with CSA certified models available.**

SPS/R utilizes the latest technology and combines the functions of an **EPC** regulator and a Standby Power Source. It protects personal, micro, and minicomputers from virtually every type of power problem, from electrical noise to blackouts. While ordinary standby power sources "pass through" noise, frequency errors, and brownouts, the **SPS/R** has built-in regular to clean and adjust power before it reaches equipment. If the regulator can't adequately condition the power, the battery and inverter quickly take over.

Stock No.	Mfr.'s Type	Description	VA	Input Plug (NEMA)	Four Output Receptacles (NEMA)	Gross Weight	EACH
921Q9700	54-100	SPS/R 500	500	5-15P	5-15R	85 lbs.	**1286.00**
921Q9710	54-102	SPS/R 1000	1000	5-15P	5-15R	100 lbs.	**1849.00**
921Q9715	54-104	SPS/R 1500	1500	5-15P	5-15R	115 lbs.	**2309.00**

Mini-Ups/2 Uninterruptible Power Supply

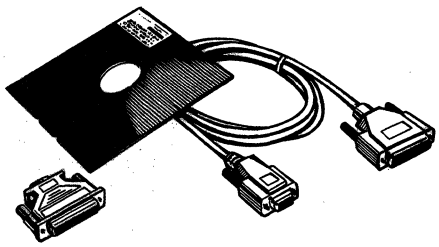
- **"True" on-line no-break UPS. (Inverter is on-line at all times)**
- **40,000 hours mean time between failure.**
- **Computer interface (RS232 or relay contacts).**
- **Suppresses ANSI/IEEE 587 Class "A" and "B" waveforms to safe levels.**
- **Meets FCC emissions requirements.**
- **UL Listed, with CSA certified models available.**
- **Low output impedance inverter can power full crest factor loads with minimum distortion and no output waveform "flat-topping."**
- **Attractive, modern, versatile enclosure matches officed decor.**



The Sola **MINI-UPS/2** is a self contained solution to **all** potential power problems. It stands between your critical load and the power line. It features a "no-break" static bypass to start high inrush loads. The internal circuitry is designed to operate with any type of load with minimal distortion, even with the switching power supplies found in personal computers. There is no need to "oversize" the unit for computer-type loads. This sophisticated, but conservative design is rated at 40,000 hours mean time between failure (MTBF). Both 500 and 1000 VA **MINI-UPS/2** models can be attached to external batteries for extended back-up time.

Stock No.	Mfr.'s Type	Description	VA	Input Plug (NEMA)	Four Output Receptacles (NEMA)	Gross Weight	EACH
921Q9800	58-100	UPS 500A	500	5-15P	5-15R (×4)	85 lbs.	**1885.00**
921Q9810	58-103	UPS 1000A	1000	5-15P	5-15R (×4)	145 lbs.	**2767.00**

Software

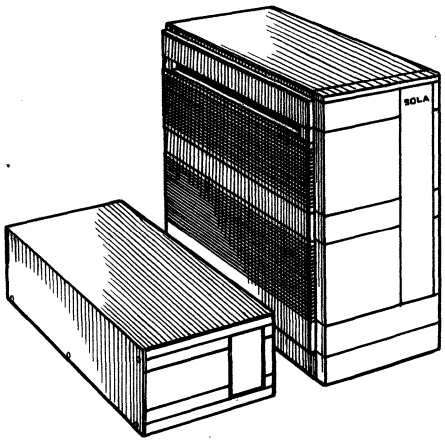


Sola's innovative new software allows your personal computer to directly communicate, via the RS-232 interface and optoisolator interface, with the 1 KVA and 1.5 KVA SPS/R models and the 1 KVA Mini-UPS/2. Providing you with on-screen information about power conditions, your PC becomes a real-time powerline monitor capable of warning you about potential problems. A special optoisolated interface with Sola software provides basic communication capabilities for the 500 VA SPS/R and UPS/2 models.

For 1 KVA and 1.5 KVA models
The RS-232 PC Interface Kit is a 5.25" floppy disk and an RS-232 cable with connectors to fit the 25-pin RS-232 port on the UPS/2 or SPS/R and the 9-pin RS-232 port on your PC. A 9-pin to 25 pin adapter is also included to allow compatibility with PC's. Three different programs are provided to handle communications with the Sola units. **WINDOW** is a program which runs in the background while you are using other PC software. **TERMINAL**, a terminal emulation program which allows you to check the operating conditions of the SPS/R or UPS/2 by typing in short commands which are sent out on the RS-232 interface (BV- battery voltage, IV-input voltage, etc.). **SOLASTAT**, retrieves a complete status report from the UPS/2 and the SPS/R in one transmission.
Stock 921-1310. Model 999-848 ..... **EACH 79.00**

For 500VA Units
The Optoisolator Kit allows an SPS/R 500 or Mini-UPS/2 500 to communicate with PC compatibles. Although the 500 VA models of the SPS/R and the Mini UPS/2 do not have RS-232 interfaces, the special cable and software provides a simple means to connect them to the serial port on your PC. A resident program, **SOLAMON**, displays the status of the UPS/2 and SPS/R in the corner of your screen. The Optoisolator PC Interface Kit includes a special interface cable compatible with 9-pin serial ports, a 9-pin to 25-pin connector adapter (for PC's which use 25-pin RS-232 ports), and the SOLAMON program disk (5.25" floppy).
Stock 921-1315. Model 999-849 ..... **EACH 79.00**

Battery Packs



Auxiliary battery packs for the SPS/R Series and the Mini-UPS/2 Series can be important additions to enhance your overall power protection. These free-standing battery packs greatly extend the total reserve time and thereby increase the level of safety for highly critical loads. The total operation time while under battery power demands as well as the charge present on the batteries when line power failure occurs. Choosing the optimum battery pack for your installation should take into account the frequency of power outages as well as the time necessary to backup the data files which must be protected. For extended operation, the largest battery packs (912-6028-1) can be 'daisy chained' together. Both battery packs have attractive housings which match the SPS/R and UPS/2 designs. The necessary cable to connect to the SPS/R or UPS/2 is included. Each model is UL Listed.

Specifications

Charger
912-6010-1: Charged by SPS/R or UPS/2.
912-6028-1: Built-in 300 W charger. This pack has a 6-foot line cord and a 5-15P plug

Voltage/Capacity
912-6010-1: 60 VDC/10 amp-hr
912-6028-1: 60 VDC/31 amp-hr

Conformance
Both models UL listed.
921Q1340. Model 912-6010-1 ..... **EACH 549.00**
921Q1345. Model 912-6028-1 ..... **EACH 999.00**

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Selection Chart

SPS/R Add-On Battery Pack Capacity

Mfr.'s Type	Used With	Load vs. Reserve Time (Minutes)				L x W x H (Inches)	Approximate Weight (Lbs.)
		1000 W	750 W	500 W	200 W		
912-6010-1	SPS/R 1000	29	40	61	135	23 x 10 x 6.2	75
912-6028-1	SPS/R 1000	66	91	137	297	22 x 11 x 23	150
912-6010-1	SPS/R 1500	17	24	38	90	23 x 10 x 6.2	75
912-6028-1	SPS/R 1500	41	57	87	200	22 x 11 x 23	150

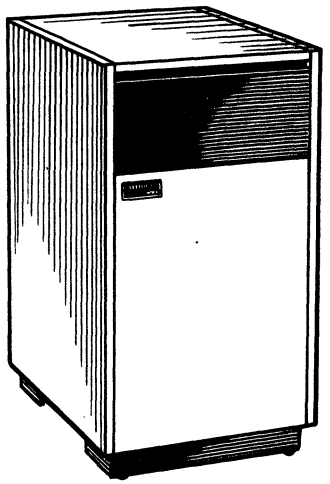
Mini-UPS/2 Add-On Battery Pack Capacity

Mfr.'s Type	Used With	Load vs. Reserve Time (Minutes)				L x W x H (Inches)	Approximate Weight (Lbs.)
		500 W	375 W	250 W	100 W		
912-6010-1	UPS/2-500	45	60	90	180	23 x 10 x 6.2	75
912-6028-1	UPS/2-500	140	190	275	540	22 x 11 x 23	150
(2)912-6028-1	UPS/2-500	305	410	580	1135	(2)22 x 11 x 23	300

Mini-UPS/2 Add-On Battery Pack Capacity

Mfr.'s Type	Used With	Load vs. Reserve Time (Minutes)				L x W x H (Inches)	Approximate Weight (Lbs.)
		1000 W	750 W	500 W	200 W		
912-6010-1	UPS/2 1000	25	35	50	110	23 x 10 x 6.2	75
912-6028-1	UPS/2 1000	65	90	130	265	22 x 11 x 23	150
(2)912-6028-1	UPS/2 1000	135	185	265	525	(2) 22 x 11 x 23	300

Electronic UPS 57 Series



Ranging in capacity from 5 KVA to 10 KVA, the Electronic 57 Series are true, "no break" UPS designs which derive their power from batteries at all times. Although reliable power protection is obviously the most important feature, the significant advantages of the Electronic 57 become obvious when selecting and sizing the proper unit to be installed. Unlike most power protection systems, the Electronic 57 can handle a wide range of input and output voltages.

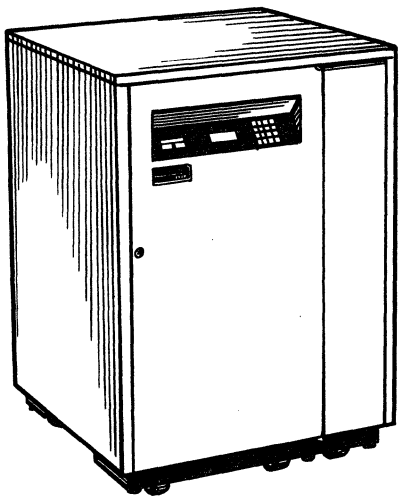
Specifications
Voltage: User selectable, 120/208/240 V 1ϕ(5 KVA model), 120/208/240/480 V 1ϕ(8 KVA & 10 KVA models). **Voltage Range:** + 15%/ – 20%. **Frequency:** 60 Hz ± 3 Hz (for phase lock), 60 Hz ± 6 Hz without bypass. **Power Factor:** 0.8 minimum (high power factor). **Protection:** AC input circuit breaker. **Voltage:** 120/208/240 V. **Voltage Regulation:** ± 1%. **Dynamic Load Response:** ± 10% maximum voltage change for 100% load step, recovery within two cycles. **Output Power Factor:** 5,8, or 10 KVA at 0.8 PF. **Output Distortion:** 5% THD, 3% maximum, any single harmonic. **Overload Capacity:** 110% continuous. **Common Mode Noise Rejection:** 140 dB, 10 Hz to 1 MHz. **Transverse Mode Noise Rejection:** 60 dB at 100 KHz (even in bypass). In the UPS mode the transverse mode noise rejection is much greater. **Protection:** The current limited inverter is fully protected against shorts and overloads. The inverter is also protected from thermal overloads and disconnects the battery at low DC voltages. **Battery Type:** Maintenance-free, sealed lead acid. **Battery Recharge Time:** Approx. 10 times the discharge time. **DC Voltage:** 105-135 VDC (5 KVA), 200-270 VDC (8 KVA &10 KVA). **Maximum DC Inverter Current at Full Load and Low DC Voltage:** 5 KVA: 44 amps. 8 KVA: 36 amps. 10 KVA: 45 amps. **Protection:** Battery circuit breaker. **Charger Current Rating:** 5 A charge, 100 mA to 1 A trickle charge. **Protection:** Electronic overload and short circuit protection. **Standard Interface Alarm Contacts:** 'C' contact closure for UPS on battery or AC input failure, UPS on bypass, or low battery. A bypass fault contact is included on the 8 KVA and 10 KVA models. Contacts are rated at 24 VDC or 24 VAC at 1 A. **Optional Interface** Full RS-232 interface. See the Interact 57 Series standard interface and controls. **Environmental Operating Temp:** 0°C to 40°C **Storage Temp:** – 25°C to 70°C **Battery Temp:** 18°C to 28°C for optimum life and performance. **Humidity:** 0-95% relative humidity without condensation. **Altitude:** 0-10000 feet. **Acoustic Noise:** 55 dBA at 5 ft. from the front of the UPS. **Heat Dissipation (worst case, including battery charger at full output): 5 KVA:** 3420 BTU per hour. **8 KVA:** 5470 BTU per hour. **10 KVA:** 6840 BTU per hour. **Conformance.** UL Listed to 1012. Meets FCC docket 20780, Part 15, Subpart J, Class A for conducted and radiated emissions. Exceeds the intent of ANSI/IEEE C62.41 1980 class A and B (formerly IEEE 587-1980).

Stock No.	Mfr.'s Type	KVA Rating	Output Voltage	Input Voltage	Maximum Input Current (amps)	L×W×H (inches)	Approx. Wt. (lbs)	EACH
921Q1350	57-100-01	5.0	120/208/240	120 or 208 or 240	78 or 45 or 39	32 × 25 × 46	520	**9640.00**
921Q1355	57-101-01	8.0	120/208/240	120 or 208 or 240 or 480	125 or 72 or 63 or 32	32 × 25 × 46	925	**12840.00**
921Q1360	57-102-01	10.0	120/208/240	120 or 208 or 240 or 480	156 or 90 or 78 or 39	32 × 25 × 46	970	**15200.00**

Optional Battery Configurations

Stock No.	Mfr.'s Type	UPS Model (KVA Rating)	Full Load Reserve Time (minutes)	Nominal DC Voltage	Physical Configuration	EACH
921Q1365	912-510	5	10	120	Note 1	**994.00**
912Q1370	912-812	8 or 10	12(8KVA) or 10(10KVA)	240	Note 2	**2700.00**
921Q1375	912-1010	8 or 10	12(8KVA) or 10(10KVA)	240	Note 2	**2700.00**

Notes: 1. Internal to the UPS. Must be ordered with the UPS; Sola will install. 2. Attaches to the side of the UPS. Must be ordered with the UPS; Sola will install. Adds 8 inches of width, making the UPS cabinet dimensions 32" × 33" × 46". Adds approximately 575 lbs.



Interact 57 Series—10 to 25 KVA

The Interact 57 Series is easily the most advanced new UPS design to be introduced in years. No other true UPS can match it in power efficiency or advanced features. Designed around a patented online bidirectional PWM converter/inverter, the Interact 57 Series is rated to handle sensitive, three phase loads from 10 KVA to 25 KVA. The converter works interactively with a built-in electronic line conditioner to maintain the output voltage regulation at an exceptional ± 2% while subtracting just enough power to keep the batteries at full charge. This translates to an AC-to-AC operation efficiency as high as 95%!

Specifications
Voltage: Nominal 208Y/120 3ϕ, + 10%/ – 20%. **Frequency:** 60 Hz ± 3 Hz. **Power Factor:** 0.9 minimum (high power factor). **Distortion:** Input current distortion is exceptionally low; less than 5% with full resistive load. **Protection:** AC input circuit breaker. **Output Voltage:** 208Y/120 3ϕ, 120 1ϕ from any phase to neutral. **Voltage Regulation:** ± 2%. **Dynamic Load Response:** ± 5% maximum voltage change for 100% load step, recovery within two cycles. **Output Power:** 10, 18.75, or 25 KVA at 0.8 PF. **Output Distortion:** 5% THD (even with full crest factor load), < 3% any single harmonic. Approx. 2% THD with resistive load. **Overload Capacity:** 115% (continuous), 300% (10 seconds), 1000% (one half cycle). **Common Mode Noise Rejection:** > 140 dB, 10 Hz to 1 MHz. Total magnetic isolation through a shielded isolation transformer. **Transverse Mode Noise Rejection:** > 60 dB at 100 KHz. **Protection:** The current limited converter/inverter is fully protected against shorts and overloads. There is also thermal protection and a disconnect for low DC voltage. **Battery Type:** 912 Series batteries are sealed, maintenance-free, lead acid. **Battery Recharge Time:** Approx. 10 times the full load discharge time. **DC Voltage:** 200-270 VDC. **Maximum DC Inverter Current at Full Load and Low DC Voltage: 10 KVA:** 46 amps. **18.75 KVA:** 86 amps. **25 KVA:** 115 amps. **Protection:** Low DC voltage shutdown and battery circuit protection. **Charger Current Rating:** 5 A charge, 100 mA to 1 A trickle charge. **Protection:** Electronic overload and short circuit protection. **Standard Interface Alarm Contacts:** 'C' contact closure for UPS on battery or AC input failure, UPS on bypass, or low battery. A bypass fault contact is included on the 8 KVA and 10 KVA models. Contacts are rated at 24 VDC/24 VAC at 1A. **RS-232C:** Serial computer interface via RS-232 connector on the UPS. **Environmental Operating Temp:** 0°C to 40°C. **Storage Temp:** – 25°C to 70°C **Battery Temp:** 18°C to 28°C for optimum life and performance. **Humidity:** 0-95% relative humidity without condensation. **Altitude:** 0-10000 feet. **Acoustic Noise:** 57 dBA at 5 ft. **Heat Dissipation: 10 KVA:** 1745 BTU per hour. **18.75 KVA:** 3270 BTU per hour. **25 KVA:** 4355 BTU per hour. **Conformance** UL listed to 1012. Meets FCC docket 20780, Part 15, Subpart J, Class A for conducted and radiated emissions. Exceeds the intent of ANSI/IEEE C62.41 1980 class A and B (formerly IEEE 587-1980).

Stock No.	Mfr.'s Type	KVA Rating	Output Voltage[4] 3ϕ/Line to Neutral	Input Voltage[3, 4] 3ϕ/Line to Neutral	Maximum Input Current[2] (amps, line to neutral)	L×W×H (inches)	Approx. Wt. (lbs)	EACH
921Q1380	57-103-01	10.00	208Y/120[1]	208Y/120	40 per phase	38 × 25 × 46	675	**21800.00**
921Q1385	57-104-01	18.75	208Y/120[1]	208Y/120	72 per phase	38 × 25 × 46	745	**24790.00**
921Q1390	57-105-01	25.00	208Y/120[1]	208Y/120	98 per phase	38 × 25 × 46	835	**28682.00**

Notes: 1. The input to the UPS **must** be a Wye (A phase, B phase, C phase, and neutral). 2. This is worst case input current. The installer must feed the UPS with the proper size ampacity source, taking into consideration the maximum input amps and applying this to local and national electric codes. 3. Since the UPS regulates line-to-line neutral as well as phase-to-phase, the UPS can be loaded simultaneously with 120 V single phase loads, 208 V single phase loads, and 208 V three phase Wye loads. For 208 V three phase delta loads with or without combination loads(any one or more of 120 V single phase loads, 208 V single phase loads, and 208 V three phase loads), the UPS output must be balanced 4 Special units with 480 Wye/277 input or 480 Wye/277 output are available at extra cost, contact factory for information.

Optional Battery Configurations[1]

Stock No.	Mfr.'s Type	UPS Model (KVA Rating)	Full Load Reserve[2] Time (minutes)	Physical Configuration	EACH
921Q1390	912-1015	10.00	15	Note 3	**3125.00**
921Q1395	912-1807	18.75	7	Note 4	**3705.00**
921Q1397	912-2515	25.00	15	Note 5	**5190.00**

Notes: 1. The 912 Series battery cabinets listed are seismic rated for California installations. 2. The reserve times stated are approximate with full resistive load, at room temperature, with a fully charged battery. 3. Factory installed on side of 10 KVA UPS. Adds 8 inches in width and 570 lbs. Must be ordered with UPS. 4. Factory installed on side of 18.75 KVA UPS. Adds 8 inches in width and 570 lbs. Must be ordered with UPS. 5. Matching battery cabinet that is separate from the UPS. Dimensions are 32" × 25" × 46" and the approximate weight is 1000 lbs. (each 912-2515).

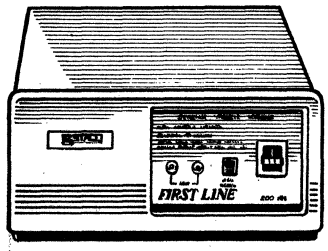
Standby Power Systems

Battery back-up protection against power outage and blackouts

- ► For personal Computers and Microcomputers
- ► Three Convenient Sizes
- ► Attractive, Portable, Compact Design
- ► Economical
- ► Easy installation
- ► Multiple Outlets
- ► Quiet Operation
- ► Simple Status Lights
- ► Audible Alarm

300 VA POWER OUTPUT. Model Number: SPS-111-600-3. **Electrical Input. Voltage (±10%):** 120 VAC. **Frequency:** 60 Hz*. **Electrical Output. Normal Voltage:** 120 VAC. Noise filter and surge suppressors limit noise and transients. **Critical Bus Voltage (±5%):** 115 VAC. **Frequency:** 60 Hz ± 1%. **Waveform:** Step Wave. **Maximum Load:** 300 VA. **Minimum Load:** 30 VA. **Controls and Indicators. Normal Operations:** Green LED. **AC Power Failure:** Red blinking LED and pulsing sonic alarm. **Low Battery:** Continuous red LED and continuous sonic alarm* for one minute prior to total loss of battery power. **Battery. Transfer time:** 1/2 cycle or 4 to 8 mSec (typical). **Battery:** Rechargeable, sealed Lead-Calcium, maintenance free. **Battery Life:** 3 years (typical). **Battery Reserve. Quarter Load:** 60 minutes. **Half Load:** 30 minutes. **Three Quarter Load:** 20 minutes. **Full Load:** 15 minutes. **Mechanical. Size (inches):** 12 × 5.5 × 16. **Weight (pounds):** 36. **Connectors. Input:** 6 foot, 3 conductor, 18 AWG, plus NEMA, 5-15P. **Output:** 3 NEMA, 5-15R Receptacles.

500 VA POWER OUTPUT. Model Number: SPS-111-600-5. **Electrical Input. Voltage (±10%):** 120 VAC. **Frequency:** 60 Hz*. **Electrical Output. Normal Voltage:** 120 VAC. Noise filter and surge suppressors limit noise and transients. **Critical Bus Voltage (±5%):** 115 VAC. **Frequency:** 60 Hz ± 1%. **Waveform:** Step Wave. **Maximum Load:** 500 VA. **Minimum Load:** 50 VA. **Controls and Indicators. Normal Operations:** Green LED. **AC Power Failure:** Red blinking LED and pulsing sonic alarm. **Low Battery:** Continuous red LED and continuous sonic alarm* for one minute prior to total loss of battery power. **Battery. Transfer time:** 1/2 cycle or 4 to 8 mSec (typical). **Battery:** Rechargeable, sealed Lead-Calcium, maintenance free. **Battery Life:** 3 years (typical). **Battery Reserve. Quarter Load:** 40 minutes. **Half Load:** 20 minutes. **Three Quarter Load:** 13 minutes.



SPS-111-600-3

Full Load: 10 minutes. **Mechanical. Size (inches):** 12 × 5.5 × 16. **Weight (pounds):** 51. **Connectors. Input:** 6 foot, 3 conductor, 18 AWG, plus NEMA, 5-15P. **Output:** 3 NEMA, 5-15R Receptacles.

1000 VA POWER OUTPUT. Model Number: SPS-111-601-0. **Electrical Input. Voltage (±10%):** 120 VAC. **Frequency:** 60 Hz*. **Electrical Output. Normal Voltage:** 120 VAC. Noise filter and surge suppressors limit noise and transients. **Critical Bus Voltage (±5%):** 115 VAC. **Frequency:** 60 Hz ± 1%. **Waveform:** Step Wave. **Maximum Load:** 1000 VA. **Minimum Load:** 100 VA. **Controls and Indicators. Normal Operations:** Green LED. **AC Power Failure:** Red blinking LED and pulsing sonic alarm. **Low Battery:** Continuous red LED and continuous sonic alarm* for one minute prior to total loss of battery power. **Battery. Transfer time:** 1/2 cycle or 4 to 8 mSec (typical). **Battery:** Rechargeable, sealed Lead-Calcium, maintenance free. **Battery Life:** 3 years (typical). **Battery Reserve. Quarter Load:** 32 minutes. **Half Load:** 16 minutes. **Three Quarter Load:** 11 minutes. **Full Load:** 8 minutes. **Mechanical. Size (inches):** 12 × 5.5 × 16**. **Weight (pounds):** 80. **Connectors. Input:** 6 foot, 3 conductor, 18 AWG, plus NEMA, 5-15P. **Output:** 3 NEMA, 5-15R Receptacles.

*50 Hz available upon request. **Total package size of two identical modules. **Specifications subject to change without notice.**

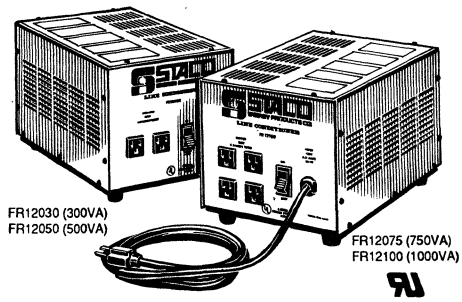
Stock No.	Model No.	Output	EACH
927Q9500	SPS-111-600-3	300 VA	**650.00**
927Q9550	SPS-111-600-5	500 VA	**825.00**
927Q9600	SPS-111-601-0	1000 VA	**1325.00**

FR Series Computer Grade Portable Line Conditioners

Used On:

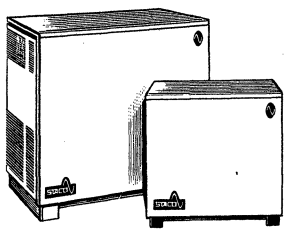
- ► Word Processors
- ► Electronic Cash Registers
- ► Point-of-Sale Terminals
- ► Communications Equipment
- ► Micro Computers
- ► Emergency Medical Equipment
- ► Mini Computers
- ► Electronic Scales
- ► Electronic Security Systems
- ► Micro Processors
- ► Data Terminals

Lightweight and user friendly with 6′ 3-wire ground plug for simple installation. These UL listed, convection cooled units are suitable for small offices, retail business and labs. Ferroresonant line conditioners protect your sensitive electronic equipment against those costly and adverse effects of power line noise, transients, voltage fluctuations and brownouts (i.e. system malfunction, memory loss, erroneous data, and unexplained errors.)



Stock No.	Mfr.'s Type	Power Output VA Rating	Input Voltage (range)	Output Voltage	Voltage Regulation	Frequency	Outlets	Dimensions H × W × D	Weight (lbs.)	EACH
927-8892	FR12030	300	95-130 VAC	120 VAC	±3%	60 Hz	2	8″ × 9″ × 14″	30	**360.00**
927-8894	FR12050	500	95-130 VAC	120 VAC	±3%	60 Hz	2	8″ × 9″ × 14″	37	**500.00**
927-8896	FR12075	750	95-130 VAC	120 VAC	±3%	60 Hz	4	8″ × 9″ × 14″	47	**635.00**
927-8898	FR12100	1000	95-130 VAC	120 VAC	±3%	60 Hz	4	8″ × 9″ × 14″	30	**700.00**

EVR Series Line Conditioners



Reliable, accurate, and highly efficient electronic line conditioners for instant response to voltage fluctuations. Protects computer systems and electronic equipment from voltage surges, sags, and brownouts. Each EVR includes a control assembly, power module, tapped autotransformer, and input circuit breaker, all packaged in an attractive, compact enclosure. Choose from three series, depending on level of protection needed. **SPECIFICATIONS. Efficiency:** 98% minimum. **Line Voltage Regulation:** ±3.3% EVR 300 Series; ±5.0% EVR 500 Series; ±7.0% EVR 700 Series. **Load Regulation:** Less than 1% from no load to full load. **Response Time:** 1/2 cycle typical. **Output Impedance:** Less than 2% full load impedance. **Output Distortion:** No spikes; adds less than 0.1% total harmonic distortion. **Operating Frequency:** 47-63 Hz. **Operating Temperature:** 0°C to 50°C. **Surge Rating:** 100% overload for 10 seconds; 500% overload for 10 cycles.

Size Table

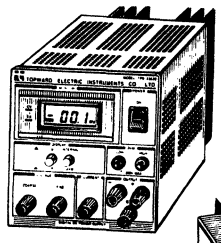
Size	Height	Width	Depth
A	6.61″	8.38″	9.00″
B	6.61″	8.38″	10.00″
C	6.61″	8.38″	11.00″

Stock No.	Mfr.'s Type*	Power Output (KVA)	Output Voltage (Volts)	Input Voltage Range (Nominal Input) (Volts)	Size (See Table)	Wt. (Lbs.)	EACH
927Q8800	EVR312101	1.0	120 ± 3.3%	109-131 (120)	A	25	**1165.00**
927Q8805	EVR312102	2.0	120 ± 3.3%	109-131 (120)	A	35	**1165.00**
927Q8810	EVR312104	4.0	120 ± 3.3%	109-131 (120)	B	40	**1615.00**
927Q8835	EVR512101	1.5	120 ± 5.0%	96-126 (120)	A	35	**920.00**
927Q8840	EVR512102	2.5	120 ± 5.0%	96-126 (120)	B	40	**1395.00**
927Q8845	EVR512105	5.0	120 ± 5.0%	96-126 (120)	C	50	**2415.00**
927Q8880	EVR712102	2.0	120 ± 7.0%	88-128 (120)	B	40	**1165.00**
927Q8885	EVR712104	4.0	120 ± 7.0%	99-128 (120)	C	50	**1615.00**

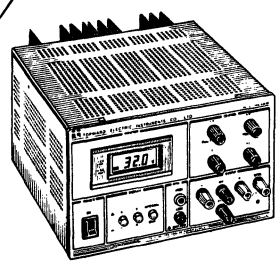
*Portable units also available through 3 kVA

Digital DC Power Supplies

- **Fully Variable Voltage and Current Controls**
- **Constant Voltage (CU) and Constant Current (CC) Modes**
- **3½ Auto-Range Digital Monitor for V or Fix-Range for A of Either Main Output**
- **Triple Output with ± Tracking and 5V/3A**
- **Use as a DVM w/DC ± 199.9 mV, ± 19.99 V, ± 199.9 V 4 Auto-Ranges**
- **3½ Auto-Range Digital Monitor for V or Fix-Range for A**
- **Use as a External DVM w/DC ± 199.9 mV, ± 19.99 V, ± 199.9 V 4 Auto-Ranges**
- **CV and CC Indication**



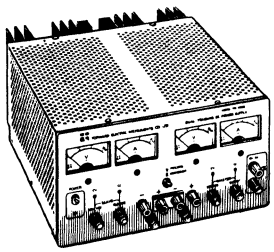
TPS-2000D

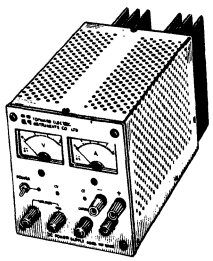


TPS-4000D SERIES

Common Specifications. Ripple and Noise: CV 0.5 mV rms or 4 mV p-p; CC 0.5 mA rms or 4 mA p-p. **Line Regulation:** CV 0.02% +2 mV; CC 0.02% +250 μA. **Load Regulation:** CV 0.02% +2 mV; CC 0.02% +500 μA. **Output Impedance:** 5 mΩ +2 μH. **Programming Speed (0.5%-9.5%):** UP NL 400 mS FL 600 mS; Down NL 2.5S FL200 mS. **Power:** 115 V/230 V ± 10%, 50/60 Hz. **TPS-2000 Series Specifications. Dimensions:** 4.92 × 5.51 × 11.81″ (125 × 140 × 300 mm). **Weight:** 9.04 lbs. (4.1 kg). **Accessory:** ACS-002x1 banana clip. **TPS-4000 Series Specifications. Tracking Error:** ± (0.2% +5 mV). **5V/3A Output. Voltage:** 5 V ±5% (fixed). **Current:** 3 A (max.). **Ripple and Noise:** 2 mV rms. **Regulation:** 0.1% +5 mV. **Dimensions:** 9.84 × 5.51 × 14.29″ (250 × 140 × 363 mm). **Weight:** 19.62 lbs. (8.9 kg) **Accessory:** ACS-002x2 banana clip.

668-2304. Model TPS-2302D. ± 0-30V/-02A ..... **EACH 270.00**
668-2305. Model TPS-2303D. ± 0-30V/0-3A ..... **EACH 295.00**
668-4301. Model TPS-4302D. 30V/2A, X2 5V/3A ..... **EACH 450.00**
668-4304. Model TPS-4303D. 30V/3A, X2 5V/3A ..... **EACH 525.00**





Regulated DC Power Supplies

Common Specifications. Ripple and Noise: CV 0.5 mV rms or 4 mV p-p; CC 0.5 mA rms or 4 mA p-p. **Line Regulation:** CV 0.02% +2 mV; CC 0.02% +250 μA. **Load Regulation:** CV 0.02% +2 mV; CC 0.02% +500 μA. **Output Impedance:** 5 mΩ +2 μH. **Programming Speed (0.5%-9.5%):** UP NL 400 mS FL 600 mS; Down NL 2.5S FL200 mS. **Power:** 115 V/230 V ± 10%, 50/60 Hz. **TPS-2000 Series Specifications. Dimensions:** 4.92 × 5.51 × 11.81″ (125 × 140 × 300 mm). **Weight:** 9.04 lbs. (4.1 kg). **Accessory:** ACS-002x1 banana clip. **TPS-4000 Series Specifications. Tracking Error:** ± (0.2% +5 mV). **5V/3A Output. Voltage:** 5 V ±5% (fixed). **Current:** 3 A (max.). **Ripple and Noise:** 2 mV rms. **Regulation:** 0.1% +5 mV. **Dimensions:** 9.84 × 5.51 × 14.29″ (250 × 140 × 363 mm). **Weight:** 19.62 lbs. (8.9 kg) **Accessory:** ACS-002x2 banana clip.

Stock No.	Mfr.'s Type	Voltage/ Current	EACH
668-2306	2306*	30V/6A	**385.00**
668-2603	2603*	60V/3A	**390.00**
668-4302	4302	I 30V/2A, 5V/3A	**395.00**
668-4303	4303	I 30V/3A, 5V/3A	**470.00**
668-4306	4306*	I 30V/6A	**695.00**
668-2203	2203	20V/3A	**230.00**
668-2302	2302	30V/2A	**230.00**
668-2303	2303	30V/3A	**250.00**
668-2601	2601	60V/1A	**235.00**

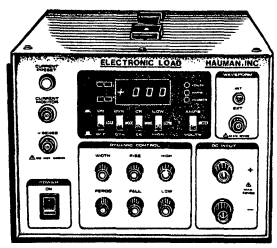
*Slightly different specifications and case sizes.

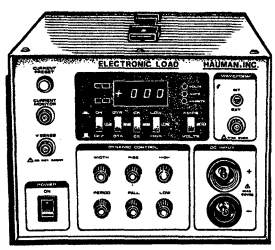
11

Multi-Function Electronic Loads

Features

- **Static and dynamic loading operation**
- **Constant resistance (CR) and constant current (CC) modes**
- **Presettable dynamic current waveform with independent control of rise and fall time, pulse width and period high and low current levels.**
- **3½ digit LED voltage and current display**
- **0-5 V proportional current waveform monitor**
- **Optional digital I/O control interface**
- **External, arbitrary waveform input (2 A/μS slew rate maximum, DC-20 KHz)**
- **Remote voltage sensing capability**
- **Protections against over-power, over-current, over-voltage over-temperature, and reverse polarity**
- **Multiple units paralellable to increase power/current capacity**
- **Advanced power MOSFET design**
- **Bench use**





The series consists of four models **EL-100, EL-150, EL-200, EL-250** with maximum current ratings of 20 A, 30 A, 40 A, 50 A, respectively. Operating input voltage range is 3-60 VDC for all models. Voltage and current values are displayed on a 3½ digit, autoranging panel meter. LED indicators show complete state of the instrument. Front panel controls allow the user to preset input static current, or dynamic current with fully independent adjustments of period and width, rise and fall time, high and low current levels. Operating mode can be in Constant Current or Constant Resistance. The instrument is fully protected against over-power, -voltage, -current, -temperature, and reverse voltage. Current monitor connector provides the user with a mean of displaying the current waveform response on an oscilloscope. Multiple loads can be paralleled for increased power requirement.

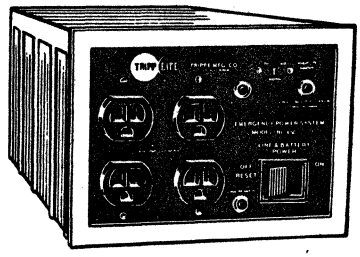
External analog control is possible with a 0.5 VDC arbitrary waveform input of 0-20 KHz and maximum slew rate of 2 A/μS. Digital I/O option allows full control of mode settings, current setting, load on/off, fault reporting.

Stock No.	Mfr.'s Type	Voltage/ Current	EACH
668-6100	EL-100	3-60 V/0-20 A	**895.00**
668-6150	EL-150	3-60 V/0-30 A	**960.00**
668-6200	EL-200	3-60 V/0-40 A	**1030.00**
668-6250	EL-250	3-60 V/0-50 A	**1095.00**

BC Series Battery Backup Systems (LAN Compatible)

- ► 2 Millisecond Synchronized Phase Locked Transfer
- ► Brownout Protection
- ► No Installation Required
- ► Larger Batteries for Longer Backup Times
- ► Built-in Spike and EMI + RFI Suppression
- ► Audible AC Line Failure Alarm

Economical Battery Backup Systems designed to protect desktop computers and other sensitive electronic equipment from power failures, low voltage and AC transients. Inverter is synchronized and phase locked to incoming AC power. This allows the smoothest possible crossover to and from inverter power. All units feature maintenance free battery, audible alarm, brownout protection @ 103 VAC and built-in spike and line noise suppression. **2 Year Warranty. Made in USA.**

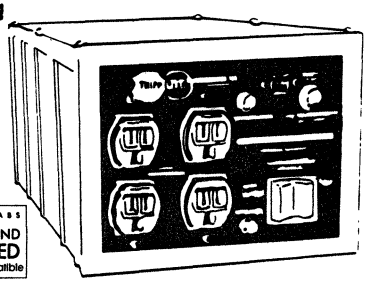


BC 1200

Stock No.	Mfr.'s Type	Output Capacity Watts	Built-in Battery A.H.	Backup Time @ 1/2 Load (mins.)	Size—Ins. H × W × D	Weight Lbs.	EACH
575-0200	BC 200	200	10	25	5 1/4 × 8 3/4 × 13 1/2	14	249.00
575-0325	BC 325	325	28	55	5 1/4 × 8 3/4 × 13 1/2	34	349.00
575-0410	BC 450	450	28	34	5 1/4 × 8 3/4 × 13 1/2	39	459.00
575-0412	BC 750	750	38	36	10 1/2 × 11 1/2 × 17 1/2	62	649.00
575Q0413	BC 1200	1200	60	34	10 1/2 × 11 1/2 × 17 1/2	83	949.00
575Q0425	BC 2000	2000	2/60	38	2/10 1/2 × 11 1/2 × 17 1/2	143	1795.00
575Q4010	BC 4000	4000	4/60	40	11 × 22 × 17 1/2	341	3350.00
575Q6200	TE 450	450	60	75 + *	10 1/2 × 11 1/2 × 17 1/2	79	699.00

*External Battery Hookup Allows Unlimited Backup Time, Order External Battery Case Model BP-260 (pg. 391)

BC450 LAN



NOVELL LABS TESTED AND APPROVED NetWare® Compatible

LAN Specific Battery Backup

- ► Supports LAN systems UPS monitoring function to allow unattended system shutdown
- ► Larger batteries for longer shutdown times
- ► ISOBAR surge and noise filters built-in
- ► Ideal for unattended file servers
- ► 2 year warranty

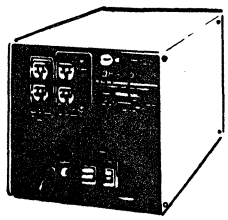
All Tripp Lite battery backup systems are compatible with local area networks. With units from 200 to 4000 watts, there's a perfectly sized unit to back-up your file server and work stations. In addition, LAN specific battery backup systems feature interface port and cabling to support your network's UPS monitoring function and provides for orderly, automatic network shutdown. Approved for use with Novell, Altos, 3Com, UNIX. **Transfer Time msec.:** 2. **Alarm with Reset:** Yes. **Battery Charge Rate:** 2A.

Stock No.	Mfr.'s Type	Output Capacity Watts	No. of AC Outlets	Backup Time @ 1/2 Load	Weight Lbs.	Current Draw @ Full Load	EACH
575Q0450	BC450 LAN	450	4	30	39	37A	499.00
575Q0750	BC750 LAN	750	4	35	62	60A	699.00
575Q6100	BC1200 LAN	1200	4	35	83	85A	999.00
575Q2010	BC2000 LAN	2000	4	32	143	85A	1795.00

Omnipower

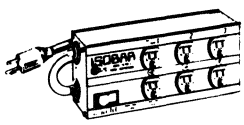
Battery Backup and Line Stabilizer in One Package

Unlike most backup systems that switch to battery power during low voltage conditions, OMNIPOWER automatically adjusts low voltage to 120 VAC. Regulation feature eliminates nuisance equipment shutdowns caused by brownouts. OMNIPOWER also contains BC Series battery backup (see above) for emergency power in the event of a total power loss. Built-in AC spike and noise filter completes the protection. 2 Year Warranty. **Transfer Time msec.:** 5. **Alarm with Rest:** Yes. **Battery Charge Rate:** 2A.



OMNI-1200

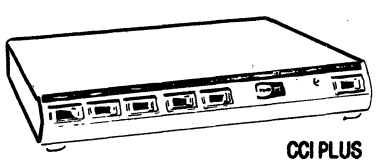
Stock No.	Mfr.'s Type	Output Capacity Watts	No. of AC Outlets	Backup Time @ 1/2 Load	Weight Lbs.	Current Draw @ Full Load	EACH
575Q0430	OMNI-450	450	4	30 min.	39	37A	549.00
575Q0440	OMNI-1200	1200	4	35 min.	83	85A	1099.00



IBAR 6

ISOBAR Surge/Noise Suppressors

Exclusive individual filter banks and "cascade design" provide excellent noise filtration as well as protection from transient spikes and surges. Both common and transverse mode spikes (of either polarity) up to 13,000 volts clamped to safe values. A 15-amp thermal circuit breaker (models 4 and 8) capable of interrupting up to 1,000 amps fault current provides total overload protection. **Specifications. High Voltage Spike Protection:** 13,000 amp spikes. Starts suppressing spikes at 140 volts AC RMS, 140 watt second capacity. **Transient Response Time:** Within 5 nsec. **High Frequency Noise Suppression:** Greater than 20 dB @ 50kHz; Greater than 40 dB @ 150 kHz; Greater than 60 dB @ 1 MHz; Greater than 30 dB from 6 MHz to 1000 MHz. **Input:** 125 VAC. **Load Handling Capacity:** 1575 watts maximum (total); 15 amps per outlet. All have on/off light. UL Listed. **Lifetime warranty.**



CCI PLUS

Stock No.	Mfr.'s Type	No. of Outlets	No. of Filter Banks	Cord Length Ft.	Size—Ins. H × W × D	On/Off Switch	Circuit Breaker	Weight Lbs.	EACH
575-0020	IB 2-0	3	1	—	4 1/8 × 2 1/2 × 2 3/8	No	No	1	48.00
575-0200	IBAR 2-6	2	1	6	2 1/2 × 3 1/2 × 5 1/2	No	15.0A	2	59.95
575-0205	IBAR 4	4	2	6	2 1/2 × 3 1/2 × 5 1/2	Yes	15.0A	2 1/2	79.95
575-0215	IBAR 6	6	3	6	2 1/2 × 3 1/2 × 7 1/8	Yes	15.0A	3 1/2	79.95
575-0210	IBAR 8	8	4	12	2 1/2 × 3 1/2 × 7 1/8	Yes	15.0A	4	114.50
575-0222	IBAR 8RM*	8	4	12 + 6	10 1/2 × 12 3/4 × 3 1/2	Yes	15.0A	4	129.50
575-0220	CCI†	6	3	9	11 × 12 3/4 × 1 1/2	Yes	15.0A	8	124.95
575-0320	CCI PLUS‡	6	3	9	11 × 12 3/4 × 1 1/2	Yes	15.0A	8	139.00
575-0224	ISOTEL**	4 + 2	2	12	2 1/2 × 3 1/2 × 6 1/2	Yes	15.0A	2 1/2	99.95
575-0226	IBAR 4/220	4	2	12	2 1/2 × 3 1/2 × 6 1/2	Yes	9.5A	2 1/2	89.95

*Remote power switch on 6' cord. †Console design mounts under monitor. 1 master switch with 5 individual switches for peripherals. ‡Console design w/RJ11 Receptacles for modem/fax protection. **4 outlet ISOBAR with RJ11 receptacles for modem/fax protection.

Rack Mount ISOBAR and Voltage Regulator

IBR-12 and LCR-2400 Common Specifications. High Voltage Spike Protection: Handles up to 13,000 amp spikes. Starts suppressing spikes at 140 volts AC RMS. 210-Watt-second capacity. High voltage spike protection works between ground and neutral, neutral and hot, and hot and ground. **Transient Response Time:** Less than 5 nanoseconds. Transient amplitude reduction occurs faster than the clamp response of the varistors because of the high rejection rate of the Isobar filter networks. **High Frequency Noise Suppression:** Greater than 20 dB at 50 KHz; greater than 40 dB at 150 KHz; greater than 80 db at 1 MHz; greater than 30 db from 6 MHz to 1000 MHz.

IBR-12 ISOBAR Surge Suppressor

Features
- ► 12 ft. 14 gauge AC cord
- ► 12 outlets
- ► 2 isolated filter banks
- ► 15 AMP circuit breaker (on front for easy access)
- ► Superior spike filtering and line noise attenuation
- ► Isolated filter banks prevent equipment interaction

575-3212.....EACH 149.00

LCR-2400 Voltage Regulator with ISOBAR Surge Suppressor

Features
- ► Full 20 AMP (2400 watts) voltage regulation
- ► 12 ft. 12 gauge AC power cord (universal plug fits both 15 and 20 AMP receptacles)
- ► 14 outlets
- ► 2 isolated filter banks
- ► Built-in ISOBAR Surge Suppression features larger torrodial chokes and capacitors to better filter lower audio frequencies

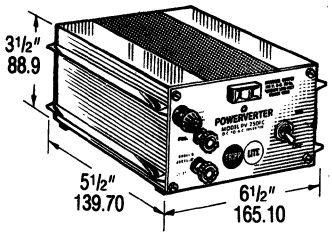
575-3400.....459.00

PV Series DC-to-AC Power Inverters

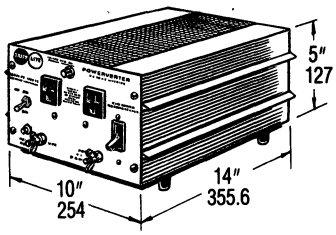
Solid state electronic power inverters change 12 VDC into 117 VAC. Inverters operate wherever 12 VDC batter power is available to power small appliances, lighting, small power tools, etc. Frequency-controlled models should be used for tape recorders, test equipment, ambulance equipment, video tape equipment, office machines, computers, etc. Some models are available with 220 VAC. 50 Hz output. Available load wattage ratings from 100 to 4000 watts continuous; intermittent duty, plus 10%. Units come complete with 117 VAC outlet and convenient ON/OFF switch. Units connect to batteries with heavy gauge wire (not supplied). Inverters are transistorized, solid state for long life and quiet operation. Square wave output voltage varies directly with input voltage, and is inversely proportional to load.

Stock No.	Mfr.'s Type	Input Volts DC	Output Volts AC	Max. Output Watts		Input Amps		Size (Ins.) H x W x D	Weight (Lbs.)	EACH
				Cont.	Inter.	No Load	Full Load			
575-1015	PV-100*	12	117	100	110	2.5	9	3 1/2 x 6 1/2 x 5 1/2	5	**75.00**
575-1020	PV-200	12	117	200	220	3.5	18	3 1/2 x 6 1/2 x 5 1/2	6	**99.00**
575-1000	PV-250/FC†	12	117	250	275	1.5	21	3 1/2 x 6 1/2 x 11 1/2	13	**209.00**
575-1045	PV-400	12	117	400	440	3.5	36	3 5/8 x 7 1/4 x 6	10	**149.00**
575-1010	PV-500/FC†	12	117	500	550	3.5	42	5 x 9 1/2 x 9	19	**319.00**
575-1070	PC-550	12	117	550	600	4.0	45	5 x 9 1/2 x 9	19	**209.00**
575-1072	PV-550/B‡	12	117	550	600	4.0	45	5 x 9 1/2 x 9	19	**239.00**
575-1075	PV-1000/FC†	12	117	1000	1100	3.5	85	5 x 10 x 14	32	**509.00**
575-1025	PV-1000FC/24†	24	117	1000	1100	1.8	85	5 x 10 x 14	32	**569.00**
575-1065	PV-1000/220	12	220	1000	1100	3.5	85	5 x 10 x 14	32	**559.00**

*Cigarette Lighter Plug-In. †Frequency Controlled (± 1/2 Hz). ‡With 10-Amp Battery Charger.

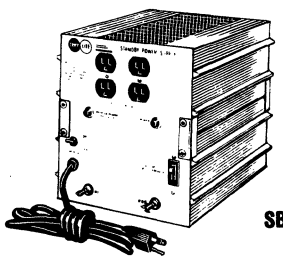


PV200



PV1000FC

Inverter Application—Convert 12 VDC to 117 VAC Anywhere You Need It
Model and Device. PV-100: Small fluorescents, miniature hand tools, shavers, FAX machines (with C16 cord). **PV-200:** Same as PV-100 plus small and medium (12" and 18") TVs, 1/4" drills, small hand tools, small home appliances, typewriters, adding machines and large fluorescents. **PV-250FC*:** Same as PV-100 and PV-200, plus ideal for VCR/TV use, tape recorders, phonographs, test equipment (where frequency control is necessary), and certain personal computers. **PV-400:** Large B + W (24") TVs, small (12") color TVs and 3/8" drills. **PV-550:** Large TVs, several items at once. **PV-550B:** Same as PV-550 plus battery charger feature. **PV-550FC*:** Same as PV-100, PV-200, PV-250FC, PV-400, PV-550 and PV-550B, plus large frequency sensitive devices, 1/2" drills, "XT" class personal computers, etc. **PV-1000FC*:** Same as PV-100, PV-200, PV-250FC, PV-400, PV-550, PV-550B and PV-550FC, plus video tape recorders, mobile laboratories, "AT" class personal computers; provides maximum torque from power tools. **PV-1000FC/24:** Semi Tractor AC Accessories. **Note:** Not recommended for use with capacitor start motors (as found in conventional refrigerators). *FC feature assures your equipment will receive a constant 60 cycles of power and motorized devices run at proper speed.



SB4000

SB Series Battery Back-Up Systems

- **Automatic Load Transfer Switch—Rugged Square Wave Inverter**
- **Circuit Breaker Protected on DC Line**
- **Status Indicators with Test Switch—Multiple Receptacles**
- **Frequency Controlled ±1/2Hz (Not Included on SB200 or SB400)**
- **Full Isolation of AC Line Power from Inverter Power**
- **Uses External Batteries for Unlimited Back-up Time***

Automatically supplies 117 VAC current during power failures instantly and economically. Designed for a variety of applications such as computers, telephone systems, paging and answering systems. Back-up time is determined by amount of battery power you connect to it. Batteries not included. Automatic transfer switch time is 8-10 ms. **All models come with:** Two year warranty, regulated battery charger with a float charge, over voltage protection, system test switches, front panel indicator lights, rugged square wave inverter.

Stock No.	Mfr.'s Type	Output Watts	Input VDC	Output VAC	No. of Recep.	Batt. Chg. Rate	Current Draw @ Full Load	Size Inches	Weight (Lbs.)	EACH
575-2200	SB200	200	12	117	1	2 1/2A	15A	3 5/8 x 7 1/4 x 9	14	**269.00**
575-1400	SB400	400	12	117	1	2 1/2A	20A	3 5/8 x 7 1/4 x 9	16	**359.00**
575-1100	SB1000	1000	12	117	2	15A	85A	10 1/2 x 11 1/2 x 17 1/2	34	**829.00**
575Q2000	SB2000	2000	24	117	4	15A	85A	10 x 10 x 14	64	**1295.00**
575Q4000	SB4000	4000	24	117/230	4/2	15A	85A	10 x 14 x 20	115	**2395.00**
575-1050	SB1000G	1000	12	117	4	15A	85A	10 1/2 x 11 1/2 x 17 1/2	34	**799.00**
575-9260	BP-260*	—	—	—	—	—	—	10 1/2 x 11 1/2 x 17 1/2	15	**150.00**

*BP-260 battery pack holds 2-60 AH Gel Cell Batteries—Allied Battery Stock No. 621-6000.

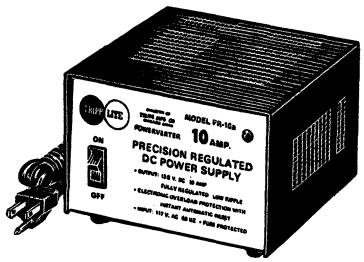
PR Series Precision Regulated Power Supply

- **Model PR-10**
- **UL Listed AC Cord and Plug Type SPT-2**
- **Heavy Duty Power Transformer for Complete Line Isolation**

Converts 120 VAC to 13.8 VDC ±0.5 VDC. Solid-state integrated circuitry, high-quality filtering, and current limiting electronic feedback for automatic overcurrent protection. Output voltage maintained up to 95% of no load value. Heavy-duty transformer for complete isolation. Also features ON/OFF indicator light and ON/OFF switch on face plate, and a 3-conductor grounded cord on 10 amp and larger models. U.L. listed AC cord and plug type SPT-2.

Stock No.	Mfr.'s Type	ICS* Amps	Continuous Duty Amps	Fuse Location	Ripple Voltage Maximum	Size (Inches) H x W x D	Weight (Lbs.)	EACH
575-5003	PR-3	3.0	2.0	Internal	.10	4 1/4 x 2 7/8 x 7 1/2	4	**34.50**
575-5002	PR-3UL	4.5	3.0	Internal	.10	4 1/4 x 2 7/8 x 7 1/2	4	**53.00**
575-5004	PR-4.5	4.5	3.0	Internal	.10	4 3/4 x 3 1/8 x 8 1/4	5	**46.00**
575-5007	PR-7	7.0	5.0	Chas. Mt.	.15	6 3/8 x 3 1/4 x 7 1/4	7	**61.00**
575-5010	PR-10	10.0	7.5	Chas. Mt.	.15	4 1/2 x 6 5/8 x 7 5/8	10	**91.00**
575-5015	PR-15	15.0	12.0	Chas. Mt.	.15	4 3/4 x 7 1/2 x 7 1/2	13	**117.00**
575-5025	PR-25	25.0	20.0	Chas. Mt.	.15	5 1/8 x 12 1/2 x 10	20	**183.00**
575-5040	PR-40	40.0	32.0	Chas. Mt.	.15	7 1/4 x 12 1/2 x 9 3/4	26	**228.00**
575-5060	PR-60	60.0	40.0	Chas. Mt.	.15	8 1/4 x 13 1/2 x 10 3/4	29	**338.00**

*Intermittant Communication Service (50% Duty Cycle).

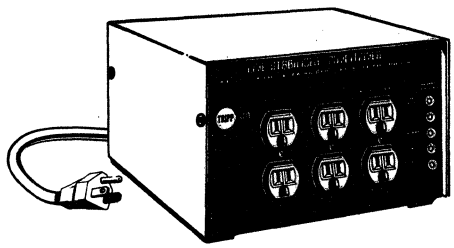


PR-10

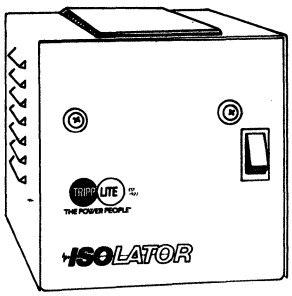
Voltage Regulators

AC voltage regulators protect your equipment and data from low voltage sags (brownouts), high voltage surges, as well as transient spikes and line noise (RFI and EMI). The LC series automatically regulates and maintains load voltages when commercial (utility co.) input voltage drops (brownouts), regardless of length of brownout. 98% efficient. 2% load regulation from no load to full load. 5% line regulation over input range of 90 to 125 VAC. 0 to 60 C operating range with no derating. 3 cycles max. response time, 1/2 cycle typical. 3-conductor, grounded cord and receptacle. Front panel LED indicators monitor input voltage conditions (Model LC-1800). Attractive beige housing. Completely assembled, ready to use. **Model LS-600:** Output voltage will comply with ANSI-C84.1 specifications with input voltage from 87 to 127V. Output voltage will be maintained at 120V ± 5% with input voltage from 96 to 126 V. **Models LC-1200** and **LC-1800** output voltage will comply with ANSI-C84.1 specifications with input voltage from 87 to 140V. Output voltage will be maintained at 120V ± 5% with input from 96 to 138V. U.L. Listed.

Stock No.	Mfr.'s Type	No. of Outlets	Ampere Rating	Weight	EACH
575-0300	LS-600	2	5.0A	6 lbs.	**129.00**
575-0305	LC-1200	4	10.0A	10 lbs.	**249.00**
575-0310	LV-1800	6	15.0A	10 lbs.	**339.00**
575-9320	LC-1200/220	4	5.5A	10 lbs.	**259.00**



LV-1800



IS 200

Isolation Transformers

- **Clean, Portable Ground—Eliminates need for dedicated lines**
- **Efficient Operation—Generates less heat than ferroresonant devices**
- **Exceptional low frequency line noise rejection**
- **External Resettable Circuit Breaker**

Isolator provides true line isolation to protect sensitive electronics. Units feature 'faraday shield' design. Shielding between the primary and secondary windings provide superior line isolation as well as exceptional line noise rejection, especially at low frequency. Comes with 6 ft. cord. Output voltage 120 VAC.

Stock No.	Mfr.'s Type	Load Current (amps)	Output Watts	Output Voltage	Cord Length	Ship. Wt.	Load Regulation	Surge Current	H × W × D	EACH
575-9200	IS 200	1.7	200 (VA)	120	6′	13	± 4% RMS	1.3 Amps	4 3/4 × 4 1/2 × 6 3/4	**159.00**
575-9400	IS 400	3.4	400 (VA)	120	6′	21	± 4% RMS	2.8 Amps	5 1/2 × 6 1/4 × 8 1/2	**349.00**
575-9800	IS 800	6.8	800 (VA)	120	6′	24	± 3% RMS	5.0 Amps	5 1/2 × 6 1/4 × 8 1/2	**479.00**

Fax/Modem Protection

Type TSB. Offers 100% spike protection for line-to-line and line-to-ground. Suppresses telephone line transients. 1 picosecond response time. **Specifications. Clamping Voltage:** 200V Peak 10%. **Response Time:** less than 1 picosecond. **Peak Transient Voltage:** 12kV, 10 microseconds. **Energy Handling:** 70 Joules. **Series Resistance:** 25 ohms, each line. **Input:** 5 foot cord with type RJ11 modular plug. **Output:** Modular RJ11 jack. **Dimensions:** 7/8″H × 2 1/4″W × 2 3/4″D. **Weight:** 1/4 lbs.

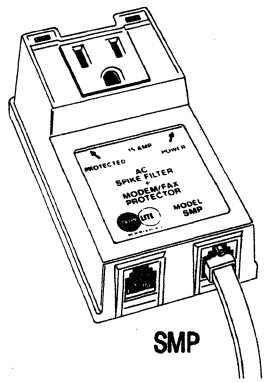
575-3000. Type TSB ..... **EACH 59.95**

Type SMP. Combination CO/AC Line Protector since AC outlet with built-in data line protection plugs directly into AC outlet for easy use. Ideal for FAX machine protection. Rigid RJ11X modular plug and jack. AC protection to 15 amps. **Dimensions:** 3 3/4″H × 2″W × 1 1/2″D. **Weight:** 1/2 lb.

575-3200. Type SMP ..... **EACH 49.95**

Type MP protects modems and data. Completely filters spikes in telephone lines. Uses RJ11 modular jack and plug. **Dimensions:** 7/8″H × 1 3/4″W × 1 3/4″D. **Weight:** 1/4 lbs.

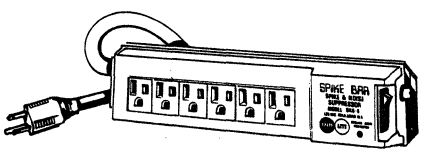
575-3100. Type MP ..... **EACH 19.95**



SMP

Economy Spike and Noise Protectors

Effective, efficient and economical. **High Voltage Spike Protection:** Handles up to 70 joules spikes at current levels up to 9,500 amps. **Initial Clamping Voltage:** 150 VAC rms, 70 watt second capacity. **Clamping Response Time:** within 5 nanoseconds. **Input:** 125VAC rms, 15 amps. **Load Handing:** 1875 watts maximum total load; 15 amps per socket. **Number of Outlets:** 6. **Protection Mode:** Normal and transverse modes.



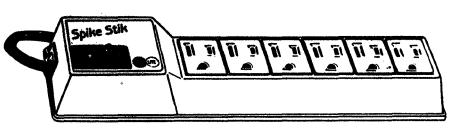
SK6-6

SK6-6. Features a lighted On/Off switch, 15 amp breaker and suppression component indicator light. 6 foot cord. **Dimensions:** 1 3/4″H × 10 3/4″W × 2 1/2″D.

575-0230. Type SK6-6 ..... **EACH 49.95**

SK6-0. Features direct plug-in and two indicator lights: Red to indicate that the power is on, Green to indicate that the suppression components are on. **Dimensions:** 4 3/4″H × 3 3/8″W × 1 1/4″D. **Weight:** 3/4 lbs.

575-0225. Type SK6-0 ..... **EACH 39.95**



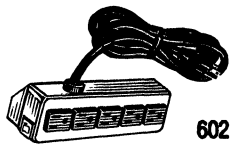
SS-6

Spike Stik
Economical, effective 6 outlet spike and noise suppressor. The Spike Stik operates on 125 VAC rms, 15 amps. Handles up to 70 joule spikes at current levels up to 6,500 amps. On/Off switch, 6 ft. power cord. Responds in 5 nanoseconds. UL Listed. **Dimensions:** 1 1/2″H × 2″W × 8 3/4″L. **Weight:** 1 lb.

575-9560. Type SS-6 ..... **EACH 23.95**

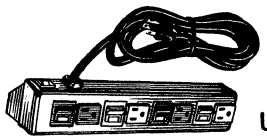
The Compact Group

- Size: 8 3/4"L x 2 3/8"W x 1 1/2"H
- Case length (excluding mounting tabs): 7 7/16"
- Maximum rating: 15 A, 125 VAC, 60 Hz. 1875 W continuous duty
- Outlets: 'U' ground
- Seamless steel case with baked-on finish
- Component color: black
- Mounting centers: UL units, 5 13/16"; standard units, 8 1/4".
- Power cord plug: molded onto cord, type 14/3 SJT
- 608 Series has one outlet on end


602

Stock Number	Mfr.'s Type†	No. of Outlets	Master Switch	Pilot Light	Cord Length	Circuit Breaker	Fuse	Shipping Weight Lbs.	Case Color	EACH 1-9
893-3005	602	5	No	No	6′	No	No	1 1/2	Gray	14.46
893-3010	602-15	5	No	No	15′	No	No	2	Gray	18.70
893-3015	UL602CB-6*	5	No	No	6′	Yes	No	2	Blue	21.82
893-3020	UL602CB-15*	5	No	No	15′	Yes	No	2 1/2	Blue	26.02
893-3025	603CB	4	No	No	6′	Yes	No	1 1/2	Gray	18.63
893-3030	603CB-15	4	No	No	15′	Yes	No	2	Gray	22.85
893-3035	UL603CB-6*	4	No	No	6′	Yes	No	2	Blue	20.66
893-3040	UL603CB-15*	4	No	No	15′	Yes	No	2 1/2	Blue	24.85
893-3045	UL605CB-6*	3	Yes	Yes	6′	Yes	No	1 1/2	Blue	23.50
893-3050	UL605CB-15*	3	Yes	Yes	15′	Yes	No	2	Blue	27.75
893-3055	UL608CB-6*	4	Yes	Yes	6′	Yes	No	2	Blue	25.17
893-3060	UL608CB-15*	4	Yes	Yes	15′	Yes	No	2 1/2	Blue	29.42

†Units with the UL prefix are UL listed. *CSA certified.


UL32PCB

The Mid-Length Group

- Size: 13 1/4"L x 2 3/8"W x 1 1/2"H
- Case length (excluding mounting tabs): 11 15/16"
- Maximum rating: 15 A, 125 VAC, 60 Hz, 1875 W continuous duty
- Outlets: 'U' ground
- Seamless steel case with baked-on finish
- Component colors: black (32P series have alternating black and white)
- Supplied with 14/3 SJT Type power cord

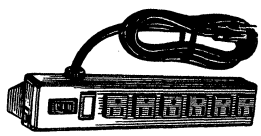
Stock Number	Mfr.'s Type†	No. of Outlets	No. of Switches	No. of Pilot Lights	Circuit Breaker	AC Voltmeter	Cord Length	Shipping Weight Lbs.	EACH 1-9
893-3070	15CB	7	1	1	Yes	No	6′	2	30.70
893-3075	15CB-15	7	1	1	Yes	No	15′	2 1/2	34.93
893-3080	UL15CB-6*	7	1	1	Yes	No	6′	2 1/2	32.02
893-3085	UL15CB-15*	7	1	1	Yes	No	15′	3	36.26
893-3090	UL17CB-6	9	0	0	Yes	No	6′	2 1/2	30.20
893-3095	UL17CB-15	9	0	0	Yes	No	15′	3	34.40
893-3100	UL18CB-6	9	0	0	Yes	No	6′	2 1/2	31.52
893-3105	UL18CB-15	9	0	0	Yes	No	15′	3	35.77
893-3110	24CB	6	1	1	Yes	No	6′	2	27.91
893-3115	24CB-15	6	1	1	Yes	No	15′	2 1/2	32.15
893-3120	UL24CB-6*	6	1	1	Yes	No	6′	2 1/2	28.57
893-3125	UL24CB-15*	6	1	1	Yes	No	15′	3	32.82
893-3130	UL32PCB-6*	4	4	4	Yes	No	6′	2 1/2	43.39
893-3135	UL32PCB-15*	4	4	4	Yes	No	15′	3	47.59

†Units with the UL prefix are UL listed: 15 and 17 series have one outlet on end: 32P series have each outlet controlled by a switch with built-in pilot light. *CSA certified.

11

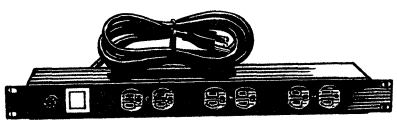
90° Design Group

- UL listed
- Protection: All have circuit breakers, black color
- Maximum Rating: 15 A, 125 VAC, 60 Hz. 1875 W. continuous duty
- Outlets: 'U' ground, black
- Seamless steel case with baked-on blue finish
- Power supply cord: 14/3SJT with molded-on plug black
- Master switch, black pilot light lens, white
- Mounting centers 10 5/16


UL24RA

Stock Number	Mfr.'s Type	No. of Outlets	Dimensions			Cord Length	Shipping Weight Lbs.	EACH 1-9
			Length	Width	Height			
893-3150	UL24RA-6	6	13 1/4	2 5/16	1 1/2	6′	2 1/2	29.74
893-3155	UL24RA-15	6	13 1/4	2 5/16	1 1/2	15′	3	33.99

The Rack-Mount Group



- Maximum rating: 15 A, 125 VAC, 60 Hz, 1875 W continuous duty
- Outlets: 3 duplex 'U' ground
- Case: Fabricated steel with back cover: black baked-on finish
- Power supply cord: 14/3 SJT with molded plug
- Combination master switch with built-in pilot light on front panel
- Protection: all have circuit breakers
- Component colors: master switch, black; outlets and cord, black

Stock Number	Mfr.'s Type	No. of Outlets*	Front Plate	Back Cover	Mounting Centers	EACH 1-9
893-3170	900CB	6-F	19″L x 3 15/32″W	17″L x 3 11/32″W x 2 3/8″D	18 1/4″ x 3″	46.08
893-3175	900CB-15	6-F	19″L x 3 15/32″W	17″L x 3 11/32″W x 2 3/8″D	18 1/4 x 3″	50.88
893-3180	903CB	6-F	19″L x 1 23/32″W	17″L x 1 19/32″W x 2 3/8″D	18 1/4″ x 11/4″	43.65
893-3185	903CB-15	6-F	19″L x 1 23/32″W	17″L x 1 19/32″W x 2 3/8″D	18 1/4″ x 11/4″	47.88
893-3190	904CB	2-F, 4-B	19″L x 3 15/32″W	17″L x 3 11/32″W x 2 3/8″D	18 1/4″ x 3″	48.36
893-3195	904CB-15	2-F, 4-B	19″L x 3 15/32″W	17″L x 3 11/32″W x 2 3/8″D	18 1/4″ x 3″	52.62
893-3200	911CB	6-F	19″L x 1 23/32″W	17″L x 1 19/32″W x 2 3/8″D	18 1/4″ x 11/4″	46.08
893-3205	911CB-15	6-F	19″L x 1 23/32″W	17″L x 1 19/32″W x 2 3/8″D	18 1/4″ x 11/4″	50.33

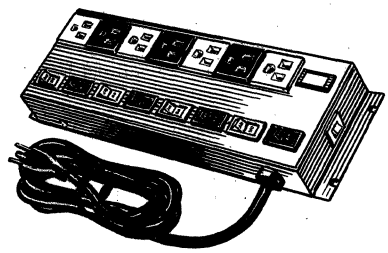
* F denotes front panel; B denotes back panel.

The Deluxe Group

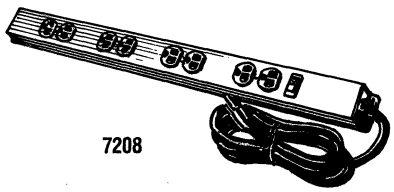
► Case size: 13 7/16"L × 4 1/4"W × 1 1/2"H (excluding mounting tabs shortens length by 1")
► Maximum rating: 15 A, 125 VAC, 60 Hz, 1875 W continuous duty
► Protection: all have circuit breakers
► Case: fabricated steel with baked-on finish
► Component colors: black except as noted below
► Uses: 14/3 SJT Power Supply Cord

Stock No.	Mfr.'s Type†	No. of Outlets	Master Switch	Individual Outlets		Cord Length	Mounting Centers	Shipping Weight Lbs.	EACH
				Switched	Pilot Light				1-9
893-1005	UL25PCB-6*	7	Yes	Yes	Yes	6′	10 11/16" × 2 3/4"	3	70.75
893-1010	UL25PCB-15*	7	Yes	Yes	Yes	15′	10 11/16" × 2 3/4"	4	75.00
893-1015	UL800CB-6	10	Yes	No	No	6′	10 11/16" × 2 3/4"	3	43.80
893-1020	UL800CB-15	10	Yes	No	No	15′	10 11/16" × 2 3/4"	4	48.05

†Units with the UL prefix are UL listed; 25 and 25P series have alternating black and white switch and outlet configurations; 25 and 25P series have individual outlets, 800 series have 5 duplex outlets. *CSA certified.



25PCB



7208

The Trim-Line Group

► Outlets: "U" ground
► Maximum rating: 15 A, 125 AC, 60 Hz, 1875 W continuous duty
► Component color: black
► Power cord plug: molded onto cord, Type 14/3 SJT

Stock No.	Mfr.'s Type†	No. of Outlets	Overall Dimensions			Case Color	Mounting Centers	Switch & Pilot Light	Circuit Breaker	Cord Length	Shipping Weight Lbs.	EACH
			Length	Width	Height							1-9
893-1030	UL7208-6	8	25 1/8 "	2"	1"	Blue	22 15/16"	Yes	Yes	6′	3 1/2	43.14
893-1035	UL7208-15	8	25 1/8 "	2"	1"	Blue	22 15/16"	Yes	Yes	15′	4 1/2	47.34
893-1040	UL7408-6*	8	49 1/16"	1 1/2"	1 3/8"	Blue	46 15/16"	Yes	Yes	6′	4 1/2	50.90
893-1045	UL7408-15*	8	49 1/16"	1 1/2"	1 3/8"	Blue	46 15/16"	Yes	Yes	15′	5 1/4	55.15
893-1050	UL7415-6	15	49 1/16"	1 1/2"	1 3/8"	Blue	46 15/16"	Yes	Yes	6′	4 1/2	59.78
893-1055	UL7415-15	15	49 1/16"	1 1/2"	1 3/8"	Blue	46 15/16"	Yes	Yes	15′	5 1/4	64.03
893-1060	UL7610-6	10	73 1/16"	1 1/2"	1 3/8"	Blue	70 15/16"	Yes	Yes	6′	6 3/4	60.85
893-1065	UL7610-15	10	73 1/16"	1 1/2"	1 3/8"	Blue	70 15/16"	Yes	Yes	15′	7 1/2	65.10
893-1070	UL7619-6	19	73 1/16"	1 1/2"	1 3/8"	Blue	70 15/16"	Yes	Yes	6′	6 3/4	70.95
893-1075	UL7619-15	19	73 1/16"	1 1/2"	1 3/8"	Blue	70 15/16"	Yes	Yes	15′	7 1/2	75.15

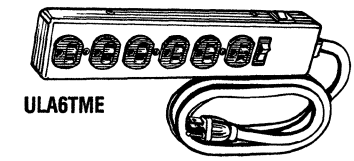
†Units with the UL prefix are UL listed. *CSA certified.

The Premier Group

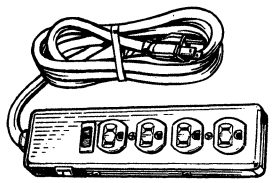
► UL listed
► All have circuit breakers
► Maximum rating: 15 A, 125 VAC, 60 Hz, 1875 W, continuous duty
► Outlets 'U' ground duplex ivory
► Seamless steel case with baked or ivory finish
► Power supply cord: 14/3SJT with molded plug, ivory
► Switched models have an ivory switch housing with amber pilot light

Stock No.	Mfr.'s Type*	No.of Outlets	Master Switch	Dimensions			Mounting Centers	Shipping Weight Lbs.	EACH
				Length	Width	Height			1-9
893-2000	ULA4E-6	4	No	9 1/4"	2 3/8"	1"	8 1/4"	2	15.95
893-2005	ULA4E-15	4	No	9 1/4"	2 3/8"	1"	8 1/4"	2 1/2	19.95
893-2010	ULA4TME-6	4	Yes	9 1/4"	2 3/8"	1"	8 1/4"	2	18.95
893-2015	ULA4TME-15	4	Yes	9 1/4"	2 3/8"	1"	8 1/4"	2 1/2	22.95
893-2020	ULA6E-6	6	No	12"	2 3/8"	1"	10 15/16"	2 1/2	21.95
893-2025	ULA6E-15	6	No	12"	2 3/8"	1"	10 15/16"	2 1/2	24.95
893-2030	ULA6TME-6	6	Yes	12"	2 3/8"	1"	10 15/16"	2 1/2	24.95
893-2035	ULA6TME-15	6	Yes	12"	2 3/8"	1"	10 15/16"	2 1/2	28.95

*-6 indicates 6 ft. cord, -15 is for 15 ft. cord.



ULA6TME



ULA4TME

Medical Group

► UL listed containing hospital grade components
► Protection: circuit breaker
► Maximum Rating: 15 A, 125 VAC, 60 Hz. 1875 W, continuous duty
► Outlets: Hospital grade duplex, ivory color
► Seamless steel case with baked-on white finish
► Power supply cord: 14/3 SJT hospital grade attachment plug, white color

Stock Number	Mfr.'s Type*	No. of Outlets	Dimensions			Mounting Centers	Shipping Weight Lbs.	EACH
			Length	Width	Height			1-9
893-1080	ULHC4-6	4	8 3/4"	2 3/8"	1 1/2"	5 13/16"	2 1/2	47.77
893-1085	ULHC4-15	4	8 3/4"	2 3/8"	1 1/2"	5 13/16"	3	52.80
893-1090	ULHC6-6	6	13 1/4"	2 3/8"	1 1/2"	10 5/16"	2 1/2	58.83
893-1095	ULHC6-15	6	13 1/4"	2 3/8"	1 1/2"	10 5/16"	3	63.87

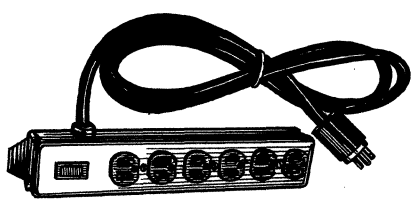
*-6 indicates 6 ft. cord, -15 indicates 15 ft. cord length.

The 20-Amp Rated Group

► UL listed
► Protection: circuit breaker
► Maximum rating: 20 A, 125 VAC, 60 Hz, 2500 W continuous duty.
► Outlets: 'U' ground duplex, brown color
► Seamless steel case with baked-on blue finish
► Power supply cord: 12/3 SJO, attachment plug, black color
► Master on-off switch with built-in amber pilot light

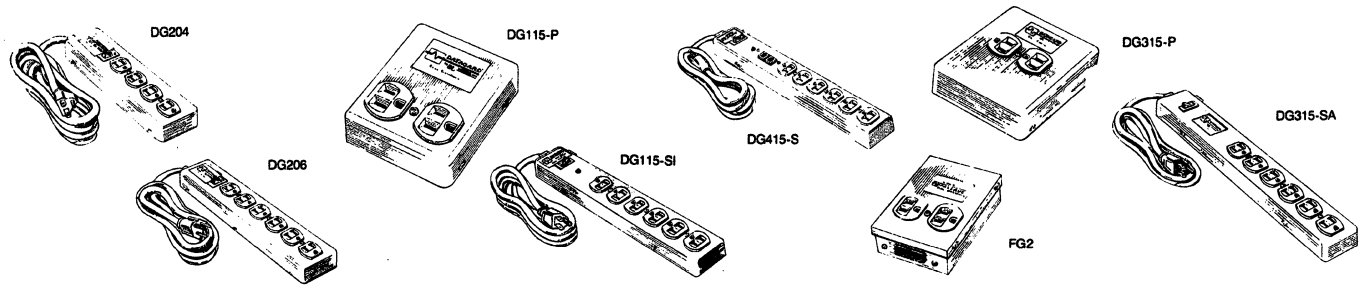
Stock Number	Mfr.'s Type*	No. of Outlets	Dimensions			Mounting Centers	Shipping Weight Lbs.	EACH
			Length	Width	Height			1-9
893-2040	UL620-6	6	13 1/4"	2 5/16"	1 1/2"	10 15/16"	2	73.49
893-2045	UL620-15	6	13 1/4"	2 5/16"	1 1/2"	10 15/16"	2 1/2	78.56

*-6 indicates 6 ft. cord, -15 indicates 15 ft. cord length.



UL620

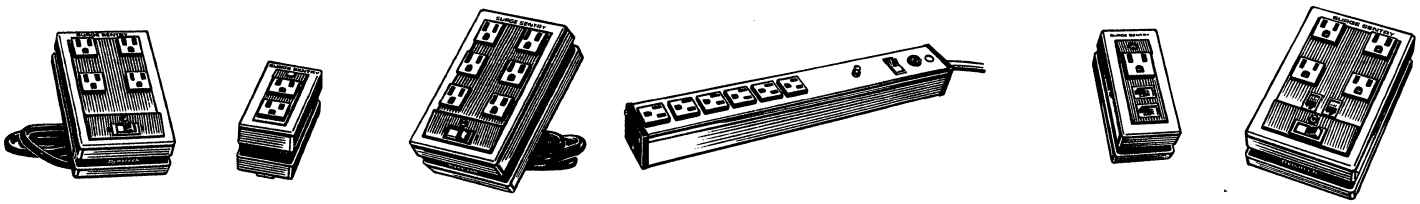
DATAGARD® Surge and Noise Suppressors



- Push-to-Reset 15A Circuit Breaker protection guards against power overloads
- Lifetime Warranty
- 3 Line Voltage Surge Protection insures that equipment is isolated from transients on all incoming power lines
- Tested to UL standard 1449 requirements
- Rating Per UL 1449: 400 V
- Mode of Surge Suppression: H-N, H-G, N-G
- Max. Surge Current: 6500 A
- Clamping Response Time: < 1 nsec
- Maximum Energy Dissipation: 210 Joules (3 × 70)

Stock No.	Mfr.'s Type	Outlets	Type	Surge Indication	Modes of Noise Rejection	Phone Line Protection	EACH
930-1204	DG204	4	Strip w/ 6′ cord	none	none	none	24.95
930-1206	DG206	6	Strip w/ 6′ cord	none	none	none	29.95
930-1115	DG115-P	2	Wall mount	visual	Transverse	none	34.95
930-2115	DG115-SI	6	Strip w/ 6′ cord	visual	Transverse	none	49.95
930-1102	FG2	2	Wall mount	visual	Transverse	1/1 RJ-11 jacks input/output	49.95
930-1415	DG415-S	6	Strip w/ 6′ cord	visual	Transverse	1/1 RJ-11 jacks input/output	64.95
930-1315	DG315-P	2	Wall mount	audible	Transverse and common	none	54.95
930-2315	DG315-SA	6	Strip w/ 6′ cord	audible	Transverse and common	none	69.95

SURGE SENTRY® Surge and Noise Suppressors



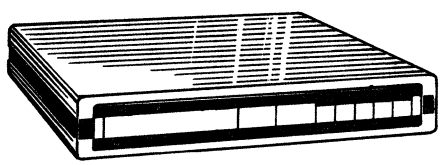
DS4 DS2 DS6 CL6 DSLP DS4LP

- 10-year warranty
- U.L. 1449 listed and C.S.A. certified
- Clamshell design
- Circuit integrity/status light
- Meets ANS/IEEE C62.41-1980 (IEEE 587-1980)
- Patented 3-stage surge protection
- Rating Per UL 1449: 400 V
- Mode of Surge Suppression: H-N, H-G, N-G
- Maximum Surge Current: 11,505A
- Clamping Response Time: < 5 psec
- Maximum Energy Dissipation: 181.5 Joules (1.5/80/100)

Stock No.	Mfr.'s Type	Outlets	Type	Surge Indication	Modes of Noise Rejection	Phone Line Protection	EACH
930-0002	DS2	2	Wall mount	visual	Transverse and common	none	64.95
930-0004	DS4	4	Block w/ 6′ cord	visual	Transverse and common	none	84.95
930-0006	DS6	6	Block w/ 6′ cord	visual	Transverse and common	none	94.95
930-0012	DL6	6	Strip w/ 6′ cord	visual	Transverse and common	none	94.95
930-0009	CL6	6	Strip w/ 6′ cord	visual	Transverse and common	none	99.95
930-0120	DSLP	1	Wall mount	visual	Transverse and common	2 RJ-11 jacks input/output	74.95
930-0130	DS4LP	4	Block w/ 6′ cord	visual	Transverse and common	2 RJ-11 jacks input/output	99.95

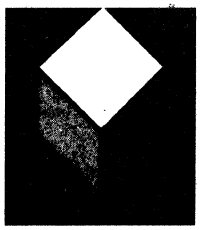
Electronic Power Centers

- Computer and peripheral cable management for up to 5 devices
- Patented 3-stage surge protection
- Clamshell design + PS/2 compatibility
- Circuit integrity/status light
- Meets ANSI/IEEE C62.41-1980 (IEEE 587-1980)
- Buyer Protection Plan
- Rating Per UL 1449: 400 V
- Mode of Surge Suppression: H-N, H-G, N-G
- Maximum Surge Current: 11,505A
- Clamping Response Time: < 5 psec
- Maximum Energy Dissipation: 291 Joules (1/135/155)



Electronic Power Centers™ (EPC) combine an efficient attractive means to manage tangled computer and peripheral cabling together with the best power surge protection available.

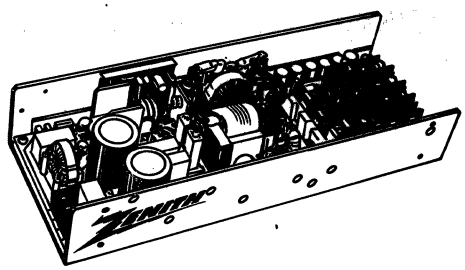
Stock No.	Mfr.'s Type	Outlets	Type	Surge Indication	Modes of Noise Rejection	Phone Line Protection	EACH
930-0050	PC50	5	Power center	visual	Transverse and common	none	129.95
930-0150	PC150	5	Power center	visual	Transverse and common	2 RJ-11 jacks input/output	189.95



Zenith Model ZPS-150, ZPS-175, ZPS-200, ZPS-250, ZPS-300, and ZPS-400 Switching Power Supplies

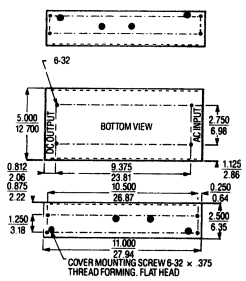
Zenith series ZPS-150 through ZPS-400 watt switching power supplies are quad output, high frequency designs utilizing MOSFET and surface mount technologies. A proprietary electronic control startup circuit reduces size and improves efficiency.

The outputs are high current, independently isolated, and tightly regulated. Outputs 2 and 3 are user adjustable within a wide range of 10.0-15.0 VDC with surge current capabilities. These full featured switch mode power supplies offer complete system and unit protection as standard. They are designed to international safety and emissions standards of VDE 0806, VDE 0871/B, IEC 380, IEC 950, UL, and CSA for applications in computer, telecommunications and industrial systems. A 100,000 hour MTBF and two year limited warranty assure performance to specifications.

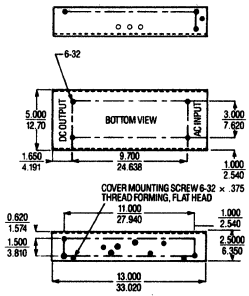


Standard Features
- ► Models ZPS-150, 175, 200 universal for 115/230 VAC input. User selectable 115/230 VAC input on models ZPS-250, 300, 400
- ► 47-65 Hz single phase input
- ► UL 478, CSA 22.2, IEC 380, IEC 950, FCC Part 15J, Class B, VDE 0806 and VDE 0871/B
- ► 100,000 hours MTBF
- ► Compact design
- ► All outputs ±5% adjustable
- ► Output 2 and 3 strap selectable at 10, 12 and 15 VDC
- ► Parallel Resonant, MOSFET and Surface Mount Technologies on Models ZPS-150, 175, 200
- ► High efficiency regulators on all auxiliary outputs; switching regulators on ZPS-150, 175, 200 and mag amp regulators on ZPS-250, 300, 400.
- ► Independently isolated outputs
- ► Start-up surge current 1½ times rated current on outputs 2 and 3
- ► Power good, remote start, remote sense
- ► Temperature protection, overcurrent protection, overvoltage protection
- ► Reverse voltage protection, short circuit protection
- ► MOSFET, Current Mode Control and Surface Mount Technologies on Models ZPS-250, 300, 400
- ► Bus bars on main output
- ► High reliability patented electronic startup circuit
- ► 70% efficiency nominal input full load
- ► Clearly identified traces and component legends
- ► U-Channel aluminum construction
- ► Two year warranty
- ► 100% cycled burn-in
- ► Comprehensive user's manual provided
- ► Standard off-the-shelf delivery

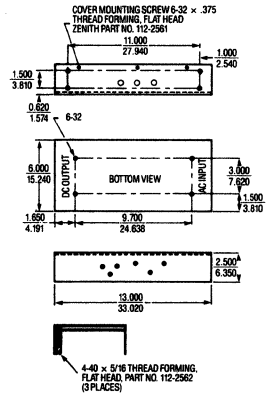
Optional Feature
- ► EMI cover



ZPS-150/175/200



ZPS-250/300



ZPS-400

11

Output Voltage and Current Ratings

Stock No.	Mfr.'s Type	Max Output Power (Watts)	Main Output		2nd Output		3rd Output		4th Output		Size (Inches) L×W×H	EACH
			Volts DC (Nominal)	Amps (Min./Max.)	Volts DC (Nominal)	Amps (Min./Max.)	Volts DC (Nominal)	Amps (Min./Max.)	Volts DC (Nominal)	Amps (Min./Max.)		
941-0150	ZPS-150-N	150	4.75/5.25	2.0/20.0	10.0-15.0	0.3/3.0 PK 4.5	10.0-15.0	0.3/3.0 PK 4.5	4.75/5.25	0.2/2.0	11 × 5.0 × 2.5	**210.00**
941-0175	ZPS-175-N	175	4.75/5.25	2.5/25.0	10.0-15.0	0.3/3.5 PK 5.3	10.0-15.0	0.3/3.5 PK 5.3	4.75/5.25	0.2/2.0	11 × 5.0 × 2.5	**230.00**
941-0200	ZPS-200-N	200	4.75/5.25	3.0/30.0	10.0-15.0	0.4/4.0 PK 6.0	10.0-15.0	0.4/4.0 PK 6.0	4.75/5.25	0.2/2.0	11 × 5.0 × 2.5	**260.00**
941-0250	ZPS-250-N	250	4.75/5.25	3.5/35.0	10.0-15.0	0.4/4.0 PK 6.0	10.0-15.0	0.4/4.0 PK 6.0	4.75/5.25	0.3/3.0	13 × 5.0 × 2.5	**340.00**
941-0300	ZPS-300-N	300	4.75/5.25	4.5/45.0	10.0-15.0	0.8/8.0 PK 12	10.0-15.0	0.8/8.0 PK 12	4.75/5.25	0.4/4.0	13 × 5.0 × 2.5	**365.00**
941-0400	ZPS-400-N	400	4.75/5.25	5.5/55.0	10.0-15.0	1.0/10.0 PK 15	10.0-15.0	1.0/10.0 PK 15	4.75/5.25	0.6/6.0	13 × 6.0 × 2.5	**405.00**

Complete specifications available upon request.

Available Early 1990

In addition to the above features, Zenith offers units with adjustable outputs. For the ZPS-250A, 300A, 400A, output 2 is user adjustable within a range of 4.75 to 16.0 VDC, all with surge current capabilities. A 150,000 hour MTBF for ZPS-250A, 300A, 400A and two year limited warranty assure performance to specifications.

941-0251	ZPS-250A-N	250	4.75/5.25	3.5/35.0	11.5-26.0	0.4/4.0 PK 6.0	4.75-16.0	0.4/4.0 PK 6.0	4.75/16.0	0.3/3.0 PK 4.5	13 × 5.0 × 2.5	**340.00**
941-0301	ZPS-300A-N	300	4.75/5.25	4.5/45.0	11.5-26.0	0.6/6.0 PK 9.0	4.75-16.0	0.8/8.0 PK 12	4.75/16.0	0.4/4.0 PK 6.0	13 × 5.0 × 2.5	**365.00**
941-0401	ZPS-400A-N	400	4.75/5.25	5.5/55.0	11.5-26.0	0.7/7.0 PK 10.5	4.75-16.0	1.0/10.0 PK 15	4.75/16.0	0.6/6.0 PK 9.0	13 × 6.0 × 2.5	**405.00**

All A units are direct replacements for preceding models.

Zenith Model ZPS-40, 40 Watt Switching Power Supply

Standard Features
- ► User selectable 115/230 VAC input
- ► 47-65 Hz single phase input
- ► 50,000 hours MTBF
- ► UL 478, CSA 22.2 No. 154, FCC Part J, Class B, IEC 380 VDC 0806 and 0871/B
- ► Compact design
- ► Clearly identified traces and component legends
- ► Board level construction
- ► 90 day warranty
- ► 100% cycled burn-in
- ► Standard off-the-shelf delivery

Zenith ZPS-40 is a 40 watt, triple output industry standard terminal power supply. It is designed to meet international safety and emissions standards of VDC 0806, VDC 0871/B and IEC 380.

Available for new systems design and replacement, the ZPS-40 footprint cross references Astec model 8151, Boschert model XL-40, ACDC model RBT41, and Power One model SPL40.

Stock No.	Mfr.'s Type	Max Output Power (Watts)	Main Output		2nd Output		3rd Output		Size (Inches) L×W×H	EACH
			Volts DC (Nominal)	Amps (Min./Max.)	Volts DC (Nominal)	Amps (Min./Max.)	Volts DC (Nominal)	Amps (Min./Max.)		
941-0040	ZPS-40	40	5.0	0.45/2.5	+12.0	0.3/2.02	−12.0	0.04/0.10	2.14 × 6.30 × 3.94	**45.00**

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Freedom 10 Time Delay Relay

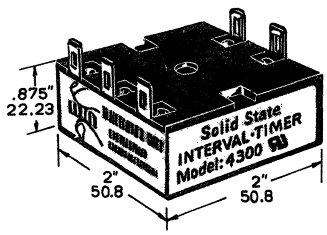
► Voltage and Polarity Friendly From 24V to 240V; AC or DC; and 50/60 Hertz
► Time Delay Range of 1 Second to 15 Minutes
► 2 Calibrated Controls: 1-100 Seconds and 0-15 Minutes
► DPDT Relay, Rating 5 Amps, Resistive 1/10 HP @ 120/240VAC
► 1% Repeatability ►CMOS IC Control Circuitry
► −20°C to +55°C Ambient ►Octal or Spade Termination

The Freedom 10 Time Delay Relay operates from any supply voltage from 24 to 240 volts AC/DC, 50/60 Hz. DPDT output contacts rated 5 amps resistive or 1/10 HP motor load at 120/240AC. Timing is adjustable from 1 second to 15 minutes by using the two calibrated controls together in any combination desired. The Freedom 10 is available with either octal or spade termination.

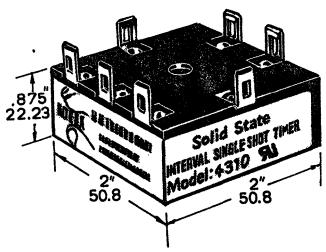
Stock No.	Mfr.'s Type	EACH		
		1-9	10-24	25-49
519-5200	Freedom 10/Octal	49.25	49.00	48.75
519-5205	Freedom 10/Spade	49.25	49.00	48.75

4300 Interval Timer

Model 4300 is an interval timer that permits operating voltage to be applied to a load circuit for a preset timing period. The load will operate only once for each application of power for the preset time and then turn off. Should the power be removed during the timing period the load would turn off, and the timing period reset to the start of another cycle. In order for the load circuit to see the full interval of operating voltage, the input voltage must be present for a duration that exceeds the preset timing interval. U.L./CSA listed.



Stock No.	Mfr.'s Type	Voltage	Adjustable Timing Interval	EACH			
				1-9	10-24	25-49	50-99
519-4301	4300A-3-1	24VDC	0.1-30 sec.	21.32	19.80	18.48	17.32
519-4302	4300A-3-2	24VDC	1-300 sec.	21.32	19.80	18.48	17.32
519-4311	4300A-8-1	120VAC	0.1-30 sec.	21.32	19.80	18.48	17.32
519-4312	4300A-8-2	120VAC	1-300 sec.	21.32	19.80	18.48	17.32
519-4313	4300A-8-3	120VAC	2-1000 sec.	21.32	19.80	18.48	17.32



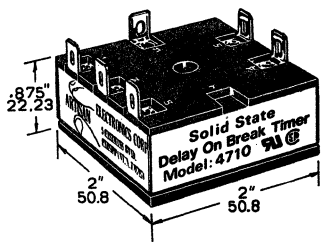
Interval/Single-Shot Timer

Model 4310 can perform as an interval timer, or as a single-shot timer. The difference between interval and single-shot operation is the operation of the initiate switch. If the load is to operate from a continuous closure from the initiate switch, wire the timer with no jumper between terminals 6 and 7. In this mode the Model 4310 will function as an interval timer. If the load circuit is to operate for the entire timing period even if the initiate switch is closed for a short duration, connect terminals 6 and 7 and operate as a single-shot timer. In single-shot operation the power switched to the load cannot be removed with the initiate switch once the cycle has been initiated. **10 amp zero voltage switching.** UL/CSA Listed.

Stock No.	Mfr.'s Type	Operating Voltage	Output Rating	Adjustable Timing Interval	EACH			
					1-9	10-24	25-49	50-99
519-4404	4310A-8-A-4	120 VAC	1 Amp	10-4500 sec.	32.91	30.55	28.52	26.73
519-4411	4310A-8-B-1	120 VAC	5 Amp	0.1-30 sec.	37.90	35.20	32.85	30.80
519-4412	4310A-8-B-2	120 VAC	5 Amp	1-300 sec.	37.90	35.20	32.85	30.80
519-4414	4310A-8-B-4	120 VAC	5 Amp	10-4500 sec.	37.90	35.20	32.85	30.80

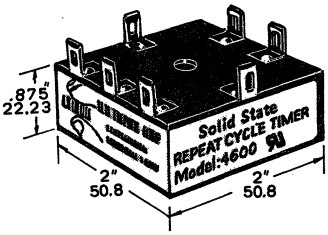
4710 Delay-On-Dropout Timer

The Model 4710 is a Delay-On-Dropout Timer which can control DC loads to 1 Amp or AC loads to 10 Amps with additional heatsinking. Closure of the initiate switch will energize the load. The timing period begins when the switch opens and resets to the beginning whenever it re-closes. To energize the load or reset the time delay, the switch must close for at least 50 milliseconds. All other specifications are identical to the Model 4310 above.



Stock No.	Mfr.'s Type	Operating voltage	Output Rating	Adjustable Timing Interval	EACH			
					1-9	10-24	25-49	50-99
519-5175	4710A-8-A-2	120 VAC	1 Amp	1-300 sec.	32.91	30.55	28.42	26.73
519-5181	4710A-8-B-2	120 VAC	5 Amp	1-300 sec.	37.90	35.20	32.85	30.80
519-5185	4710A-8-B-3	120 VAC	5 Amp	2-1000 sec.	37.90	35.20	32.85	30.80

Adjustable Repeat Cycle Timers



Model 4600 can be used in most applications which require a load circuit to "turn-on" for a predetermined period of time, "turn-off" for a period of time, and then repeat the cycle for as long as operating voltage is applied. Can control loads up to one ampere. Controlled by external resistors which establish the "Repeat Cycle Time" and the "Energize Time". Provides a Non-Zero Voltage switching output. UL/CSA listed. **Model 4610** is the high power version of the 4600 Repeat Cycle Timer. Can control loads up to 10 amperes and provides zero-voltage switching. Operates from AC voltage only. UL recognized. UL/CSA listed.

Stock No.	Mfr.'s Type	Volts	Time Range	Adjustable Energize Time	EACH			
					1-9	10-24	25-49	50-99
519-4001	4600A-2-1-A	24VDC	0.2-60 sec.	.1 sec. to 50%	27.73	25.76	24.04	22.53
519-4005	4600A-6-1-A	120VAC	0.2-60 sec.	.1 sec. to 50%	27.73	25.76	24.04	22.53
519-4007	4600A-6-2-A	120VAC	2-600 sec.	1 sec. to 50%	27.73	25.76	24.04	22.53
519-4009	4600A-6-3-A	120VAC	4-2000 sec.	2 sec. to 50%	27.73	25.76	24.04	22.53
519-4020	4610A-6-2-A	120VAC	2-600 sec.	1 sec. to 50%	41.46	38.50	35.93	33.68

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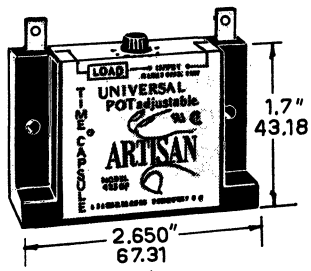
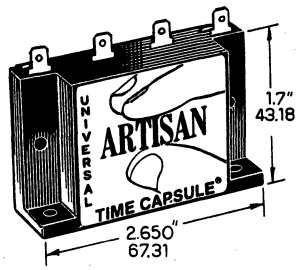
Universal Delay on Make Solid State Timers

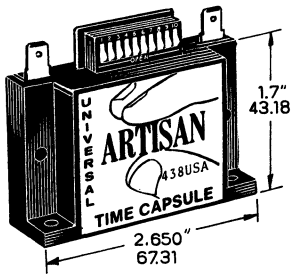


Universal Time Capsules®
Each time power is applied, all models of the 438 series remain in the OFF state, permitting only leakage current to flow through the load device for the preset delay period. At the end of the preset delay, the unit switches ON and permits full current to flow and will remain ON for as long as power is applied. When power is removed for at least 50 milliseconds, the 438 will reset, (turn OFF) and be ready to run another timing period when power is reapplied.

Model 438U Universal Time Capsule®
Solid-state timing device will delay any device operating from 24-240 volts AC/DC. Accurate predetermined periods from 1 to 1000 seconds at output current levels up to 1 ampere. Recognized under the component program of Underwriters Laboratories, Inc. **Specifications.** Timing period is controlled by the connection of a resistor across the center two terminals. A short across the RT terminals produces a 1 second delay. To increase the initial time delay add 10K per second of delay required. (Ex: 1000 Sec = 10 Meg.) **Recycle Time:** 200 milliseconds maximum after timing cycle. **Operating Temperature Range:** – 15°C to + 85°C. Off Resistance of capsule during timing cycle is approximately 20K. **Operating Voltage:** 24 to 240 V AC/DC. No need to observe polarity. Repeatability of timing delay is ± 2%. U.L. Component Program Recognized, CSA certified.
519-1000. Type 438U. **1-9** ..... **EACH 21.15**
10-24 ..... **EACH 20.67**
25-49 ..... **EACH 20.41**
50-Up ..... **EACH 19.61**

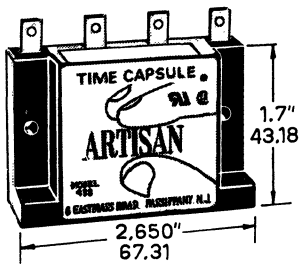


Model 438USA Universal Switch Adjustable Time Capsule®
Combines the operating characteristics of Model 438U, above, with ten programmable switches enabling the time delay period to be set from 1 to 1024 seconds without external resistors. **Specifications. Recycle Time:** 200 milliseconds maximum after timing cycle. **Operating Temperature Range:** – 15°C to + 85°C. Off Resistance of capsule during timing cycle is approximately 20K. **Operating Voltage:** 24 to 240 V AC/DC. No need to observe polarity. Repeatability of timing delay is ± 2%. U.L. Component Program Recognized, CSA certified.
519-2000. Type 438USA. Switch Adjustable. **1-9** ..... **EACH 24.33**
10-24 ..... **EACH 23.85**
25-49 ..... **EACH 23.58**
50-Up ..... **EACH 22.79**



Model 438UP Universal Pot Adjustable Time Capsule®
Ideal for air conditioning and refrigeration operations and a wide variety of other industrial applications. All solid state timing module for DELAY ON MAKE control of any load device, such as a relay, solenoid or lamp. Will provide the timing control for any 1 ampere load operating from 19 to 288 volts AC or DC. Adjustable from 0 to 8 minutes by turning the knob on top of the timer to the desired value. U.L./CSA listed.
519-2010. Model 438UP. **1-9** ..... **EACH 22.74**
10-24 ..... **EACH 22.26**
25-49 ..... **EACH 21.99**
50-Up ..... **EACH 21.20**

438A Time Capsule

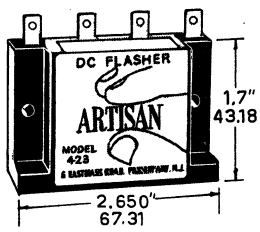


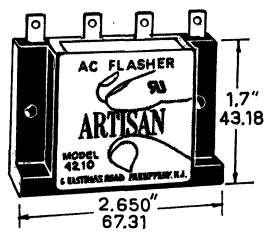
The 438A Time Capsule is an all solid-state timing module for DEALY ON MAKE control of any load device. The timing period is controlled by a fixed or variable resistor connected across the center two terminals of the Time Capsule. Supplied in three timing ranges: (-1) is adjustable from 0.1-30 seconds. (-2) is adjustable from 1-300 seconds. (-5) is adjustable from 30-8000 seconds. To use the 438A over its full timing range, a 10 megohm potentiometer must be connected across the center two terminals. U.L./CSA listed.

Stock No.	Mfr.'s Type	Voltage	Time Range	EACH			
				1-9	10-24	25-49	50-Up
519-3000	438A-24-1	24	0.1-30 seconds	19.20	17.82	16.64	15.60
519-2005	438A-24-5	24	30-8000 seconds	19.20	17.82	16.64	15.60
519-2011	438A-115-1	120	0.1-30 seconds	19.20	17.82	16.64	15.60
519-2012	438A-115-2	120	1-300 seconds	19.20	17.82	16.64	15.60
519-2015	438A-115-5	120	30-8000 seconds	19.20	17.82	16.64	15.60

AC and DC Flashers

423 DC Flasher. Solid-state device intended for use in electrical and electronic equipment as a flasher for lamp, relay and solenoid circuits and in electronic systems as a power pulser or system clock-driver. Delivers one-half ampere at the operating voltage (24 VDC). Output is fixed at a 50% duty cycle at 1 pulse per second. (60 flashes per minute).
519-5001. Model 423-24-60. **1-9** ..... **EACH 20.13**
10-24 ..... **EACH 18.70**
25-49 ..... **EACH 17.45**
50-Up ..... **EACH 16.36**



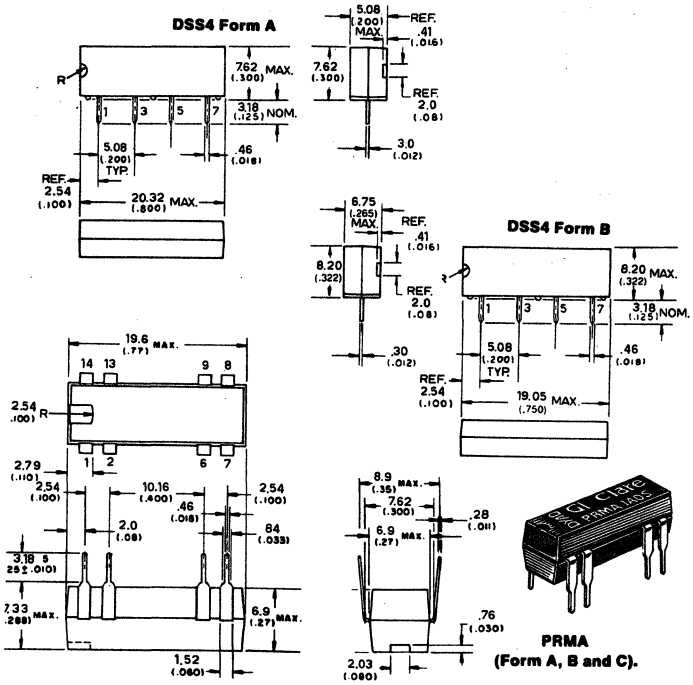


4210 AC Flasher. Model 4210 is a solid-state device intended for use in electrical and electronic equipment which require a lamp, relay or solenoid to flash at a predetermined rate. Operates with AC line frequencies from 40 to 1200 Hz. 115 VAC. Model 4210-115-60FPM has flash rate of 60 flashes per minute. U.L. listed.
519-5160. Model 4210-115-60FPM. **1-9** ..... **EACH 20.30**
10-24 ..... **EACH 18.85**
25-49 ..... **EACH 17.60**
50-Up ..... **EACH 16.50**

Dry Reed Relays

- ►Miniature, cost-effective switching solution
- ►State-of-the-art capsule
- ►Diode and electrostatic shield options available
- ►Standard nominal coil voltages include 5, 12, and 24 volts.

Engineering Specifications	DSS4 PRMA★	PRMA (Form C)
Contact Form	1A, 1B	1C
Contact Rating		
Maximum switching power	100 VA	3 VA
Maximum switching voltage	100 VDC or Peak AC	100 VDC or Peak AC
Maximum switching current	0.50 A	0.25 A
Maximum carry current	1.00 A	0.40 A
Contact Resistance, Initial	200 milliohms max.	250 milliohms max.
Contact Material	Ruthenium	Rhodium
Life Expectancy	100 × 10★	
Signal level loads (ref 10 VDC, 10mA)	200 × 10^6	20 × 10^6
Timing (at nominal VDC, 10 Hz drive, 50% duty cycle with diode suppression)		
Operate time, maximum (including Bounce)	1.00 ms	3.00 ms
Release time, maximum	1.00 ms	3.00 ms
Breakdown Voltage		
Coil to contact	1000 Vrms 1400 VDC	1000 Vrms 1400 VDC
Across Contacts	175 Vrms 250 VDC	100 Vrms 150 VDC
Insulation Resistance (Ohms)	10^{10}	10^6



Stock No.	Mfr.'s Type	Schematic Contact Form (Bottom View)	Nominal Voltage (VDC)	Coil Resistance (Ohms ± 10%)	Nominal Input Power (mW)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Maximum Voltage (VDC)	EACH 1-24	EACH 25-49	EACH 50-99
		1 Form A									
681-0005	DSS41A05		5	500	50	3.50	0.8	15.0	**3.55**	**3.48**	**2.92**
681-0010	DSS41A12		12	1000	144	8.60	1.5	30.0	**3.55**	**3.48**	**2.92**
681-0015	DSS41A24		24	2000	288	17.50	2.5	40.0	**3.75**	**3.67**	**3.08**
681-0016	DSS41A05B*		5	500	50	3.50	0.8	15.0	**4.05**	**3.96**	**3.27**
		1 Form B									
681-0020	DSS41B05		5	500	50	3.75	0.8	6.0	**6.10**	**5.97**	**5.00**
681-0025	DSS41B12		12	1000	144	9.00	1.0	14.5	**6.10**	**5.97**	**5.00**
681-0030	DSS41B24		24	2150	268	18.00	2.0	29.0	**6.40**	**6.27**	**5.24**
		1 Form A									
681-0050	PRMA1A05		5	500	50	3.75	0.8	21.0	**3.40**	**3.33**	**2.87**
681-0055	PRMA1A12		12	1000	144	9.00	1.0	30.0	**3.40**	**3.33**	**2.87**
681-0060	PRMA1A24		24	2150	268	18.00	2.0	44.0	**3.55**	**3.48**	**2.99**
681-0061	PRMA1A05B*		5	500	50	3.75	0.8	21.0	**3.90**	**3.82**	**3.10**
		1 Form B									
681-0065	PRMA1B05		5	500	50	3.75	0.8	6.0	**5.10**	**4.99**	**4.10**
681-0070	PRMA1B12		12	1000	144	9.00	1.0	14.5	**5.10**	**4.99**	**4.10**
681-0075	PRMA1B24		24	2150	268	18.00	2.0	29.0	**5.35**	**5.24**	**4.51**
		1 Form C									
681-0080	PRMA1C05		5	200	125	3.75	0.8	12.0	**8.50**	**8.32**	**6.98**
681-0085	PRMA1C12		12	500	288	9.00	1.0	18.0	**8.50**	**8.32**	**6.98**
681-0090	PRMA1C24		24	2150	268	18.00	2.0	32.0	**8.90**	**8.71**	**7.26**
		2 Form A									
681-0095	PRMA2A05		5	140	170	3.75	0.8	11.0	**5.10**	**4.99**	**4.10**
681-0100	PRMA2A12		12	500	288	9.00	1.0	21.0	**5.10**	**4.99**	**4.10**
681-0105	PRMA2A24		24	2150	268	18.00	2.0	44.0	**5.10**	**4.99**	**4.10**
		1 Form A									
681-0110	PRMA10037		5	380	66	3.75	0.8	15.0	**4.25**	**4.16**	**3.48**
681-0115	PRMA10038		12	530	271	9.00	1.0	19.0	**4.25**	**4.16**	**3.48**

*With Diode

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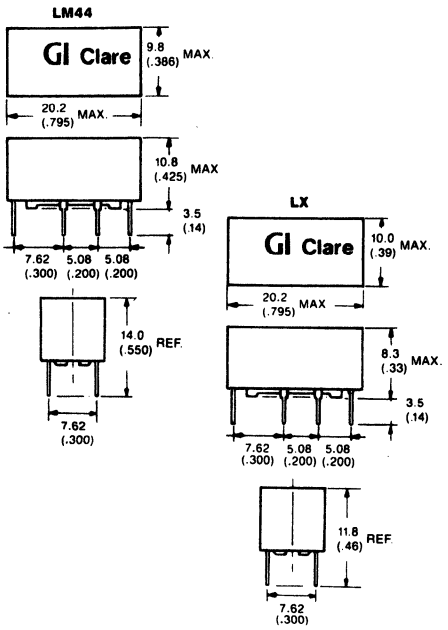
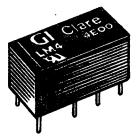
Engineering Specifications	LM44	LX	MSS2
Contact Form	2C	2C	1A
Contact Rating Maximum switching power Maximum switching voltage Maximum switching current Maximum carry current	— 30 VA 125 VDC or AC 2.00 A 3.00 A	— 30 VA 125 VDC or AC 2.00 A 3.00 A	30 VA 350 VDC or Peak AC 0.75 A 2.00 A
Contact Resistance, Initial	100 milliohms max.	100 milliohms max.	100 milliohms max.
Contact Material	Ag with Au cap	Ag with Au cap	Mercury All Position
Life Expectancy Signal level load (ref 10 VDC, 10 mA)	10×10^6	10×10^6	200×10^6
Timing (at nominal VDC, 10 Hz drive, 50% duty cycle with diode suppression) Operate time, maximum (Including Bounce) Release time, maximum	8.00 ms 8.00 ms	8.00 ms 8.00 ms	1.75 ms. 1.50 ms
Breakdown Voltage Coil to contact Across contacts	1500 Vrms 2100 VDC 1000 Vrms 1400 VDC	1500 Vrms 2100 VDC 1000 Vrms 1400 VDC	1000 Vrms 1400 VDC 1000 Vrms 1400 VDC
Insulation Resistance (Ohms)	10^8	10^9	10^8



Series LM & LX Electromechanical

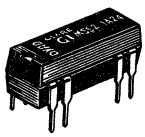
- **Standard nominal coil voltages 5, 12, 24, 48 VDC.**
- **UL and CSA approval on some models.**
- **Sealed construction for automatic board cleaning processes.**



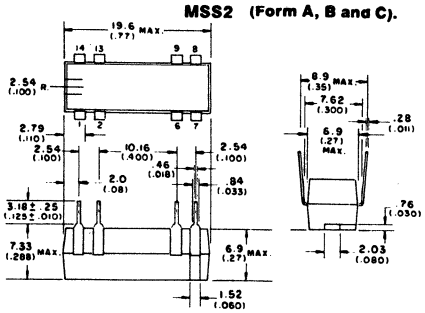
Stock No.	Mfr.'s Type	Schematic Contact Form (Bottom View)	Nominal Voltage (VDC)	Coil Resistance (Ohms ±10%)	Nominal Input Power (MW)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Maximum Voltage (VDC)	EACH 1-24	EACH 25-49	EACH 50-99
681-0116	LM44B00	2 Form C	5	62.5	400	4.00	0.5	7.0	**4.05**	**3.50**	**3.25**
681-0117	LM44D00		12	360.0	400	9.60	1.2	16.8	**4.05**	**3.50**	**3.25**
681-0118	LM44E00		24	1440.0	400	19.20	2.4	33.5	**4.05**	**3.50**	**3.25**
681-0119	LX200B00	2 Form C	5	125.0	200	3.50	0.5	8.0	**4.65**	**4.30**	**3.95**
681-0120	LX200D00		12	720.0	200	8.40	1.2	19.0	**4.65**	**4.30**	**3.95**
681-0121	LX200E00		24	2880.0	200	16.80	2.4	38.0	**4.65**	**4.30**	**3.95**

Series MSS2 Mercury Wetted

- **Molded construction for compatibility with automatic board processing.**
- **Automatic insertion capability.**
- **Diode and electrostatic shield options available.**
- **UL, VDE versions available on some models.**
- **Miniature, cost-effective switching solutions.**
- **State-of-the-art capsule designs.**
- **Standard nominal-coil voltages include 5, 12 and 24 volts.**

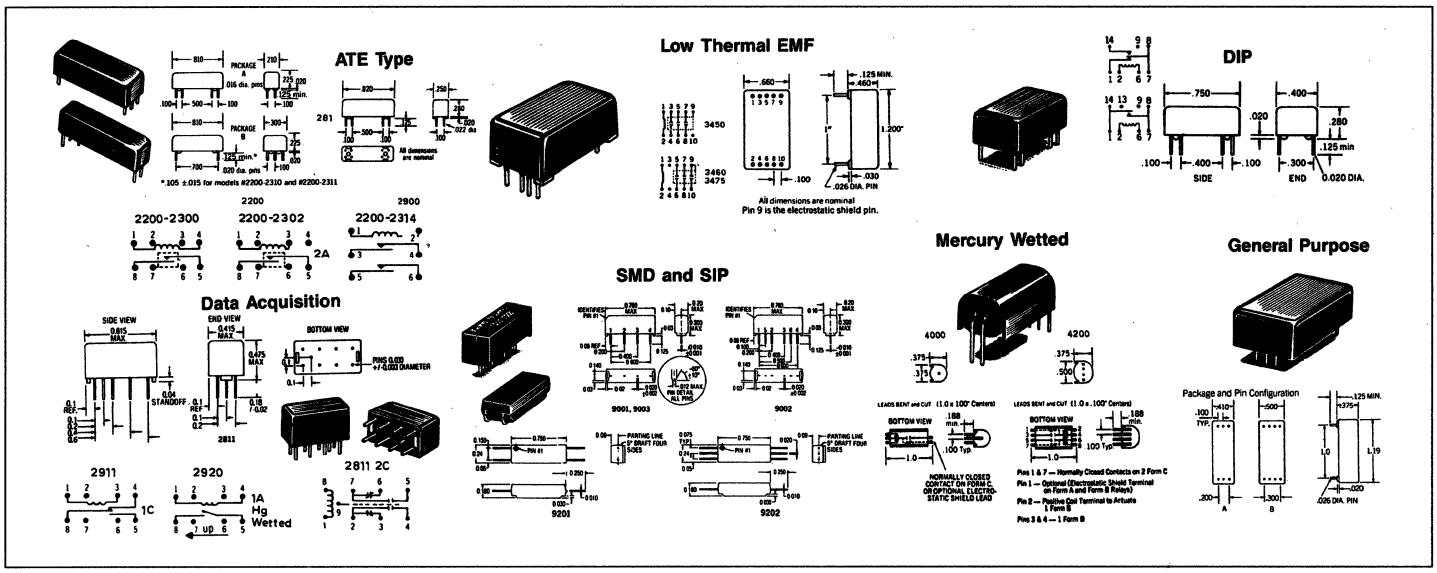


MSS2 (Form A, B and C).



Stock No.	Mfr.'s Type	Schematic Contact Form (Bottom View)	Nominal Voltage (VDC)	Coil Resistance (Ohms ±10%)	Nominal Input Power (MW)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	Maximum Voltage (VDC)	EACH 1-24	EACH 25-49	EACH 50-99
681-0035	MSS21A05	1 Form A	5	140.0	178	3.75	0.5	11.00	**8.35**	**8.17**	**7.05**
681-0040	MSS21A12		12	500.0	288	9.00	1.0	21.00	**8.35**	**8.17**	**7.05**
681-0045	MSS21A24		24	2150.0	268	18.00	2.0	44.00	**8.90**	**8.71**	**7.52**

Reed Relays



General Characteristics

					Hg Wetted	
Contact Form	1A	2A	1C	2C	1A	2A
Relay Series	A,B,C,D,E	A,B,E	A,D,E	A	E,F	F
Contact Rating (Max)	10W @ .5A	10W @ .5A	3W @ .25A	3W @ .25A	50W @ 1A	50W @ 1A
Contact Resistance (Typ)	.100Ω	.100Ω	.150Ω	.150Ω	.050Ω	.050Ω
Operate Time (Incl. Bounce)	1ms	1ms	1,5ms	1.5ms	2ms	2ms
Contact Breakdown	350 VDC min.	350 VDC min.	200 VDC min	250 VDC min.	1000 VDC	1000 VDC

Coto Corporation is the country's leading maker of reed relays for instrumentation and many other industries. The distinctive red Coto relays are manufactured to the most exacting quality specifications using computer automated testing, and advanced SPC techniques. All this adds up to reliability you simply can't find in other relays. So consider Coto the next time you're specifying reed relays.

ATE

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0001	2200-2301	5	150	7.67	6.14
811-0002	2200-2302	5	150	8.28	6.62
811-0003	2200-2314-5	5	200	8.69	6.95
811-0004	2204-05-411	5	370	8.17	6.53
811-0005	2204-12-210	12	900	8.40	6.72

12

Data Acquisition

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0006	2902-05-211	5	170	7.80	6.24
811-0007	2904-05-401	5	370	7.13	5.74
811-0008	2911-05-300	5	230	10.67	8.54
811-0009	2911-05-310	5	230	11.32	9.06
811-0010	2920-05-120	5	50	12.83	10.26
811-0011	2811-12	12	600	28.94	23.15

Low Thermal EMF

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0012	3450-05-71	5	350	18.53	14.82
811-0013	3460-12-71	12	2000	19.08	15.84
811-0014	3475-0000	5	225	11.13	8.90

SMD and SIP (Molded)

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0015	9001-05	5	500	3.63	2.91
811-0016	9002-05	5	350	4.71	3.77
811-0017	9201-05-00†	5	250	6.05	4.84
811-0018	9201-05-20*	5	250	6.05	4.84
811-0019	9202-05-00†	5	150	6.05	4.84
811-0020	9202-05-20*	5	150	6.05	4.84

*J Leads. †Gull Wing Leads

DIP - 2600

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0022	2604-05-410	5	500	7.06	5.64
811-0023	2604-05-411*	5	500	8.41	6.73
811-0024	2604-12-310	12	1500	7.30	5.84
811-0025	2604-12-311*	122	1500	8.65	6.92
811-0026	2611-05-310	5	230	11.73	9.38
811-0027	2611-05-311*	5	230	13.08	10.46
811-0028	2611-12-210	12	900	11.87	9.50
811-0029	2611-12-211*	12	900	13.22	10.58

*Diode

General Purpose

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0030	4003-05-4001	5	500	3.42	2.74
811-0031	4003-12-0001	12	500	3.42	2.74
811-0032	4003-24-2001	24	2700	4.30	3.44
811-0033	4011-05-3001	5	300	7.49	5.99
811-0034	4011-12-0001	12	500	7.49	5.99
811-0035	4011-24-2001	24	2700	8.31	6.65
811-0036	4203-05-3001	5	250	5.18	4.20
811-0037	4203-12-0001	12	400	5.29	4.29
811-0038	4203-24-0001	24	1600	5.62	4.56
811-0039	4211-05-2001	5	100	15.19	12.21
811-0040	4211-12-0001	12	400	15.35	12.34
811-0041	4211-24-0001	24	1600	15.68	12.60
811-0042	4020-12-0001*	12	500	8.26	6.62
811-0043	4020-24-0001*	24	1800	8.92	7.15

*Hg

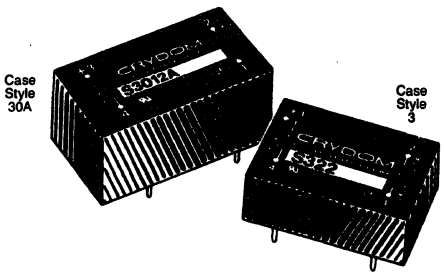
Mercury Wetted

Stock No.	Mfr.'s Type	Coils		EACH	
		Volts	Ohms	1-24	25-99
811-0044	7201-05-0100	5	70	11.02	8.81
811-0045	7202-05-0100	5	70	18.02	14.56
811-0046	7202-12-0100	12	450	18.28	14.63
811-0047	7202-24-0100	24	1785	19.05	15.24

All Parts are Hg

Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

Series 3



AC Output PC Board Mount Solid-State Relays 0.3 to 3 Amps, 120 and 240 VAC

Designed for PCB applications. Units require only 1 sq. in. space on boards. Overall height of 0.45″ on case 3 allows spacing on 0.5″ centers. High current rating. Zero voltage switching.

General Specifications. Control Signal Range: 3.5 to 8 VDC. **(Models S3013A/S3023A:** 3.5 to 18 VDC). **Must Operate Voltage:** 3.5 VDC max. **Must Release Voltage:** 1 VDC min. **Isolation Voltage:** 2500 VAC. **(Models S3013A/S3023A:** 4000 VAC). **Operating Temperature Range:** – 30°C to 80°C.

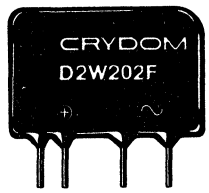
Stock No.	Mfr.'s Type	Line VAC (47-63 Hz)	Max. I @40°C A (RMS)	One-Cycle Surge Amps (PK)	Internal Snubbers	Case Style	EACH
682-0104	S310	20-140	0.3	2	No	3	**10.10**
682-0105	S3010A	20-140	0.3	2	Yes	30A	**10.85**
682-0106	S320	40-280	0.3	2	No	3	**10.00**
682-0107	S3020A	40-280	0.3	2	Yes	30A	**11.05**
682-0108	S312	20-140	2.0	55	No	3	**14.55**
682-0109	S3012A	20-140	2.0	55	Yes	30A	**14.55**
682-0110	S3013A	20-140	3.0	55	Yes	30A	**14.55**
682-0111	S322	40-280	2.0	55	No	3	**14.95**
682-0112	S3022A	40-280	2.0	55	Yes	30A	**15.15**
682-0113	S3023A	48-280	3.0	55	Yes	30A	**15.75**

Series D2W

Solid State Relays Low Cost AC Output 80 To 280 VAC, 2 Amps.

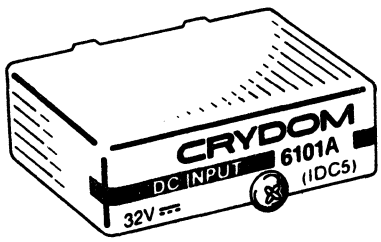
The D2W202F is designed to achieve optimum performance at a record low cost by means of completely automated assembly using labor saving robotics. The package has a hard skin-tight epoxy coating which provides excellent environmental protection and a pinout that matches the Series 6.

General Specifications. Control Signal Range: 3 to 28 VDC. **Must Operate Voltage, max.:** 3 VDC. **Must Release Voltage, min.:** 1 VDC. **Input Current @ 5 VDC max.:** 4 mA. **Input Impedance, min.:** 1500 OHMS. **Dielectric Strength 50/60 Hz:** 2500 VRMS. **Operating Temperature Range:** – 20° to 80°C.



Stock No.	Mfr.'s Type	Control Voltage Range	Output Ratings	Surge One Cycle	EACH
682-0114	D2W202F	3-32VDC	2A @ 60-280VAC	28A pk	**7.80**
682-0115	D2W203F	3-32VDC	3A @ 60-280VAC	—	**9.20**
682-0116	D2W203F-11	3-32VDC	3A @ 60-280VAC	80A pk	**9.65**

Series 6



AC And DC Microprocessor Input/Output Modules—3.5 Amps, 60 VDC, 120 and 240 VAC

For electrically clean, photo-isolated, noise-free interfacing between logic level programmable controllers, microprocessors and computerized machine controls and power level loads. Input modules accept power level signals and convert them to logic level signals. Output modules accept logic level signals to switch AC or DC loads to 3.5 Amps.

General Specifications—All Models. Dielectric (Input/Output): 4000 VRMS. **Isolation Resistance (Input/Output) @ 500 V:** 10^{10} Ohms. **Capacitance (Input/Output):** 8.0 pF. **Operating Temperature Range:** – 40°C to 80°C.

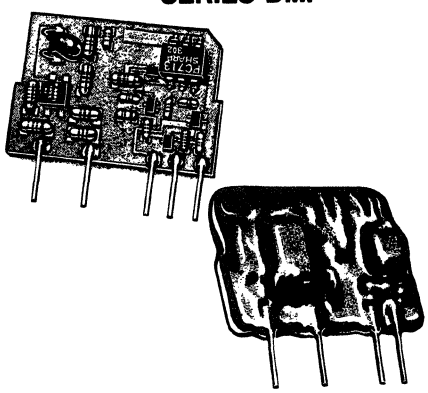
Series DMP

Standard Input/Output Modules (and Equivalents)

Stock No.	5 Volt Models		Type	Input Current vs. Voltage	Maximum Load Voltage	Maximum Load Current	EACH
	Mfr.'s Type	Equivalent					
682-0117	6101A*	IDC5	DC/IN	7MA @ 32VDC	30VDC	25mA @ 80°C	**9.30**
682-0118	6201A*	IAC5	AC/IN	6MA @ 120VAC	30VDC	25mA @ 80°C	**9.30**
682-0119	6202A*	IAC5-A	AC/IN	6MA @ 240VAC	30VDC	25mA @ 80°C	**10.50**
682-0120	6301A*	ODC5	DC/OUT	15MA @ 5VDC	60VDC	3ADC @ 45°C	**9.30**
682-0121	6401A*	OAC5	AC/OUT	15MA @ 5VDC	140VAC	3A RMS @ 45°C	**9.30**
682-0122	6402A*	OAC-5A	AC/OUT	15MA @ 5VDC	280VAC	3A RMS @ 45°C	**10.50**
682-0123	6102	—	DC/IN	6mA @ 180VDC	30VDC	25mA @ 80°C	**9.30**
682-0124	6200	—	AC/IN	6mA @ 24VAC	30VDC	25mA @ 80°C	**12.15**
682-0125	6302	ODC-5A	DC/OUT	12mA @ 5VDC	200VDC	1.5A @ 45°C	**9.30**

*In Compliance With NEMA 2-230(Noise Immunity)

SERIES DMP



Buffered Output Modules

Stock No.	Mfr.'s Type	Voltage	Type	Input Current vs. Voltage 5 Volt Models	Maximum Load Voltage	Maximum Load Current	EACH
682-0126	6311	5V	DC/OUT	75μA @ 0.8VDC*	60VDC	3.5ADC @ 45°C	**14.40**
682-0127	6321	5V	DC/OUT	75μA @ 2.4VDC**	60VDC	3.5ADC @ 45°C	**14.10**
682-0128	6411	5V	AC/OUT	75μA @ 0.8VDC*	140VDC	3.5A RMS @ 45°C	**15.30**
682-0129	6412	5V	AC/OUT	75μA @ 0.8VDC*	280VDC	3.5A RMS @ 45°C	**14.75**
682-0130	6421	5V	AC/OUT	75μA @ 2.4VDC**	140VDC	3.5A RMS @ 45°C	**14.40**
682-0131	6422	5V	AC/OUT	75μA @ 2.4VDC**	280VDC	3.5A RMS @ 45°C	**13.90**

*Sink Current (Non-Inverting) **Source Current (Inverting)

Series DMP

AC And DC Input/Output Modules 3 Amps, 30, 60, VDC And 280 VAC

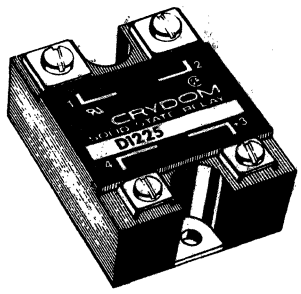
Electrically identical to Series 6 models. Packaged in a hard, skin-tight epoxy conformal coating for excellent environmental protection and fast heat transfer. Pin-out matches Series 6.

Stock No.	Mfr.'s Type	Module Type	Input Current vs. Voltage	Maximum Load Voltage	EACH
682-0132	DMP6101A	DC/IN	32mA @ 32VDC	30VDC	**8.70**
682-0133	DMP6201A	AC/IN	6mA @ 230VAC	30VDC	**8.70**
682-0134	DMP6202A	AC/IN	6mA @ 240VAC	30VDC	**9.50**
682-0135	DMP6301A	DC/OUT	15mA @ 5VDC	60VDC	**8.70**
682-0136	DMP6402A	AC/OUT	15mA @ 5VDC	280VDC	**9.65**

Series 1

► 2.5 to 90 Amp
► 120, 240 and 480 VAC
► SCR AC Output
► Panel Mount
► Solid-State Relays

These Crydom SSRs make it possible to switch AC power loads up to 47 kw. Output circuit consists of inverse-parallel (back-to-back) dual SCRs to meet the most demanding requirements. Features include zero voltage switching, phase control and normally closed models available.



General Specifications
Isolation Voltage: 4000 VAC Std. (Input to Output). **Operating Temperature Range:** –30°C to 80°C. UL and CSA. **DC Input Control Models. Control Signal Range:** 3-32 VDC. **Must Operate Voltage:** 3 VDC Max. **Must Release Voltage:** 1 VDC Min. **Input Current:** 4 mA max. @ 5 VDC. Additional DC input models available upon special order: "Normally Closed"—-B Suffix; "Non-Zero Switch"—-10 Suffix; "400 Hz"—4 Prefix. **AC Input Control Models. Control Signal Range:** 90-280 VAC. **Must Operate Voltage:** 90 VAC Max. **Must Release Voltage:** 10 VAC Min. **Input Current:** 2 mA max. @ 120 VAC.

AC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current, Amps (RMS)	One-Cycle Surge, Amps (PK)	EACH
682-0001	A1202	24-140	2.5	22.5	18.75
682-0002	A1210	24-140	10.0	120.0	29.20
682-0003	A1225	24-140	25.0	250.0	29.30
682-0004	A1240	24-140	40.0	625.0	31.15
682-0005	A2402	48-280	2.5	22.5	19.40
682-0006	A2410	48-280	10.0	120.0	28.65
682-0007	A2425	48-280	25.0	250.0	29.15
682-0008	A2440	48-280	40.0	625.0	32.15
682-0009	A2450	48-280	50.0	625.0	33.70
682-0010	A2475	48-280	75.0	1000.0	54.75
682-0011	A4808	80-530	8.0	72.0	33.20
682-0012	A4812	80-530	12.0	140.0	36.40
682-0013	A4825	80-530	25.0	250.0	39.50
682-0014	A4840	80-530	40.0	625.0	43.80
682-0015	A4850	80-530	50.0	625.0	45.45
682-0016	A4875	80-530	75.0	1000.0	60.85
682-0017	A4890	80-530	90.0	1200.0	66.90

DC Control Models — SCR Output

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current, Amps (RMS)	One-Cycle Surge, Amps (PK)	EACH
682-0018	D1202	24-140	2.5	22.5	15.10
682-0019	D1210	24-140	10.0	120.0	23.70
682-0020	D1225	24-140	25.0	250.0	24.05
682-0021	D1240	24-140	40.0	625.0	29.95
682-0022	D2402	48-280	2.5	22.5	16.80
682-0023	D2410	48-280	10.0	120.0	26.85
682-0024	D2425	48-280	25.0	250.0	27.20
682-0025	D2440	48-280	40.0	625.0	30.70
682-0026	D2450	48-280	50.0	625.0	31.45
682-0027	D2475	48-280	75.0	1000.0	53.10
682-0028	D4808	80-530	8.0	72.0	30.30
682-0029	D4812	80-530	12.0	140.0	31.95
682-0030	D4825	80-530	25.0	250.0	34.55
682-0031	D4840	80-530	40.0	625.0	36.80
682-0032	D4850	80-530	50.0	625.0	38.35
682-0033	D4875	80-530	75.0	1000.0	56.70
682-0034	D4890	80-530	90.0	1200.0	63.90

50 To 90 Amp, 48-530 and 48-660 VAC High Voltage AC Ouptut Solid-State Relays 1000V-1200V Blocking

12

The highest power rated SSRs, up to 59 kw. 4000V of isolation with the highest available blocking voltages (1.2 KV) below which the SSRs will not mistrigger. The wide margin between operating and blocking voltages permits the proper use of transient suppression (MOV) devices on the 480V line. Features include high dv/dt and zero voltage switching.

General Specifications
Control Signal Range: "C", "WD"—4 to 32 VDC; "CD"—4 to 8 VDC; "CA"—90 to 140 VAC. **Input Current @ 5 VDC:** 15 mA max. **Isolation Voltage 50/60 Hz:** 7000 VRMS. **Operating Temperature Range:** 0°C to 80°C. **"C", "H10":** 1 KV Blocking Voltage. **"H12":** 1.2 KV Blocking Voltage.

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current, Amps (RMS)	One-Cycle Surge, Amps (PK)	EACH
682-0035	D4808C	48-530	8	72	30.30
682-0036	D4812C	48-530	12	140	36.40
682-0037	D4825C	48-530	25	250	37.95
682-0038	D4850C	48-530	50	625	38.35
682-0039	D4875C	48-530	75	1000	61.95
682-0040	D4890C	48-530	90	1200	63.90
682-0041	H10CD4850	48-660	50	625	45.00
682-0042	H10CD4890	48-660	90	1200	60.00
682-0043	H10CA4850	48-660	50	625	45.00
682-0044	H10CA4890	48-660	90	1200	60.00
682-0045	H12CD4850	48-660	50	625	49.55
682-0046	H12CD4890	48-660	90	1200	66.00
682-0047	H12CA4850	48-660	50	625	49.55
682-0048	H12CA4890	48-660	90	1200	66.00
682-0049	H10WD4850	48-660	50	625	45.00
682-0050	H10WD4890	48-660	90	1200	60.00
682-0051	H12WD4850	48-660	50	625	49.55
682-0052	H12WD4890	48-660	90	1200	66.00

10 to 75 Amp, 120-240V DC Controlled, AC Ouptput SSRs Feature IC Firing Circuits To Boost Reliability And Performance

Combining integrated circuit technology and the proven Crydom series 1 high power dissipation output system results in superior SSRs. The reduction of control circuit components from 22 to 3 greatly increases life and reliability.

SCR Output

Stock No.	Mfr.'s Type	Input Control Voltage	Output Load Current	Ratings Volts (RMS)	EACH
682-0053	CSD2410	3.5-15 VDC	10A	120/240	20.05
682-0054	CSD2425	3.5-15 VDC	25A	120/240	25.55
682-0055	CSD2440	3.5-15 VDC	40A	120/240	29.75
682-0056	CSD2450	3.5-15 VDC	50A	120/240	30.75
682-0057	CSD2475	3.5-15 VDC	75A	120/240	46.00
682-0058	CSE2410	15.0-32 VDC	10A	120/240	20.05
682-0059	CSE2425	15.0-32 VDC	25A	120/240	25.55
682-0060	CSE2450	15.0-32 VDC	50A	120/240	30.75

TRIAC Output

Stock No.	Mfr.'s Type	Input Control Voltage	Output Load Current	Ratings Volts (RMS)	EACH
682-0061	CTD2410	3.5-15 VDC	10A	120/240	18.90
682-0062	CTD2425	3.5-15 VDC	25A	120/240	19.65

Series 1—Heatsink Selection Guide

Stock No.	Mfr.'s Type	Max. Operating Current (SSR Rating)	Max. Ambient Temp. (@ Max. Current)	EACH
682-0063	HS-1	10A	25°C	15.35
682-0064	HS-2	10A	40°C	16.10
682-0065	HS-2/25 Amp	25A	25°C	16.10
682-0066	HE-54	50A	40°C	23.85

7.0 to 40 Amp, 100 to 500 VDC CMOS—DC Input Solid State Relay

This new Crydom series of DC power SSRs incorporates a power MOSFET as the output device in the classics Crydom package. The input can be driven from most logic circuits, requiring less than 1.6 mA at 5 VDC. **General Specifications. Control Signal Range:** 3.5 to 32 VDC. **Input Current @ 5 VDC:** 1.6 mA max. **Isolation Voltage 50/60 Hz:** 2500 VRMS. **Operating Temperature Range:** 0°C to 80°C.

Stock No.	Mfr.'s Type	Line VDC	Max. Load Current @ 40°C Amps	One-Cycle Surge, Amps (PK)	EACH
682-0067	D1D07	0-100	7.0	15	**38.35**
682-0068	D1D12	0-100	12.0	28	**43.20**
682-0069	D1D20	0-100	20.0	42	**48.25**
682-0070	D1D40	0-100	40.0	106	**61.65**
682-0071	D2D07	0-200	7.0	22	**45.15**
682-0072	D2D12	0-200	12.0	27	**52.05**
682-0073	D4D07	0-400	7.0	17	**52.05**
682-0074	D4D12	0-400	12.0	36	**73.50**
682-0075	D5D07	0-500	7.0	19	**59.70**
682-0076	D5D10	0-500	10.0	29	**79.50**

5 Thru 25 Amp/120 and 240 VAC—Triac AC Output Solid State Relays

Crydom Triac SSRs are quality-made devices designed for general purpose switching applications where performance requirements are less demanding than those offered by SCR output types. **General Specifications. Control Signal Range:** DC Input—3 to 32 VDC; AC Input—90 to 280 VAC. **Input Current:** DC Input—4 mA @ 5 VDC; AC Input—2 mA @ 120 VAC. **Isolation Voltage:** DC Input—4000 VRMS; AC Input—4000 VRMS. **Oper. Temp. Range:** DC Input— – 30°C to 80°C; AC Input— – 30°C to 80°C.

DC Control Models—Triac Output

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current @ 40°C Amps	One-Cycle Surge Amps (PK)	EACH
682-0077	TD1210	24-140	10	100	**15.40**
682-0078	TD1225*	24-140	25	250	**15.50**
682-0079	TD2410*	48-280	10	100	**16.90**
682-0080	TD2425	48-280	25	250	**17.00**
682-0081	TD4825	80-530	25	250	**31.55**

*Available "Normally Closed" (-B Suffix)

AC Control Models Triac Output

Stock No.	Mfr.'s Type	Line VAC (46-63 Hz)	Max. Load Current @ 40°C Amps	One-Cycle Surge Amps (PK)	EACH
682-0082	TA1210	24-140	10	100	**19.05**
682-0083	TA1225	24-140	25	250	**21.10**
682-0084	TA2410	48-280	10	100	**18.95**
682-0085	TA2425	48-280	25	250	**22.00**
682-0086	TA4825	80-530	25	250	**34.35**

Soft-Start Power Modules/Relays—90-140 and 180-280 VAC—10 to 75 Amps

A control module is used in combination with a Crydom phase control relay (-10 Suffix) to provide gradual application of power to the load. **General Specifications. Input Operate Voltage Range:** 3.5 to 10 VAC. **Minimum Release Voltage:** 1 VDC. **Input Current @ 5 VDC:** 1.6 mA.

Stock No.	Mfr.'s Type	Output Voltage Range VAC	Max. Load Current, Amps	EACH
682-0087	10SST120	90-140	10	**55.65**
682-0088	25SST120	90-140	25	**56.80**
682-0089	40SST120	90-140	40	**59.40**
682-0090	10SST240	180-280	10	**57.20**
682-0091	25SST240	180-280	25	**58.80**
682-0092	40SST240	180-280	40	**60.85**
682-0093	75SST240	180-280	75	**87.65**
—	—	—	—	—

12

Time Delay Relays—48 to 280 VAC, 10, 25 or 50 Amp—2 Timing Ranges

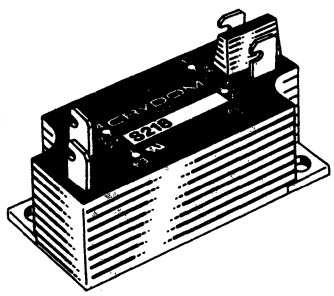
Standard series 1 relay with built-in Time Delay. (External resistor for 0 to 10 Megohm.) **General Specifications. Control Voltage Range:** 3.5 to 15 VDC. **Timing Range "DSD":** 0.1 to 83 sec. **Timing Range "DLD":** 1.6 to 1330 sec.

Stock No.	Mfr.'s Type	Max. Load Current Amps (PK)	One-Cycle Surge Amps (PK)	EACH
682-0094	DSD2410	10	120	**33.60**
682-0095	DSD2425	25	250	**35.35**
682-0096	DSD2450	50	625	**37.20**
682-0097	DLD2410	10	120	**33.60**
682-0098	DLD2425	25	250	**35.35**
682-0099	DLD2450	50	625	**37.20**

Series 2—8 Amps, 120 and 240 VAC AC Output, Panel Mount Solid-State Relays

General Specifications. Control Signal Range: 3.5 to 8 VDC. **Control Signal Range "221C":** 3.5 to 7 VDC. **Must Operate Voltage:** 3.5 VDC max. **Must Release Voltage:** 1 VDC min. **Must Operate Current:** 12 mA max. **Isolation Voltage:** 2500 VAC. **Operating Temperature Range:** – 30° to 80°C. **Snubber:** Internal.

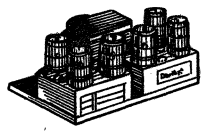
The Crydom Series 2 solid-state relays combine small size, zero voltage switching and high current rating in a package designed for heat sink or panel mounting. Standard 0.187" push-on terminals allow quick connection and are positioned to provide maximum isolation between control and power circuits.



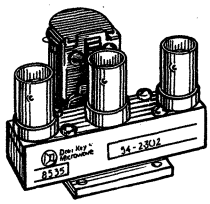
Stock No.	Mfr.'s Type	Line VAC (47-63 Hz)	Max. Load Current @ 40°C Amps (RMS)	One-Cycle Surge Amps (PK)	EACH
682-0100	S218	20-140	8.00	120	**14.65**
682-0101	S228	40-280	8.00	120	**15.05**
682-0102	S221C	5-280	1.25	30	**13.70**
682-0103	S228C	24-280	8.00	120	**13.70**

46 Series DPDT 321 Series

This DPDT switch is two SPDT (series 164) relays mounted together on a common plate with a single solenoid. The connectors are all opposite the mounting surface allowing easy access and flush-mount capabilities. With isolation of 60 dB at 50 MHz and 30 dB at 1 GHz, this low-priced relay is suitable for most general purpose switching applications.



Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6900	46-2202	12	BNC	321-11064-2	326.77
771-6901	46-2302	26	BNC	321-11064-3	326.77



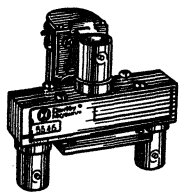
54 Series SPDT 318 Series

At a 150W maximum power rating, these medium size switches accomplish a variety of switching functions. With BNC, TNC or N connectors on the same plane as the power coil, this switch is suited for mounting in various positions. The switches are manufactured to the requirements of MIL-S-3928 with gold-plated silver contacts and two-bladed construction allowing 50 dB isolation at 50 MHz and 30 dB at 4 GHz.

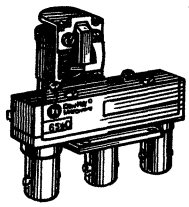
Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6903	54-220201	12	BNC	318-10382-2	159.23
771-6904	54-230201	26	BNC	318-10382-3	159.23
771-6905	54-230401	26	UHF	318-10656-3	159.23

55 Series SPDT 314 Series

Especially suited to panel-mounting, the series 55 has RF connectors mounted with the common port on one side of the RF cavity and the NC and NC ports opposite. At 150 W max. power, these medium size switches are capable of use in many environments. They are made to MIL-S-3928 and have 50 dB isolation at 50 MHz and 30 dB isolation at 4 GHZ, with other RF performance characteristics of equal integrity.



Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6906	55-220201	12	BNC	314-10446-2	159.23
771-6907	55-230201	26	BNC	314-10446-3	159.23
771-6908	55-220401	12	UHF	314-10503-2	159.23
771-6909	55-230401	26	UHF	314-10503-3	159.23



56 Series SPDT 316 Series

With all three (COM, NO, NC) RF connectors mounted opposite the operating coil, the 56 series relay may be mounted for easy access to coax cable hook-up. These medium size switches accomplish various switching functions, and are particularly suited to low power (150 W maximum) applications, although RF performance remains stable up through 5 GHz.

Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6910	56-220201	12	BNC	316-10082-2	159.23
771-6911	56-230201	26	BNC	316-10082-3	159.23
771-6912	56-220401	12	UHF	316-10777-2	159.23
771-6913	56-230401	26	UHF	316-10777-3	159.23

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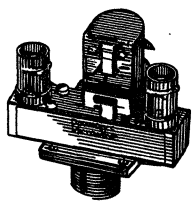
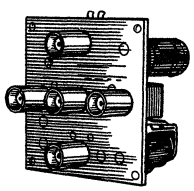
Series 62-110 SPDT—62 Series SPDT 317 Series

The Model 62-110 is a low cost, high performance coaxial relay available with two BNC output connectors and one UHF Common connector for use in mobile or battery operated transmit-receive applications. The 62-110 employs a grounded switching blade for high isolation up to 2.5 GHz. The 62-110 Series is available only with 12 V coil, for battery operation. Isolation is 60 dB min. at 100 MHz. These coaxial relays are also available with all BNC or all UHF connectors, if required.



Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6914	62-110	12	UHF/BNC	—	110.77



Series 116 SP4T 323 Series*

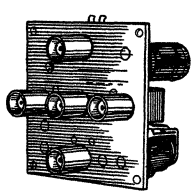
This is a small multiple-position switch designed for applications where more than one input/output is needed. Each position has its own actuating solenoid and each port is normally open (non-grounding) or normally closed (grounding). Any one or more circuits may be closed at the same time. RF performance is excellent and remains stable from low levels. Isolation is 60 dB, grounding and 45 dB, non-grounding at 50 MHz.

Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6916	116-230201	26	BNC/SH	323-11506-3	448.00
771-6917	116-220202	12	BNC/50	323-11651-2	488.73
771-6918	116-230202	26	BNC/50	323-11651-3	488.73

*Please review data sheet for mechanical differences.

164 Series SPDT 315 Series

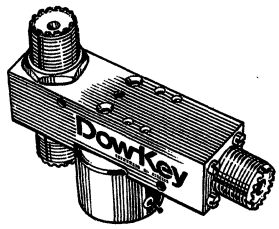
The 164 series is a small compact relay that has all connectors mounted opposite the mounting plane. Gold-plated contacts provide excellent low-level RF performance (50 dB isolation, .03 dB insertion loss, VSWR 1.03:1). With good performance to 1 GHz, these switches have many general purpose applications.

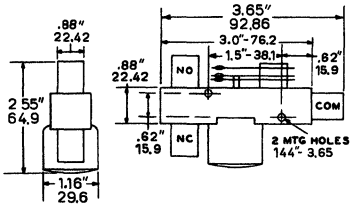


Stock No.	Mfr.'s Type	Coil Volts	Conn.	Amphenol Model	EACH
771-6919	164-2202	12	BNC	315-10002-2	159.23
771-6920	164-2302	26	BNC	315-10002-3	159.23

Other Dow-Key Amphenol direct replacement models are available, contact Allied Electronics for Model Number, Price, and Delivery.

Series 60 SPDT Remote Coaxial Relay

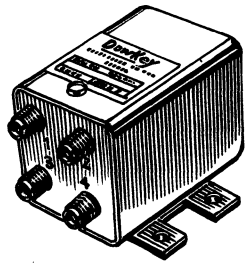




Remotely operated, ruggedly constructed, SPDT coaxial relays for operation to one kW. Specifications following for use in a 50-ohm transmission line. UHF connectors not recommended above 400 MHz. Operating time, 25ms max. Gold plated silver contacts. "Has two Form C5A, 115VAC auxiliary contacts. † Has 2C aux. plus high-isolation "G" connector at the NC or receive position, for transmit-receive applications. "G" connector increases the isolation to greater than – 100 dB at frequencies up to 500 MHz, but reduces power rating of the NC connector to 20 watts.

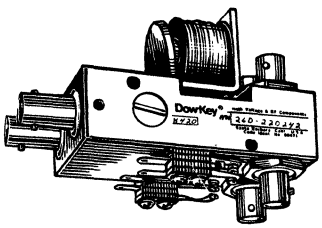
Stock No.	Mfr.'s Type	Coil V	EACH 1-4	EACH 5-9
771-6780	60-2301	26DC	139.85	129.86
771-6781	60-220142	12DC	158.73	145.50
771-6800	60-2201	12DC	139.85	129.86
771-6801	60-2204	12DC	121.85	113.14
771-6802	60-230142	26.5DC	160.62	149.14
771-6804	60-260142	115AC	175.85	163.29

Series 411 Transfer Switch



The 411 Transfer (crossover) Switches operate DC-18 GHz, maximum VSWR of 1.511, and maximum insertion loss of 0.5 dB. Handles up to 200W CW (25W at 18GHz). 1 set of Form C individual contacts; SMA connectors. 26.5VDC coil. Size (Inches): 2.1L × 1.26 Sq. Weight: Approximately 6 oz.

Stock No.	Mfr.'s Type	Coil Voltage	EACH 1-4	EACH 5-9	EACH 10-Up
771-6805	411-230832	26.5DC	517.85	486.86	448.80

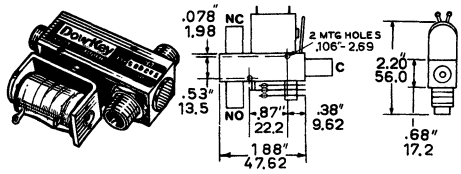


Series 260 DPDT
Series 260B By-Pass

These are ruggedly constructed coaxial relays. There are two basic types: the 260 is a DPDT relay with six connectors. The 260B is similar, except for an internal connection between the NC contacts, leaving only four connectors. The 260B is widely used for inserting a circuit element, such as a power amplifier, between two normally connected elements, such as an exciter and an antenna. Standard coils are 12 VDC (48 ohms), 26.5 VDC (245 ohms) and 115 AC. Operate time at 20°C is 25 mS maximum.

Stock No.	Mfr.'s Type	Connector Type	EACH 1-4	EACH 5-9	EACH 10-Up
771-6785	260-230242	BNC	314.31	291.86	222.40
771-6786	260B-230242	BNC	306.50	278.31	258.43

Series 77 SPDT Remote Coaxial Relay

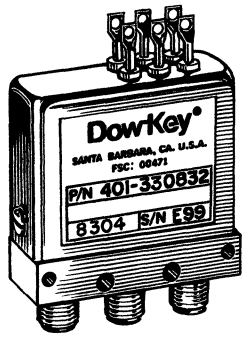


Medium size, lightweight relay for industrial and less critical military applications. The "T" shaped connector configuration has the common connector at one end and the NO and NC connectors 180° apart at the other end. With one set of Form C auxilliary contacts. Operating time 15ms max. BNC connector type. Gold plated silver contacts. Weight, 3 oz.

Stock No.	Mfr.'s Type	Coil V	EACH 1-4	EACH 5-9	EACH 10-Up
771-6742	77-230232	26DC	153.69	142.71	133.20
771-6782	77-2202	12DC	140.73	129.00	119.08
771-6783	77-2332	26DC	160.62	149.14	139.20
771-6784	77-220232	12DC	153.69	142.71	133.20
771-6806	77-2232	12DC	160.62	149.14	139.20
771-6807	77-2302	26.5DC	134.31	124.71	116.40
771-6808	77-2632	115AC	177.23	164.57	153.60

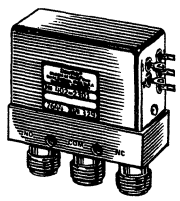
401 Series SPDT

The 401 SPDT switch with SMA connectors operates DC-18 GHz with minimum isolation of 60 dB (85 dB below 1 GHz), maximum VSWR of 1.5:1, and maximum insertion loss of 0.5 dB. Handles up to 200 W CW (25W at 18 GHz). Standard coils on failsafe relays are 12VDC (42 ohms), and 28VDC (260 ohms). Operate time at 20°C is 15mS max. Type 401-2208 is standard. Type 401-230832 has a set of form C indicator contacts. Dimensions (exclude connectors): 1.40″H × 1.34″L × .50″W (35.6 × 34.0 × 12.7mm). Weight: approximately 2 oz.



Stock No.	Mfr.'s Type	Coil Voltage	EACH 1-4	EACH 5-9	EACH 10-Up
771-6787	401-2208	12VDC	199.50	184.15	171.00
771-6788	401-230832	28VDC	240.00	221.54	205.71
771-6794	401-2308	28VDC	199.00	184.15	171.00

402 Series SPDT



The 402 series SPDT failsafe switches operate DC-12.4 GHz with minimum isolation of 60 dB (85 dB below 1 GHz). **Maximum VSWR:** 1.5:1. **Maximum Insertion Loss:** 0.5 dB. Handles up to 1KW continuous power (100W at 12.4 GHz). Operate time at 20°C is 20mS maximum. N type connectors. Type 402-220132 is with a set of Form C indicator contacts. Dimensions (excluding connectors): 2.20″H × 2.64″L × 1.09″W (55.9 × 67.1 × 27.7mm). Weight: approximately 9 oz.

Stock No.	Mfr.'s Type	Coil Voltage	EACH 1-4	EACH 5-9	EACH 10-Up
771-6789	402-2201	12VDC	293.54	272.57	254.40
771-6790	402-2301	26.5VDC	293.54	272.57	254.40
771-6791	402-220132	12VDC	324.00	300.86	280.80

Series 78 Multi-Position Coaxial Switch

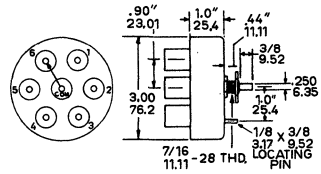
Manually operated switches using coaxial switching members rather than wafer switches. The unused connectors are of the open, non-shorting type. Mounting: Clearance hole for 7/16 thread and 9/64 hole for locating pin. With mounting nut, lockwasher, knob, escutcheon plate. Gold plated silver contacts. Life expectancy, 100,000 cycles min. Silver plated connectors. Weight, 10 oz.

Connector Locations vs. Function

Function	Connector Location
1P3T	1,3,5 and C
1P6T	1,2,3,4,5,6 and C

1P3T Switch With UHF Connector

Stock No.	Mfr.'s Type	EACH 1-4	EACH 5-9	EACH 10-Up
771-6756	78-0304	210.46	195.43	182.40

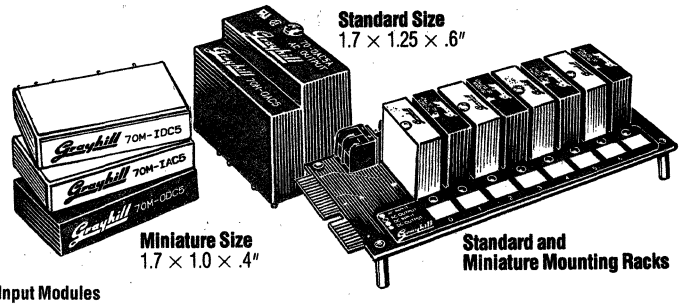


1P6T Switch With BNC Connector

Stock No.	Mfr.'s Type	EACH 1-4	EACH 5-9	EACH 10-Up
771-6759	78-0602	274.15	254.57	237.60

Standard and Miniature Input/Output Modules

- UL Recognized, CSA Certified
- AC (Black) or DC (Red) Output
- AC (Yellow) or DC (White) Input
- Standard or Mini Modules/Racks
- Withstands Surges to 80A
- Excellent Transient Protection
- Zero Crossing Output Switching
- High Thermal Conductivity



Output Modules

Stock No.	Mfr.'s Type	Logic VDC	Load Volts	EACH		
				1-9	10-24	25-49
948-7301	70-OAC5	5	120 VAC	13.35	9.61	8.94
948-7302	70-OAC15	15	120 VAC	13.35	9.61	8.94
948-7303	70-OAC24	24	120 VAC	13.35	9.61	8.94
948-7304	70-OAC5A	5	240 VAC	13.85	9.97	9.28
948-7305	70-OAC15A	15	240 VAC	13.85	9.97	9.28
948-7306	70-OAC24A	24	240 VAC	13.85	9.97	9.28
948-7307	70-ODC5	5	60 VDC	11.00	7.92	7.37
948-7308	70-ODC15	15	60 VDC	11.00	7.92	7.37
948-7309	70-ODC24	24	60 VDC	11.00	7.92	7.37
948-7310	70-ODC5A	5	200 VDC	21.41	15.42	14.34
948-7311	70M-OAC5	5	120 VAC	14.67	10.56	9.83
948-7312	70M-OAC15	15	120 VAC	14.67	10.56	9.83
948-7313	70M-OAC24	24	120 VAC	14.67	10.56	9.83
948-7314	70M-OAC5A	5	240 VAC	15.20	10.94	10.18
948-7315	70M-OAC15A	15	240 VAC	15.20	10.94	10.18
948-7316	70M-OAC24A	24	240 VAC	15.20	10.94	10.18
948-7317	70M-ODC5	5	60 VDC	14.00	10.08	9.38
948-7318	70M-ODC15	15	60 VDC	14.00	10.08	9.38
948-7319	70M-ODC24	24	60 VDC	14.00	10.08	9.38

Input Modules

Stock No.	Mfr.'s Type	Input Volts	Supply VDC	EACH		
				1-9	10-24	25-49
948-7320	70-IAC5	120 VAC	5	11.40	8.21	7.64
948-7321	70-IAC15	120 VAC	15	11.40	8.21	7.64
948-7322	70-IAC24	120 VAC	24	11.40	8.21	7.64

*Non-polarized input.

Input Modules

Stock No.	Mfr.'s Type	Input Volts	Supply VDC	EACH		
				1-9	10-24	25-49
948-7323	70-IAC5A	240 VAC	5	11.40	8.21	7.64
948-7324	70-IAC15A	240 VAC	15	11.40	8.21	7.64
948-7325	70-IAC24A	240 VAC	24	11.40	8.21	7.64
948-7326	70-IDC5	5 VDC	5	10.50	7.56	7.04
948-7327	70-IDC15	15 VDC	15	10.50	7.56	7.04
948-7328	70-IDC24	24 VDC	24	10.50	7.56	7.04
948-7329	70-IDC5NP*	5 VDC	5	11.40	8.21	7.64
948-7330	70-IDC15NP*	15 VDC	15	11.40	8.21	7.64
948-7331	70-IDC24NP*	24 VDC	24	11.40	8.21	7.64
948-7332	70M-IAC5	120 VAC	5	13.07	9.41	8.76
948-7333	70M-IAC15	120 VAC	15	13.07	9.41	8.76
948-7334	70M-IAC24	120 VAC	24	13.07	9.41	8.76
948-7335	70M-IAC5A	240 VAC	5	13.33	9.60	8.93
948-7336	70M-IAC15A	240 VAC	15	13.33	9.60	8.93
948-7337	70M-IAC24A	240 VAC	24	13.33	9.60	8.93
948-7338	70M-IDC5	32 VDC	5	10.53	7.58	7.06
948-7339	70M-IDC15	32 VDC	15	10.53	7.58	7.06
948-7340	70M-IDC24	32 VDC	24	10.53	7.58	7.06

*Non-polarized input.

Module Mounting Racks

Racks have status LEDs, removable fuses, and label areas (except 70RCK4). Type number suffixes: no suffix or -EC = edge card; H = perpendicular header; R = right angle header. Headers have either long (L) or short (S) ejector levers.

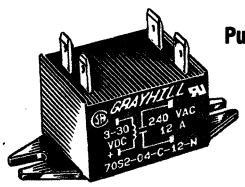
Miniature (70MRC) Module Mounting Racks

Stock No.	Mfr.'s Type	Size	EACH	
			1-9	10-24
948-7534	70MRCK16-EC	16	67.57	63.52
948-7535	70MRCK16-HS	16	71.62	67.32
948-7536	70MRCK16-RS	16	71.62	67.32
948-7537	70MRCK16-HL	16	71.62	67.32
948-7538	70MRCK16-RL	16	71.62	67.32
948-7539	70MRCQ24-EC	24	110.00	103.40
948-7540	70MRCQ24-HS	24	114.05	107.21
948-7541	70MRCQ24-HL	24	114.05	107.21
948-7542	70MRCQ24-RS	24	114.05	107.21

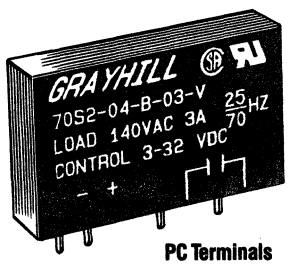
Standard (70RC) Module Mounting Racks

Stock No.	Mfr.'s Type	Size	EACH	
			1-9	10-24
948-7359	70RCK4	4	19.85	18.66
948-7360	70RCK8	8	39.19	36.84
948-7361	70RCK16	16	63.51	59.70
948-7543	70RCK16-HS	16	67.56	63.51
948-7544	70RCK16-HL	16	67.56	63.51
948-7545	70RCK16-RS	16	67.56	63.51
948-7546	70RCK16-RL	16	67.56	63.51
948-7362	70RCK24	24	105.41	99.09
948-7547	70RCK24-HS	24	109.46	102.89
948-7548	70RCK24-HL	24	109.46	102.89
948-7549	70RCK24-RS	24	109.46	102.89
948-7550	70RCK24-RL	24	109.46	102.89

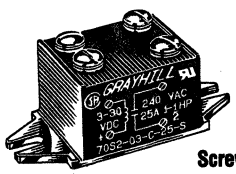
70S2 Series Solid State Relays



Push-on Terminals



PC Terminals



Screw Terminals

- UL Recognized, CSA Certified
- Miniature Size, High Performance
- High Surge Current Protection
- Built-In Transient Protection
- Zero Crossing Switching
- High Thermal Conductivity

Panel Mount Mini-Puck Relays
- Fit/Replacement for Hockey Puck Relays
- Switch Up to 25A in About 1/2 the Space

PC Mount SIP Relays
- Board Area 680 Sq. in.
- Switches .3A With No Additional Heat Sink

Push-On Terminal Panel Mount Relays

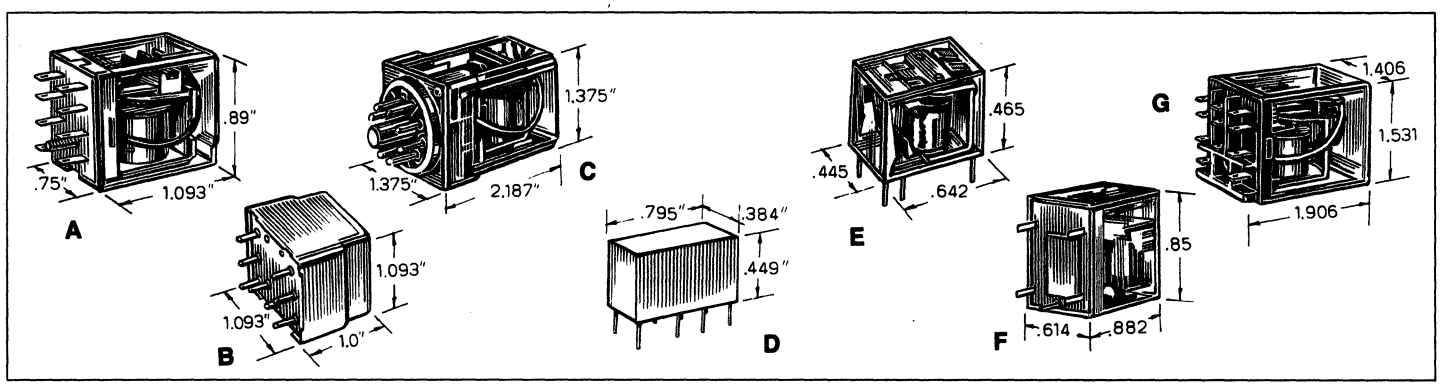
Stock No.	Mfr.'s Type	Load		Control Range VDC	EACH		
		VAC	A (Max.)		1-9	10-24	25-49
948-7341	70S2-04-B-06-N	120	6	3-30	17.36	13.89	12.50
948-7342	70S2-05-B-06-N	120	6	6-30	17.36	13.89	12.50
948-7343	70S2-04-C-06-N	240	6	3-30	18.27	14.62	13.15
948-7344	70S2-05-C-06-N	240	6	6-30	18.27	14.62	13.15
948-7345	70S2-04-B-12-N	120	12	3-30	18.40	14.72	13.25
948-7346	70S2-05-B-12-N	120	12	6-30	18.40	14.72	13.25
948-7347	70S2-04-C-12-N	240	12	3-30	19.33	15.46	13.92
948-7348	70S2-05-C-12-N	240	12	6-30	19.33	15.46	13.92

Screw Terminal Panel Mount Relays

948-7349	70S2-04-B-06-S	120	6	3-30	19.07	15.26	13.73
948-7350	70S2-05-B-06-S	120	6	6-30	19.07	15.26	13.73
948-7351	70S2-04-B-12-S	120	12	3-30	20.00	16.00	14.40
948-7352	70S2-05-B-12-S	120	12	6-30	20.00	16.00	14.40
948-7353	70S2-03-B-25-S	120	25	3-30	28.50	22.80	20.52
948-7354	70S2-04-C-06-S	240	6	3-30	19.68	15.74	14.17
948-7355	70S2-05-C-06-S	240	6	6-30	19.68	15.74	14.17
948-7356	70S2-04-C-12-S	240	12	3-30	20.80	16.64	14.98
948-7357	70S2-05-C-12-S	240	12	6-30	20.80	16.64	14.98
948-7358	70S2-03-C-25-S	240	25	3-30	29.00	23.20	20.88

PC Mount SIP Relays

948-7366	70S2-04-D-03-V	24	3	3-32	11.70	9.36	8.42
948-7367	70S2-05-D-03-V	24	3	6-32	11.70	9.36	8.42
948-7368	70S2-04-B-03-V	120	3	3-32	11.70	9.36	8.42
948-7369	70S2-05-B-03-V	120	3	6-32	11.70	9.36	8.42
948-7370	70S2-04-C-03-V	240	3	3-32	12.30	9.84	8.86
948-7371	70S2-05-C-03-V	240	3	6-32	12.30	9.84	8.86



Series 1330/1335 (Socket/Solder Lug) DPDT (Fig. A)

Contacts Rated 5 Amps resistive at 30VDC. 3 Amps inductive, 1/8 H.P. at 120VAC. DPDT contact arrangement. Socket/solder lug or P.C. solder with polycarbonate cover. **Dimensions:** 0.89 × 0.75 × 1.093". **Weight:** .75 oz. (21 grams).

1330/1335 (Socket/Solder Lug) DPDT

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2100	1330-2C-12A	12AC	50	6.51	6.23	5.75	5.34
802-2105	1330-2C-24A	24AC	245	6.51	6.23	5.75	5.34
802-2110	1330-2C-120A	120AC	5400	6.41	6.23	5.75	5.34
802-2115	1335-2C-12D	12DC	125	6.27	6.08	5.62	5.21
802-2120	1335-2C-24D	24DC	500	6.27	6.08	5.62	5.21

1330P/1335 (P.C. Solder) DPDT

802-2125	1330P-2C-12A	12AC	50	6.41	6.23	5.75	5.34
802-2130	1330P-2C-24A	24AC	245	6.41	6.23	5.75	5.34
802-2135	1330P-2C-120AC	120AC	5400	6.41	6.23	5.75	5.34
802-2140	1335P-2C-12D	12DC	125	6.27	6.08	5.62	5.21
802-2145	1335P-2C-24D	24DC	500	6.27	6.08	5.62	5.21

Series 1360PC/1365PC (Fig. B)

DPDT contact arrangement with nylon cover and termination suitable for socket on P.C. mount. Contacts Rated 5 Amps at 30 VDC and 120 VAC. **Dimensions:** 1.093 × 1.093 × 1.0". **Weight:** 1 oz. (28 grams).

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2200	1360PC-2C-24A	24AC	150	17.08	16.45	15.95	15.50
802-2205	1360PC-2C-120A	120AC	3500	17.08	16.45	15.95	15.50
802-2210	1365PC-2C-12D	12DC	150	15.28	13.90	13.40	12.90
802-2215	1365PC-2C-24D	24DC	600	15.28	13.90	13.40	12.90

Series 1410/1415-DPDT And 3DPT (Fig. C)

Octal base plug-in type relays rated 10 Amps 120/240VAC (1/6 H.P. at 120VAC and 1/3 H.P. at 240VAC). Polycarbonate cover. **Dimensions:** 1.375 × 1.375 × 2.187". **Weight:** 3.5 oz (99 grams).

DPDT 8 Pin Octal Types

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2300	141-2C-12A	12AC	24	15.61	14.02	13.01	12.15
802-2305	1410-2C-24A	24AC	85	15.61	14.02	13.01	12.15
802-2310	1410-2C-120A	120AC	9,110	14.19	14.02	13.01	12.15
802-2315	1415-2C-12D	12DC	120	16.32	14.65	13.60	12.69
802-2320	1415-2C-24D	24DC	472	16.32	14.65	13.60	12.69
802-2325	1415-2C-110D	110DC	10,000	16.32	14.65	13.60	12.69

3PDT 11 Pin Octal Types

802-2330	1410-3C-12A	12AC	18	16.86	15.40	14.30	13.35
802-2335	1410-3C-24A	24AC	24	16.86	15.40	14.30	13.35
802-2340	1410-3C-120A	120AC	7,200	16.86	15.40	14.30	13.35
802-2345	1415-3C-12D	12DC	120	16.86	15.02	13.94	13.01
802-2350	1415-3C-24D	24DC	472	16.86	15.02	13.94	13.01
802-2355	1415-3C-110D	110DC	10,000	18.04	15.02	13.94	13.01

Series 1495/1495S DPDT (Fig. D)

Designed to meet FCC part 68, 1500 volt surge test. Rated 2 Amps at 120VAC, 1 Amp 30VDC. Polycarbonate, 1495S types have processing seal and must be vented. **Dimensions:** 0.795 × 0.386 × 0.449". **Weight:** .18 oz (5 grams).

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2400	1495-2C-3D	3DC	17	6.33	5.89	5.49	4.44
802-2405	1495-2C-6D	6DC	66	6.33	5.89	5.49	4.44
802-2410	1495-2C-12D	12DC	280	6.33	5.89	5.49	4.44
802-2415	1495-2C-24D	24DC	1070	6.74	6.26	5.84	5.75
802-2420	1495S-2C-3D	3DC	17	7.69	7.14	6.67	6.50
802-2425	1495S-2C-6D	6DC	66	7.69	7.14	6.67	6.50
802-2430	1495S-2C-12D	12DC	280	4.00	3.58	3.33	3.11
802-2435	1495S-2C-24D	24DC	1070	8.10	7.70	6.90	4.66

Series 1505/1505S SPDT (Fig. E)

P.C. solder .100" grid pattern termination. Rated 1 Amp 30VDC. Polycarbonate cover. 1505S types have processing seal and must be vented. **Dimensions:** .642 × .445 × .465". **Weight:** .13 oz (3.7 grams).

Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2500	1505-1C-3D	3DC	21	3.34	2.96	2.57	2.50
802-2505	1505-1C-6D	6DC	84	3.34	2.96	2.57	2.50
802-2510	1505-1C-12D	12DC	333	3.34	2.96	2.57	2.50
802-2515	1505-1C-24D	24DC	1330	3.65	3.39	3.16	2.77
802-2520	1505S-1C-3D	3DC	21	4.71	4.38	4.08	4.00
802-2525	1505S-1C-6D	6DC	84	3.23	2.80	2.48	2.40
802-2530	1505S-1C-12D	12DC	333	3.23	2.80	2.48	2.40
802-2535	1505S-1C-24D	24DC	1330	3.23	2.80	2.48	2.40

Series 1575/1575S SPDT (Fig. F)

5 Amp contact rating at 30VDC and 120VAC. **Type 1575S** has processing seal and must be vented. SPDT, DC coil voltages. P.C. type termination. **Dimensions:** 0.85 × 0.614 × 0.882". **Weight:** .5 oz (14 grams).

Stock No.	Mfr.'s Type	Coil Voltage	Coil Resistance	EACH			
				1-24	25-49	50-99	100-Up
802-2600	1575-1C-6D	6DC	100	3.24	2.93	2.70	2.52
802-2605	1575-1C-12D	12DC	400	3.24	2.93	2.70	2.52
802-2610	1575-1C-24D	24DC	6400	3.24	2.93	2.70	2.52
802-2615	1575S-1C-6D	6DC	100	3.59	2.99	2.74	2.56
802-2620	1575S-1C-12D	12DC	400	3.59	2.99	2.75	2.56
802-2625	1575S-1C-24D	24DC	6400	3.59	2.99	2.74	2.56

Series 1510/1515 and 1510/1515P (Fig. G)

Contacts rated 12 Amps at 120VAC and 30VDC, 1/3 H.P. at 120VAC, 1/2 at 120/240VAC, 1/2 H.,P. or 3VA at 600VAC. Three contact arrangements; SPDT, DPDT, and 3PDT. Polycarbonate cover. **Dimensions:** 1.531 × 1.406 × 1.906". **Weight:** 3 oz (85 grams).

Socket/Solder Lug Types

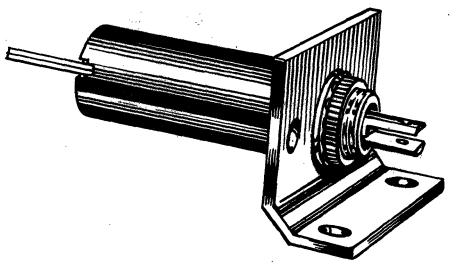
Stock No.	Mfr.'s Type	Coil Volts	Coil Resistance	Circuit	EACH		
					1-24	25-49	50-99
802-2700	1510-1C-12A	12AC	21	SPDT	9.06	8.41	7.85
802-2702	1510-1C-24A	24AC	85	SPDT	9.06	8.41	7.85
802-2704	1510-1C-120A	120AC	2250	SPDT	9.57	8.88	8.28
802-2706	1510-2C-12A	12AC	21	DPDT	15.28	12.73	10.91
802-2708	1510-2C-24A	24AC	85	DPDT	15.28	12.73	10.91
802-2710	1510-2C-120A	120AC	2250	DPDT	10.26	9.53	8.89
802-2712	1510-3C-12A	12AC	18	3PDT	11.05	10.26	9.57
802-2714	1510-3C-24A	24AC	72	3PDT	11.05	10.26	9.57
802-2716	1510-3C-120A	120AC	1700	3DPT	11.26	10.46	9.76
802-2718	1515-1C-12D	12DC	120	SPDT	8.23	7.64	7.13
802-2720	1515-1C-24D	24DC	472	SPDT	8.23	7.64	7.13
802-2722	1515-1C-110D	110DC	10,000	SPDT	9.35	8.69	8.11
802-2724	1515-2C-12D	12DC	120	DPDT	9.80	9.10	8.49
802-2726	1515-2C-24D	24DC	472	DPDT	9.80	9.10	8.49
802-2728	1515-2C-110D	110DC	10,000	DPDT	10.62	9.86	9.20
802-2730	1515-3C-12D	12DC	120	3DPT	10.78	10.01	9.35
802-2732	1515-3C-24D	24DC	472	3DPT	10.78	10.01	9.35
802-2734	1515-3C-110D	110DC	10,000	3DPT	11.74	10.90	10.17

PC Types

802-2736	1510P-1C-12	12AC	21	SPDT	8.75	8.13	7.59
802-2738	1510P-1C-24	24AC	85	SPDT	8.75	8.13	7.59
802-2740	1510P-1C-120	120AC	2250	SPDT	9.25	8.59	8.01
802-2742	1510P-2C-12	12AC	21	DPDT	9.86	9.16	8.55
802-2744	1510P-2C-24	24AC	85	DPDT	9.86	9.16	8.55
802-2746	1510P-2C-120	120AC	2250	DPDT	10.38	9.64	9.00
802-2748	1510P-3C-12	12AC	18	3PDT	11.15	10.36	9.67
802-2750	1510P-3C-24	24AC	72	3PDT	11.15	10.36	9.67
802-2752	1510P-3C-120	120AC	1750	3PDT	11.32	10.51	9.81
802-2754	1515P-1C-12	12DC	120	SPDT	10.92	10.14	9.47
802-2756	1515P-1C-24	24DC	472	SPDT	10.92	10.14	9.47
802-2758	1515P-1C-110	110DC	10,000	SPDT	9.49	8.81	8.23
802-2760	1515P-2C-12	12DC	120	DPDT	9.91	9.20	8.59
802-2762	1515P-2C-24	24DC	472	DPDT	9.91	9.20	8.59
802-2764	1515P-2C-110	110DC	10,000	DPDT	10.77	10.00	9.33
802-2766	1515P-3C-12	12DC	120	3DPT	10.92	10.14	9.47
802-2768	1515P-3C-24	24DC	472	3DPT	10.92	10.14	9.47
802-2770	1515P-3C-110	110DC	10,000	3DPT	11.74	10.90	10.17

12

T and TP Series Tubular Solenoids



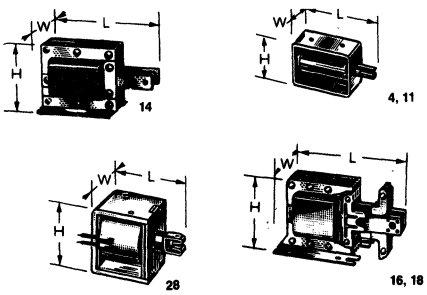
Tubular solenoids are available in either pull (T series) or push (TP series). TP series dimensions are identical to T series. Notched assembly of shell and bushing permits tightening of mounting nut without damaging coil. **Insulation Material:** Class "A" (110°C). **Termination:** 6" leads. Mounting hardware included. T and TP series recognized under the Component Program of Underwriters' Laboratories, Inc.

T3.5x9: L—1 1/8"; D—7/16"; Mounting thread size—5/16-32 UNEF; Bracket W—1 1/8". **T4x7:** L—7/8"; D—1/2"; Mounting thread size—3/8-32 UNEF; Bracket W—1 1/8". **T 4x12:** L—1 1/2"; D—1/2"; Mounting thread size—3/8-32 UNEF; Bracket W—1 1/8". **T4x16:** L—2"; D—1/2"; Mounting thread size—3/8-32 UNEF; Bracket W—1 1/8". **T6x12:** L—1 1/2"; D—3/4"; Mounting thread size—5/32-32 UNEF; Bracket W—1 3/8". **T8x9:** L—1 1/8"; D—1"; Mounting thread size—3/4-24 UNS; Bracket W—2". **T8x16:** L—2"; D—1"; Mounting thread size—3/4-24 UNS; Bracket W—2". **T12x13:** L—1 5/8"; D—1 1/2"; Mounting thread size—1-27 UNS; Bracket W—2 1/2". **T12x19:** L—2 3/8", D—1 1/2"; Mounting thread size—1-27 UNS; Bracket W—2 1/2".

Stock No.	Mfr.'s Type	Duty	Coil Voltage	Ohms	Watts	Typical Lifts and Strokes		EACH		
						Minimum	Maximum	1-24	25-49	50-99
802-1151	T3.5x9*	Inter.	24DC	57.0	10.0	8.5 oz. at 1/32"	1 oz. at 1/2"	**9.85**	**9.14**	**8.53**
802-1152	T3.5x9*	Cont.	24DC	260.0	2.0	5.5 oz. at 1/32"	.75 oz. at 1/16"	**9.85**	**9.14**	**8.53**
802-1153	T3.5x9*	Inter.	12DC	14.0	10.0	8.5 oz. at 1/32"	1 oz. at 1/2"	**9.85**	**9.14**	**8.53**
802-1154	T3.5x9*	Cont.	12DC	80.0	2.0	5.5 oz. at 1/32"	.75 oz. at 5/16"	**9.85**	**9.14**	**8.53**
802-1155	TP3.5x9	Inter.	24DC	57.0	10.0	6.8 oz. at 1/32"	.96 oz. at 1/2"	**14.61**	**13.57**	**12.66**
802-1156	T4x7*	Inter.	24DC	80.0	7.0	12 oz. at 1/32"	8 oz. at 1/4"	**10.83**	**9.51**	**8.88**
802-1190	T4x7*	Cont.	24DC	240.0	2.4	6 oz. at 1/32"	1 oz. at 3/16"	**10.83**	**9.51**	**8.88**
802-1157	TP4x7	Cont.	24DC	240.0	2.4	4.8 oz. at 1/32"	.8 oz. at 3/16"	**17.25**	**16.01**	**14.95**
802-1158	T4x12*	Inter.	24DC	38.0	15.0	14 oz. at 1/32"	1.5 oz. at 7/8"	**10.83**	**9.51**	**8.88**
802-1159	T4x12*	Cont.	24DC	160.0	3.5	7 oz. at 1/32"	1.5 oz. at 1/4"	**10.90**	**10.13**	**9.45**
802-1160	TP4x12	Inter.	24DC	38.0	15.0	12 oz. at 1/32"	1.2 oz. at 7/8"	**14.59**	**13.54**	**12.64**
802-1161	TP4x12	Cont.	24DC	160.0	3.5	6 oz. at 1/32"	1.2 oz. at 1/4"	**14.59**	**13.54**	**12.64**
802-1162	T4x16*	Inter.	24DC	24.0	20.0	7 oz. at 1/32"	4 oz. at 1"	**11.68**	**10.84**	**10.12**
802-1163	T4x16*	Inter.	12DC	6.0	20.0	7 oz. at 1/32"	4 oz. at 1"	**11.68**	**10.84**	**10.12**
802-1191	T4x16*	Cont.	12DC	36.0	4.0	6.5 oz. at 1/32"	1.5 oz. at 7/8"	**11.68**	**10.84**	**10.12**
802-1192	TP4x16*	Inter.	24DC	24.0	20.0	5.6 oz. at 1/32"	3.2 oz. at 1"	**13.16**	**12.21**	**11.40**
802-1164	TP4x16	Cont.	24DC	145.0	4.0	5.2 oz. at 1/32"	1.2 oz. at 7/8"	**13.16**	**12.21**	**11.40**
802-1165	T6x12*	Inter.	24DC	25.0	22.0	30 oz. at 1/16"	4 oz. at 1/16"	**11.04**	**10.24**	**9.56**
802-1166	T6x12*	Cont.	24DC	165.0	3.5	12 oz. at 1/16"	1 oz. at 3/4"	**11.04**	**10.24**	**9.56**
802-1167	T6x12*	Inter.	12DC	6.5	22.0	30 oz. at 1/16"	4 oz. at 1/16"	**11.04**	**10.24**	**9.56**
802-0565	T6x12*	Cont.	12DC	41.0	3.5	12 oz. at 1/16"	1 oz. at 3/4"	**11.04**	**10.24**	**9.56**
802-1193	TP6x12*	Inter.	24DC	25.0	22.0	24 oz. at 1/16"	3.2 oz. at 3/4"	**12.93**	**12.01**	**11.21**
802-1194	TP6x12*	Cont.	24DC	165.0	3.5	9.6 oz. at 1/16"	.8 oz. at 3/4"	**12.93**	**12.01**	**11.21**
802-1168	T8x9*	Inter.	24DC	145.0	4.0	23 oz. at 1/16"	3 oz. at 7/16"	**11.24**	**10.43**	**9.73**
802-1195	TP8x9	Inter.	24DC	44.0	14.0	42 oz. at 1/16"	4.8 oz. at 7/16"	**15.23**	**14.14**	**13.20**
802-1169	TP8x9	Cont.	24DC	145.0	4.0	18.4 oz. at 1/16"	2.4 oz. at 7/16"	**15.23**	**14.14**	**13.20**
802-1170	T8x16*	Inter.	24DC	15.0	38.0	80 oz. at 1/16"	14 oz. at 7/8"	**10.40**	**9.60**	**8.96**
802-0574	T8x16*	Cont.	24DC	105.0	5.5	35 oz. at 5/8"	5.5 oz. at 7/8"	**10.40**	**9.60**	**8.96**
802-1171	T8x16*	Inter.	12DC	2.7	38.0	80 oz. at 1/16"	14 oz. at 7/8"	**10.40**	**9.60**	**8.96**
802-0573	T8x16*	Cont.	12DC	26.0	5.5	35 oz. at 1/16"	5.5 oz. at 7/8"	**10.40**	**9.60**	**8.96**
802-1172	T12x13*	Inter.	24DC	14.0	40.0	150 oz. at 1/8"	14 oz. at 3/4"	**19.66**	**18.26**	**17.04**
802-1173	T12x13*	Cont.	24DC	85.0	6.6	50 oz. at 1/8"	4 oz. at 3/4"	**19.66**	**18.26**	**17.04**
802-1178	TP12x13	Inter.	24DC	14.0	40.0	120 oz. at 1/8"	11.2 oz. at 3/4"	**19.57**	**18.20**	**16.98**
802-1179	TP12x13	Cont.	24DC	85.0	7.0	40 oz. at 1/8"	3.2 oz. at 3/4"	**19.57**	**18.20**	**16.98**
802-1174	T12x19*	Inter.	24DC	9.5	60.0	150 oz. at 1/8"	12 oz. at 1 1/2"	**18.38**	**17.07**	**15.93**
802-1175	T12x19*	Cont.	24DC	59.0	10.0	80oz. at 1/8"	5 oz. at 1 1/2"	**18.38**	**17.07**	**15.93**
802-1176	TP12x19	Inter.	24DC	9.5	60.0	120 oz. at 1/8"	9.6 oz. at 1 1/2"	**20.40**	**18.94**	**17.68**
802-1177	TP12x19	Cont.	24DC	59.0	10.0	64 oz. at 1/8"	4 oz. at 1 1/2"	**20.40**	**18.94**	**17.68**

*U.L. Model

Industrial AC and DC Solenoids



Solenoids in a wide selection of sizes for AC or DC applications. Types 11 and 28 are for either AC or DC voltages. Laminated solenoids Types 14, 16 and 18 are for AC operation only. Tubular pull/push are for DC operation only. Intermittent-duty coils should not be energized for more than 3 consecutive minutes or be permitted to rise more than 85°C above 25°C ambient without time for cooling between cycles; continuous-duty types will not have a temperature rise of more than 85°C at rated voltage and ambient.

Stock No.	Mfr.'s Type	Volts	Ohms	Stroke and Lift Ounces@Inches		Size H × W × L		Shpg. Wt., Oz.	EACH		
				Min.	Max.	In.	MM		1-24	25-49	50-99
802-1032	4†	120	133.0	8@1/8	4@1 1/4	5/8 × 17/16 × 2 1/16	41.27 × 36.51 × 53.38	14 1/2	**13.00**	**11.96**	**10.06**
802-1057	11†	24	8.0	12@1/8	10@3/4	13/16 × 15/16 × 1 7/8	30.16 × 23.81 × 47.62	7 1/2	**8.96**	**7.64**	**7.04**
802-1070	11*	120	85.0	40@1/16	10@3/4	13/16 × 15/16 × 1 7/8	30.16 × 23.81 × 47.62	7 1/2	**8.96**	**7.64**	**7.04**
802-1061	11†	120	200.0	12@1/8	6@3/4	13/16 × 15/16 × 1 7/8	30.16 × 23.81 × 47.62	7 1/2	**8.96**	**7.64**	**7.04**
802-1085	14†	120	18.0	75@1/8	35@1 1/2	2 1/16 × 1 15/16 × 2 7/16	53.38 × 49.21 × 61.91	19	**21.33**	**18.25**	**16.51**
802-1094	16*	120	41.0	110@1/8	30@3/4	1 1/2 × 1 1/4 × 1 5/8	38.10 × 31.75 × 41.27	7 1/2	**14.10**	**12.20**	**10.91**
802-1090	16†	120	85.0	60@1/8	15@3/4	1 1/2 × 1 1/4 × 1 5/8	38.10 × 31.75 × 41.27	7 1/2	**14.10**	**12.20**	**10.91**
802-1104	18*	120	8.8	340@1/8	200@7/8	2 3/32 × 1 13/16 × 2 1/2	53.18 × 46.03 × 63.50	16 1/2	**22.29**	**18.50**	**17.36**
802-1100	18†	120	19.7	150@1/8	100@7/8	2 3/32 × 1 13/16 × 2 1/2	53.18 × 46.03 × 63.50	16 1/2	**22.29**	**18.50**	**17.36**
802-1102	18†	240	78.0	150@1/8	100@7/8	2 3/32 × 1 13/16 × 2 1/2	53.18 × 46.03 × 63.50	16 1/2	**22.29**	**18.50**	**17.36**

DC Types (Specify Type No., Volts and Duty)

802-1059	11†	24	72.0	40@1/16	4@5/8	13/16 × 15/16 × 1 7/8	30.16 × 23.81 × 47.62	7 1/2	**8.33**	**7.50**	**6.45**
802-1150	28†	12	27.0	24@1/16	2@1/4	13/16 × 17/32 × 1 1/8	30.16 × 23.81 × 28.57	3 1/2	**9.49**	**8.34**	**7.90**

*Intermittent. †Continuous.

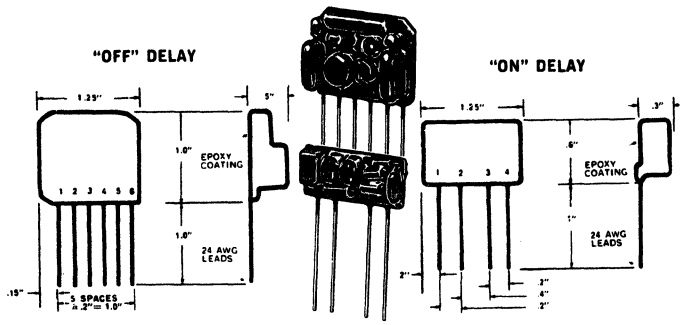
DC Pull-Type or AC/DC Push-Type Solenoids

12 and 120 Volt AC/DC Push-Types

Intermittent or continuous duty. Lengths of the push rods are equal to the maximum stroke length specified. Type 28P is approximately 20% less power than listed. Other specifications same as Tubular Pull Types. Please Specify Allied Stock Number, Manufacturer's Type Number, Volts and Duty.

Stock No.	Mfr.'s Type	Duty	Volts	Ohms	Stroke and Lift Ounces@Inches		Size H × W × L		Shpg. Wt., Oz.	EACH		
					Min.	Max.	In.	MM		1-24	25-49	50-99
802-1097	16P	Cont.	120AC	85.0	60@1/8	15@3/4	1 1/2 × 1 1/4 × 1 5/8	38.10 × 31.75 × 41.27	7 1/2	**20.89**	**18.30**	**16.16**
802-1107	18P	Int.	120AC	8.8	340@1/8	200@1/8	2 3/16 × 1 13/16 × 2 1/2	55.56 × 46.03 × 63.50	16 1/2	**28.97**	**25.08**	**22.42**
802-1108	18P	Cont.	120AC	19.7	150@1/8	100@1/8	2 3/16 × 1 13/16 × 2 1/2	55.56 × 46.03 × 63.50	16 1/2	**28.97**	**25.08**	**22.42**
802-1147	28P	Cont.	12DC	27.0	24@1/16	3@3/8	1 3/16 × 1 3/16 × 1 1/8	30.15 × 23.80 × 28.57	3 1/2	**9.49**	**8.34**	**7.90**

Iscotime KH Series

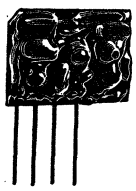


The **Icsotimer** is a unique solid state time delay which incorporates the most advanced solid state packaging techniques. This miniature unit has all the electrical environmental qualities which are characterized by timers ten times its size and cost. The imaginative design engineer will find the construction of the **Icsotimer** easily adaptable to printed circuit designs, readily incorporated into relay packages, and usable for problem areas where a small timer is required. Compare the parameters and features with the most popular units now available. It will be apparent that the **Icsotimer** is a valuable design tool.

SPECIFICATIONS. Timing Range (adjusted by external potentiometer): .1 to 300 seconds. **Input Voltage:** 12-240 VAC, 12-120 VDC; Tolerance — ±10% of nominal; Frequency — 50 or 60 Hz; Max. allowable DC ripple voltae — 20% peak-to-peak. **Output Voltage:** Load—relay or contactor up to max. current rating; "on delay" max. steady state current—100 milliamperes; "off delay" max. steady state current—500 milliamperes; min. steady state current—10 milliamperes. **Transient Suppression: ±2000 Volts for 100 microseconds. Inverse polarity protection on DC units. Dimensions:** "On delay" overall size, 1.25″L × .6″W × .3″H; "off delay" overall size, 1.25″ × 1″W × .5″H; lead size, #24 AWG solid, tin plated. **Temp. Range:** Operating −10° to 70°C. **Repeat Accuracy:** ±2% under fixed conditions. **Overall Tolerance:** ±10%.

Stock No.	Mfr.'s Type	Timing Function	Timing Range	Input Voltage	EACH 1-24	25-99	100-249
615-2101	KH121	On Delay	.5-10 sec.	120 VAC	14.86	13.80	12.88
615-2141	KH141	On Delay	30-300 sec.	120 VAC	20.98	19.48	18.18
615-2151	KH151	On Delay	1-10 sec.	120 VAC	14.86	13.80	12.88
615-2132	KH132	On Delay	5-50 sec.	24 VAC	18.73	17.39	16.23
615-2142	KH142	On Delay	30-300 sec.	24 VAC	20.98	19.48	18.18
615-2152	KH152	On Delay	1-10 sec.	24 VAC	14.86	13.80	12.88
615-2134	KH134	On Delay	5-50 sec.	24 VDC	18.73	17.39	16.23
615-2144	KH144	On Delay	30-300 sec.	24 VDC	20.98	19.48	18.18
615-2154	KH154	On Delay	1-10 sec.	120 VAC	14.86	13.80	12.88
615-2161	KH161	On Delay	12-120 sec.	120 VAC	18.73	17.39	16.23
615-2251	KH251	Off Delay	1-10 sec.	120 VAC	21.47	19.94	18.61
615-2171	KH171	On Delay	3-30 sec.	120 VAC	14.86	13.80	12.88
615-2271	KH271	Off Delay	3-30 sec.	120 VAC	21.47	19.94	18.61
615-2272	KH272	Off Delay	3-30 sec.	24 VAC	21.47	19.94	18.61
615-2274	KH274	Off Delay	3-30 sec.	24 VDC	21.47	19.94	18.61
615-2111	KH111	On Delay	.1-1 sec.	120 VAC	14.86	13.80	12.88
615-2131	KH131	On Delay	5-50 sec.	120 VAC	18.73	17.39	16.23

KD Digi Iscotimer



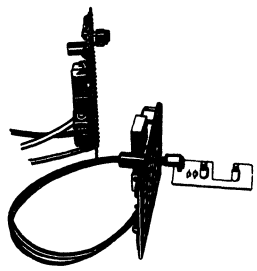
The **Digi Icsotimer** is the second member of the **Icsotime Series.** The **Digi Icsotimer** offers improved accuracy, timing ranges measured in hours and an increased output capability. The construction of the timer is easily adaptable to printed circuit designs and the epoxy coated body offers a tight packaging configuration.

Stock No	Mfr.'s Type	Timing Function	Timing Range	Input Voltage	EACH 1-24	25-99	100-249
615-1111	KD111	On Delay	.1 sec.-10 sec.	120 VAC	18.85	17.50	16.33
615-1121	KD121	On Delay	10 sec.-10 min.	120 VAC	18.85	17.50	16.33
615-1131	KD131	On Delay	10 min.-10 hrs.	120 VAC	18.85	17.50	16.33
615-1311	KD311	Interval Delay	.1 sec.-10 sec.	120 VAC	19.21	17.84	16.65
615-1321	KD321	Interval Delay	10 sec.-10 min.	120 VAC	19.21	17.84	16.65
615-1331	KD331	Interval Delay	10 min.-10 hrs.	120 VAC	19.21	17.84	16.65
615-1511	KD511	*Recycle Delay	.1 sec.-10 sec.	120 VAC	19.21	17.84	16.65

*On-off time ranges are the same.

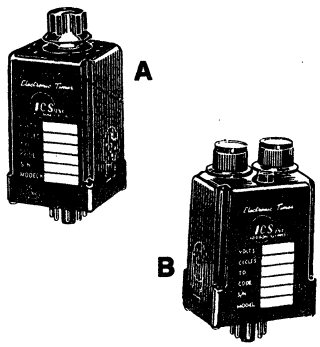
Infrared Timer Control

IR sensing of object presence within a range up to 15 inches. The timer turns on as the object enters the field of view and turns off as the object is removed. A safety cut off time of 90 seconds is also provided. Heavy duty relay with contact rated 1 HP @ 125/250 VAC is mounted on pcb. Sensing head available on the pcb or remote. Consult factory for other time and sensing configurations.



Stock No.	Mfr.'s Type	Input Voltage	Output Switching	EACH
615-7001	K7991	120 VAC	120 VAC/20 amp	67.79
615-7002	K7976	208/240 VAC	240 VAC/10 amp	67.79
615-7003	K8002 with K8010 Remote Sensor	120 VAC	120 VAC/20 amp	67.79
615-7004	K8007 with K8010 Remote Sensor	208/240 VAC	240 VAC/10 amp	67.79

OP4 Timer Series



The OP4 Series Solid State Time/Delay Relays are suited for many automated or semiautomated industrial applications. These units incorporate advanced solid state packaging techniques. The hybrid timing circuitry affords the user a broad range of timing functions, timing ranges and input voltages. Combined with high quality electromechanical relays these hybrid modules offer environmental parameters and transient protection previously available only in expensive timers. Operating temperature range is −10°C to +70°C on all models.

Fig. A On Delay

Stock No.	Mfr.'s Type	Time Range	Input Voltage	EACH 1-24	25-99
615-4411	OP411N1	.1-1 sec.	120 VAC	37.05	34.40
615-4412	OP412N1	.5-5 sec.	120 VAC	37.05	34.40
615-4416	OP416N1	12-120 sec.	120 VAC	39.06	36.27

Fig. A Off Delay

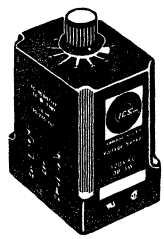
615-4423	OP423N1	5-50 sec.	120 VAC	45.42	42.18
615-4422	OP422N1	.5-5 sec.	120 VAC	45.42	42.18
615-4424	OP424N1	30-300 sec.	120 VAC	48.07	44.64

Fig. B Recycle Delay

615-4611	OP46111	.1-1 sec.	120 VAC	54.17	50.30
615-4612	OP46221	.5-5 sec.	120 VAC	54.17	50.30
615-4613	OP46661	12-120 sec.	120 VAC	56.75	52.70

KA3 Series

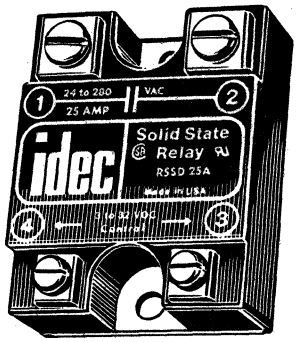
Small solid state time delay relays feature blade style plug-in mounting base. Remote adjustable (with external resistor). DPDT, 10 amps, resistive. **Overall Tolerance:** ±10%. maximum time delay defined with 1 megohm resistor. Fits 11-Pin blade type sockets. **Size:** 1⅞″ H × 1⅜″ W × 1½″D.



Stock No.	Mfr.'s type	Timing Function	Timing Range	Input Voltage	EACH 1-24	25-49	50-99
615-7005	KA3111	On Delay	.1-1 sec.	120 VAC	26.74	24.83	23.17
615-7006	KA3121	On Delay	.5-5 sec.	120 VAC	32.09	29.80	27.81
615-7007	KA3161	On Delay	12-120 sec.	120 VAC	28.75	26.70	24.92
615-7008	KA3211	Off Delay	.1-1 sec.	120 VAC	32.47	30.15	28.14
615-7009	KA3221	Off Delay	.5-5 sec.	120 VAC	38.96	36.18	33.77
615-7010	KA3261	Off Delay	12-120 sec.	120 VAC	36.83	34.20	31.92
615-7011	KA3311	Interval	.1-1 sec.	120 VAC	37.18	34.52	32.22
615-7012	KA3321	Interval	.5-5 sec.	120 VAC	38.96	36.18	33.77
615-7013	KA3361	Interval	12-120 sec.	120 VAC	36.83	34.20	31.92

RSS Series Solid State Relays

- DC/AC and AC/AC models
- Photo isolation
- 600 volt blocking voltage
- 4000 volt isolation
- Zero voltage turn-on
- Built-in snubber
- 100% tested at rated current
- High surge capability
- UL recognized (File No. E59804)
- Dual SCR output (40 A)

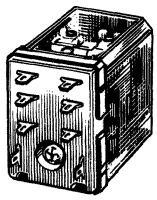


RSS series relays provide highly reliable means of switching AC loads. Available in both AC and DC input voltage. **Dimensions:** 2.25″ × 1.75″ × .90″

DC Input Series

Stock No.	Mfr.'s Type	Input Voltage	Output Current	EACH		
				1-9	10-49	50-99
812-1105	RSSD-25A	3-32 DC	25	19.00	17.10	15.20
812-1110	RSSD-40A	3-32 DC	40	25.80	23.22	20.64
812-1120	RSSA-25A	90-280 AC	25	25.00	22.50	20.00
812-1125	RSSA-40A	90-280 AC	40	31.80	28.62	25.44

RH Series Midget Power Relays

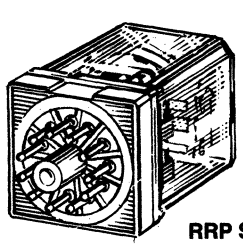


10 amp switching capacity and blade terminals. U.L./CSA listed. **Specifications. Contact Resistance:** 50 MΩ max. (initial value). **Operate Time and Release Time:** SPDT, DPDT—20 msec max.; 3PDT, 4PDT—25 msec. max. **Insulation Resistance:** 100 Megohms min. (measured at 500VDC megger). **Power Consumption:** SPDT—AC: 1.1VA (50 Hz), 1VA (60Hz); DC: 0.8W. DPDT—AC: 1.4VA (50 Hz), 1.2VA (60Hz); DC: 0.9W. 3PDT—AC: 2VA (50 Hz), 1.7VA (60 Hz); DC: 1.5W. 4PDT—AC: 2.5VA (50 Hz), 2VA (60 Hz); DC: 1.5W. **Operating Temp.:** −30°C to +70°C. **Temperature Rise:** Coil, 85° max.; Contact, 65° max.

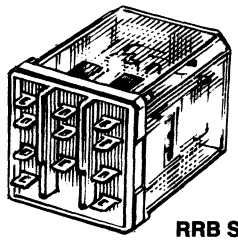
Stock No.	Mfr.'s Type	Config-uration	Rated Voltage	Rated Current* mA	Coil Resis. Ω	EACH			
						1-9	10-49	50-99	100-Up
812-1040	RH1B-UAC24V	SPDT	24VAC	37.0	300.0	7.24	6.51	5.79	5.07
812-1044	RH1B-UDC12V	SPDT	12VDC	64.0	188.0	6.59	5.93	5.27	4.61
812-1046	RH1B-UDC24V	SPDT	24VDC	32.0	750.0	6.59	5.93	5.27	4.61
812-1055	RH2B-UAC24V	DPDT	24VAC	50.0	156.7	7.78	7.00	6.22	5.44
812-1060	RH2B-UAC120V	DPDT	120VAC	11.0	4280.0	7.78	7.00	6.22	5.44
812-1070	RH2B-UDC12V	DPDT	12VDC	75.0	160.0	7.34	6.61	5.88	5.14
812-1075	RH2B-UDC24V	DPDT	24VDC	36.9	650.0	7.34	6.61	5.88	5.14
812-1090	RH4B-UAC24V	4PDT	24VAC	83.0	84.5	11.66	10.50	9.33	8.16
812-1092	RH4B-UAC120V	4PDT	120VAC	16.5	2200.0	11.66	10.50	9.33	8.16
812-1094	RH4B-UDC12V	4PDT	12VDC	125.0	96.0	11.34	10.21	9.07	7.94
812-1096	RH4B-UAC24V	4PDT	24VDC	62.0	388.0	11.34	10.21	9.07	7.94

*Rated current ± 15% at 20°C, 60 Hz.

RR Series Heavy-Duty Relays



RRP Series

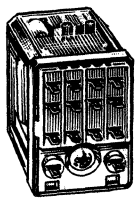


RRB Series

U.L./CSA listed. Blade type terminals and 10 amp capacity. **Specifications. Contact Material:** Silver. **Contact Resistance:** 30MΩ max. (initial value). **Power Consumption:** AC—Approx. 3VA (50 Hz), 2.5VA (60 Hz); DC—Approx. 1.5W. **Operating Frequency:** 1800 operations/hour. **Temperature Rise:** Coil, 153°F (85°C) max.; Contact, 117°F (65°C) max. **Operating Temp.:** −22°F to +158°F (−30°C to +70°C). **Horsepower Rating:** 1/4 HP at 120VAC; 1/3 HP at 240VAC. **Maximum Continuous Applied Voltage at 68°F:** (110% of rated voltage without overheating. **Minimum Operate Voltage at 68°F:** 80% of rated voltage. **Contact Rating (U.L.):** 10A resistive, 7A inductive at 240VAC; 10A resistive, 7A inductive at 30 VDC.

Stock No.	Mfr.'s Type	Config-uration	Rated Voltage	Rated Current mA*	Coil Resis. Ω	EACH			
						1-9	10-49	50-99	100-Up
812-2010	RR2BA-UAC24V	DPDT	24VAC	105	80	9.18	8.26	7.34	6.43
812-2012	RR2BA-UAC120V	DPDT	120VAC	18	2200	9.18	8.26	7.34	6.43
812-2014	RR2BA-UDC12V	DPDT	12VDC	120	100	8.75	7.87	7.00	6.12
812-2020	RR3B-UAC24V	3PDT	24VAC	105	80	10.37	9.33	8.29	7.26
812-2022	RR3B-UAC120V	3PDT	120VAC	18	2200	10.37	9.33	8.29	7.26
812-2024	RR3B-UDC12V	3PDT	12VDC	120	100	9.61	8.65	7.69	6.73
812-2026	RR3B-UDC24V	3PDT	24VDC	60	400	9.61	8.65	7.69	6.73
812-4146	RR2P-UAC24V	DPDT	24VAC	105	80	12.85	11.57	10.28	9.00
812-4147	RR2P-UAC120V	DPDT	120VAC	18	2200	12.85	11.57	10.28	9.00
812-4148	RR2P-UDC12V	DPDT	12VDC	120	100	12.64	11.37	10.11	8.85
812-4149	RR2P-UDC24V	DPDT	24VDC	60	400	12.64	11.37	10.11	8.85
812-4150	RR3PA-UAC24V	3PDT	24VAC	105	80	15.66	14.09	12.53	10.96
812-4151	RR3PA-UAC120V	3PDT	120VAC	18	2200	15.66	14.09	12.53	10.96
812-4152	RR3PA-UDC12V	3PDT	12VDC	120	100	15.55	14.00	12.44	10.89
812-4153	RR3PA-UDC24V	3PDT	24VDC	60	400	15.55	14.00	12.44	10.89

RY Series "Ice Cube" Relays



General purpose relay with 3 amp capacity, solder terminals and plug-in mounting. **Specifications. Contact Material:** Fine silver (gold plated). **Contact Resistance:** 50 MΩ max. (initial value). **Operate Time:** 20mS max. **Operating Temperature:** −22°F to +158°F (−30° to +70°C). **Frequency Response:** 1800 operations per hour. **Power Consumption:** AC, approx. 1.1VA (50 Hz); 1VA (60 Hz). DC, approx. 0.8W. U.L. Listed, CSA Certified.

Stock No.	Mfr.'s Type	Config-uration	Rated Voltage	Rated Current* mA	Coil Resis.	EACH			
						1-9	10-49	50-99	100-Up
812-4125	RY2S-UAC24V	DPDT	24VAC	37.0	300	6.91	6.22	5.53	4.84
812-4126	RY2S-UAC120V	DPDT	120VAC	7.5	7680	6.91	6.22	5.53	4.84
812-4127	RY2S-UDC12V	DPDT	12VDC	64.0	180	6.26	5.64	5.01	4.38
812-4128	RY2S-UDC24V	DPDT	24VDC	32.0	750	6.26	5.64	5.01	4.38
812-4131	RY4S-UAC120V	4PDT	120VAC	11.0	4280	8.53	7.68	6.83	5.97
812-4133	RY4S-UDC12V	4PDT	12VDC	75.0	160	7.02	6.32	5.62	4.91
812-4134	RY4S-UDC24V	4PDT	24VDC	36.9	650	7.02	6.32	5.62	4.91

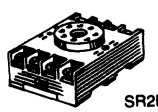
*Rated Current (mA) + 15% at 20°C, 60 Hz.

Snap-Mount DIN Rail Sockets

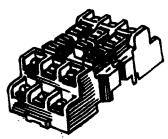
Snap-mount sockets are designed to mount on BND-1000 mounting rail. The built-in mounting clip eliminates mounting hardware and reduces mounting time by eighty percent. For spacing between adjoining sockets, use SA-406 DIN rail spacer. Spacers are .197″ in width. Spacing can be adjusted according to the amount of spacers added. To prevent sideward movement, use BNL-5 end elip at each end of socket row.

To Mount: Place socket on mounting rail and press down.

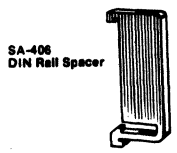
To Remove: Pull clip out with screwdriver and lift socket.



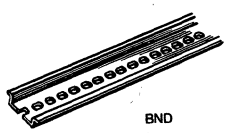
SR2P06



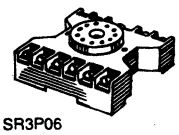
SR3B05



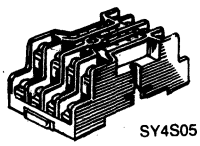
SA-406 DIN Rail Spacer



BND



SR3P06



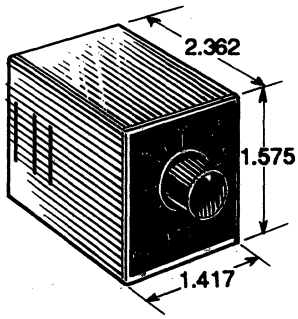
SY4S05

End Clip BNL-5

Stock No.	Mfr.'s Type	Fits Series	Description	EACH		
				1-9	10-49	50-99
812-0020	SR2P-06	RR2P, RTE-P	8-pin octal, snap-on surface mount	3.56	3.21	2.85
812-0040	SR3P-06	RR3PA	11-pin octal, snap-on surface mount	5.72	5.15	4.58
812-0060	SR3B-05	RR2BA, RR3B, RTE-B	11-blade, snap-on surface mount	5.72	5.15	4.58
812-0100	SH2B-05	RH2B	Blade, snap-mount (surface mount)	4.97	4.47	3.97
812-0080	SY4S-05	RY4S	Blade, snap-mount (surface mount)	6.80	6.12	5.44
812-0120	BND-1000	—	Aluminum DIN mounting rail (3 meters)	6.00	5.76	4.11
812-0130	BNL-5	—	End clip	.65	.61	.57
812-4145	SA-406	—	Din rail spacer	.35	.33	.30
812-0021	SH1B05	RH1B	—	4.00	3.60	3.20
812-0023	SH4B05	RH4B	—	7.02	6.32	5.62
812-0024	SY2S05	RY2S	—	4.00	3.60	3.20

New-RTE Series

Multi-Function/Time Range Electronic Timer



Features

- ► **Redesigned compact housing**
- ► **Multi-function operation: On-Delay/Interval or Off-Delay/Single-Shot**
- ► **Multi-time range settings from 1 second to 10 minutes and 1 minute to 10 hours**
- ► **High repeat accuracy of ±0.25%**
- ► **Standard pin and blade termination**
- ► **UL recognized and CSA certified**

Specifications
Input Voltages: 120V AC + 10% to -20% (50/60 Hz)
12V AC/DC, ± 10%
24V AC/DC, + 10% to -15%
Contact Configuration: 2 Form C, DPDT (Delay outputs)
Contact Load Ratings: 10A Resist @ 240V AC, 30V DC
7A Input @ 240V AC, 30V DC
1/6 HP @ 120V AC
1/3 HP @ 240V AC
Power Consumption: 2.2VA, maximum
Repeat Accuracy: ± 0.25% maximum, 10 ms
Reset Time: 0.1 second, maximum
Dielectric Strength: 1500V AC, 1 minute (Bet. power and output terminal, except bet. contacts of the same pole)
Life Expectancy: Mechanical — 50,000,000 operations
Electrical 250,000 operations

Stock No.	Mfr.'s Type	Description	Time Range	EACH		
				1-9	10-49	50-99
812-5050	RTE-P11-12VAC/DC	On-Delay/Interval	1 sec. to 10 min.	38.00	34.20	30.40
812-5051	RTE-P11-24 VAC/DC	On-Delay/Interval	1 sec. to 10 min.	38.00	34.20	30.40
812-5052	RTE-P11-120VAC	On-Delay/Interval	1 sec. to 10 min.	38.00	34.20	30.40
812-5053	RTE-P12-12VAC/DC	On-Delay/Interval	1 min. to 10 hrs.	38.00	34.20	30.40
812-5054	RTE-P12-24VAC/DC	On-Delay/Interval	1 min. to 10 hrs.	38.00	34.20	30.40
812-5055	RTE-P12-120VAC	On-Delay/Interval	1 min. to 10 hrs.	38.00	34.20	30.40
812-5056	RTE-P21-12VAC/DC	On-Delay/Single-Shot	1 sec. to 10 min.	47.00	42.30	37.60
812-5057	RTE-P21-24VAC/DC	On-Delay/Single-Shot	1 sec. to 10 min.	47.00	42.30	37.60
812-5058	RTE-P21-120VAC	On-Delay/Single-Shot	1 sec. to 10 min.	47.00	42.30	37.60
812-5059	RTE-P22-12VAC/DC	On-Delay/Single-Shot	1 min. to 10 hrs.	47.00	42.30	37.60
812-5060	RTE-P22-24VAC/DC	On-Delay/Single-Shot	1 min. to 10 hrs.	47.00	42.30	37.60
812-5061	RTE-P22-120VAC	On-Delay/Single-Shot	1 min. to 10 hrs.	47.00	42.30	37.60
812-5062	RTE-B11-12VAC/DC	On-Delay/Interval	1 sec. to 10 min.	44.00	39.60	35.20
812-5063	RTE-B11-24VAC/DC	On-Delay/Interval	1 sec. to 10 min.	44.00	39.60	35.20
812-5064	RTE-B11-120VAC	On-Delay/Interval	1 sec. to 10 min.	44.00	39.60	35.20
812-5065	RTE-B12-12VAC/DC	On-Delay/Interval	1 min. to 10 hrs.	44.00	39.60	35.20
812-5066	RTE-B12-24VAC/DC	On-Delay/Interval	1 min. to 10 hrs.	44.00	39.60	35.20
812-5067	RTE-B12-120VAC	On-Delay/Interval	1 min. to 10 hrs.	44.00	39.60	35.20
812-5068	RTE-B21-12VAC/DC	On-Delay/Single-Shot	1 sec. to 10 min.	47.00	42.30	37.60
812-5069	RTE-B21-24VAC/DC	On-Delay/Single-Shot	1 sec. to 10 min.	47.00	42.30	37.60
812-5070	RTE-B21-120VAC	On-Delay/Single-Shot	1 sec. to 10 min.	47.00	42.30	37.60
812-5071	RTE-B22-12VAC/DC	On-Delay/Interval	1 min. to 10 hrs.	47.00	42.30	37.60
812-5072	RTE-B22-24VAC/DC	On-Delay/Interval	1 min. to 10 hrs.	47.00	42.30	37.60
812-5073	RTE-B22-120VAC	On-Delay/Interval	1 min. to 10 hrs.	47.00	42.30	37.60

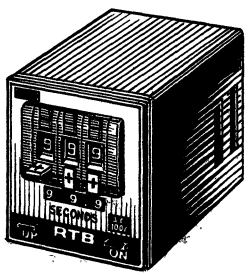
Type List

Mode of Operation	Basic Type No.	
	Pin Type	Blade Type
On-Delay/Interval	RTE-P1	RTE-B1
On-Delay/Single-Shot	RTE-P2	RTE-B2

Time Range Settings

Time Range Group Code	Time Delay Settings
1	1, 3, 6, 10, 30, 60 sec.; 5, 10 minutes
2	1, 3, 6, 10, 30, 60 minutes; 5, 10 hours

RTB Series Highly Reliable Miniature Electronic Timers



RTB Mini-Timers are electronic time delay relays suitable for use in business machines, medical equipment, vending machines and numerous other industrial applications where highly accurate time delay functions are needed.

All RTB timers are equipped with a time-up and power-on indicator and carry time settings that range from 6 seconds to 100 minutes.

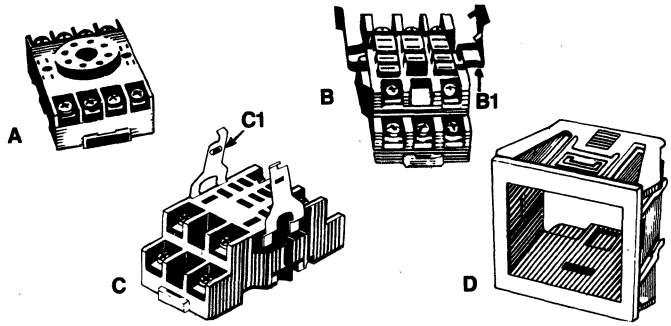
Specifications. Rated Operational Voltage: 120 VAC (50/60 Hz). **Rated Current:** 10A. **Contact Ratings:** 120 VAC/10A. **Power Consumption:** 3 VA/1 W. **Repeat Accuracy:** ± 0.2% or less. **Reset Time:** 0.1 seconds or less. **Electrical Life:** 200,000 operations or more.

- ► **Highly reliable RC-oscillation counting system**
- ► **10 amp rated delayed/instantaneous contacts**
- ► **Time range from 0.2 seconds to 100 minutes**
- ► **Power-On and Time-Up indicator light**
- ► **Operation modes available in Delay-On-Make, Interval-On and On-Off (Flicker)**
- ► **Mounting by DIN rail or flat surface, panel mount adapter also available**

Stock No.	Mfr.'s Type	Description	Time Range	EACH		
				1-9	10-49	50-99
812-5002	RTB-CB2N-0-999-120	Blade	1.0 sec. to 999 sec.	44.82	40.34	35.86
812-5003	RTB-CP2N-0-999-120	Pin	1.0 sec. to 999 sec.	48.82	43.93	39.05

Accessories

Stock No.	Mfr.'s Type	Fig.	Description	EACH			
				1-9	10-49	50-99	100-249
812-0060	SR3B-05	B	11-Blade, Snap-Mount DIN Rail Socket	5.72	5.15	4.58	4.01
812-0020	SR2P-06	A	8-Pin, Snap-Mount DIN Rail Socket	3.56	3.21	2.85	2.49
812-0040	SR3P-06	—	11-Pin, Snap-Mount DIN Rail Socket	5.72	5.15	4.58	4.01
812-5005	SA-305	B1	Hold-Down Spring	0.70	0.65	0.61	0.56
812-0120	BND-1000	—	Mounting DIN Rail (not shown)	6.00	5.76	4.11	3.84
812-5006	SFA-202	C1	Hold-down spring	0.20	0.18	0.15	0.13
812-5007	RTB-S01	C	DIN Rail Mount Socket with Spring	5.51	4.96	4.41	3.86
812-5008	RTB-C01	D	Panel Mount Adapter	2.81	2.53	2.25	1.97



"Time Ranger" SS 6000 Series Solid State Programmable

- 16 Time Ranges In Single Timer
- Pin For Pin Interchangeable With Timers In The Field
- User Sets Time Ranges. No Math Required—Just Flip Switches
- Fine Tune Knob for Precision Timing
- All Timers Operate On Either AC Or DC
- CMOS Digital Circuitry — 0.5% Repeatable Accuracy

Suitable for continuous use. Line transient protected (MOV-10,000 volts / 20 microseconds). Recycle time typically 60mS. **Power Consumption:** 2.5 watts maximum. **Operating Temperature:** −30° to +160°F. DPDT 10 amp (resistive) relay has its own dust cover.

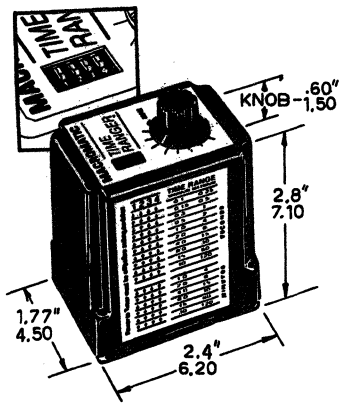
Output: DPDT 10 amp (resistive).
Timing: Programmable, 0.1 sec. to 2 hours.

FILE NO. E68626

FILE NO. LR-45565-3

Power to Timer must be off before setting switches

1 2 3 4	TIME RANGE MINIMUM	MAXIMUM	
↓↓↓↓	0.1	0.25	SECONDS
↑↓↓↓	0.15	0.5	
↓↑↓↓	0.3	1	
↑↑↓↓	0.5	2	
↓↓↑↓	1.0	4	
↑↓↑↓	2.0	8	
↓↑↑↓	4.0	15	
↑↑↑↓	8.0	30	
↓↓↓↑	15	60	
↑↓↓↑	30	120	
↓↑↓↑	1.0	4	MINUTES
↑↑↓↑	2.0	8	
↓↓↑↑	4.0	15	
↑↓↑↑	8.0	30	
↓↑↑↑	15	60	
↑↑↑↑	30	120	

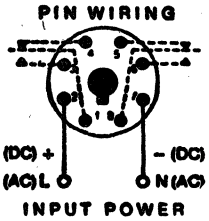


SS 602 Series On Delay

Stock No.	Mfr.'s Type	Input	Pin Wiring (Diagram 1)	EACH 1-9	10-24	25-49	50-99
819-1000	SS-60222	120VAC/DC	8-pin octal	40.75	36.68	34.64	32.60
819-1001	SS-60228	24VAC/DC	8-pin octal	40.75	36.68	34.64	32.60
819-1002	SS-60226	12VAC/DC	8-pin octal	40.75	36.68	34.64	32.60

Action: Upon application of control power, time delay period begins. At end of time delay, output switch operates. When control power is removed, output switch returns to normal.

1

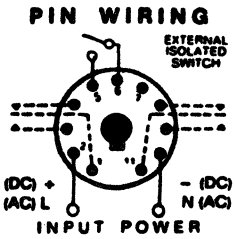


SS 605 Series Interval On

Stock No.	Mfr.'s Type	Input	Pin Wiring (Diagram 1)	EACH 1-9	10-24	25-49	50-99
819-1003	SS-60522	120VAC/DC	8-pin octal	43.35	39.02	37.16	34.68
819-1004	SS-60528	24VAC/DC	8-pin octal	43.35	39.02	37.16	34.68
819-1005	SS-60526	12VAC/DC	8-pin octal	43.35	39.02	37.16	34.68

Action: The relay will operate immediately when the input voltage is applied. At the end of an adjustable interval the relay will release and remain in this state until reapplication of the input voltage.

2

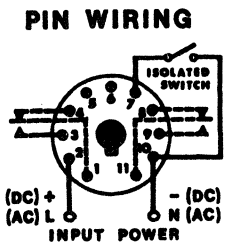


SS 615 Series
Momentary Interval (Single Shot)

Stock No.	Mfr.'s Type	Input	Pin Wiring (Diagram 2)	EACH 1-9	10-24	25-49	50-99
819-1012	SS-61522	129VAC/DC	11-pin octal	45.90	41.31	39.02	36.72
819-1013	SS-61528	24VAC/DC	11-pin octal	45.90	41.31	39.02	36.72
819-1014	SS-61526	12VAC/DC	11-pin octal	45.90	41.31	39.02	36.72

Action: Upon closure of control switch, output switch operates. Upon opening of control switch, time period begins. Any control switch closures prior to end of time period, output switch returns to normal. Continuous power must be furnished.

3



SS 616 Series
Off Delay With Isolated Control Switch

Stock No.	Mfr.'s Type	Input	Pin Wiring (Diagram 2)	EACH 1-9	10-24	25-49	50-99
819-1006	SS-61622	120VAC/DC	11-pin octal	45.90	41.31	39.02	36.72
819-1007	SS-61628	24VAC/DC	11-pin octal	45.90	41.31	39.02	36.72
819-1008	SS-61626	12VAC/DC	11-pin octal	45.90	41.31	39.02	36.72

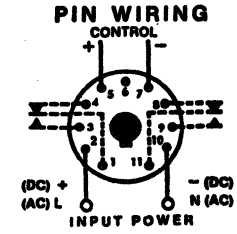
Action: Upon closure of control switch, output switch operates. Upon opening of control switch, time period begins. Any control switch closures prior to end of time period will recycle timer. At end of time period, output switch returns to normal. Continuous power must be furnished.

SS 616-B Series
Off Delay With Isolated Switch-Type B

Stock No.	Mfr.'s Type	Input	Pin Wiring (Diagram 3)	EACH 1-9	10-24	25-49	50-99
819-1015	SS-61622-B	120VAC/DC	11-pin octal	45.90	41.31	39.02	36.72
819-1016	SS-61628-B	24VAC/DC	11-pin octal	45.90	41.31	39.02	36.72
819-1017	SS-61626-B	12VAC/DC	11-pin octal	45.90	41.31	39.02	36.72

Action: Upon closure of the control switch, output switch operates and time period begins. The time period is not affected by duration of the control switch closure. At the end of time period, output switch returns to normal. Continuous power must be furnished to this timer.

4



SS 619 Series
Off Delay with Powered Control Switch

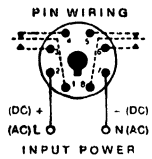
Stock No.	Mfr.'s Type	Input	Pin Wiring (Diagram 4)	EACH 1-9	10-24	25-49	50-99
819-1009	SS-61922	120VAC/DC	11-pin octal	48.45	43.61	41.19	38.76
819-1010	SS-61928	24VAC/DC	11-pin octal	48.45	43.61	41.19	38.76
819-1011	SS-61926	12VAC/DC	11-pin octal	48.45	43.61	41.19	38.76

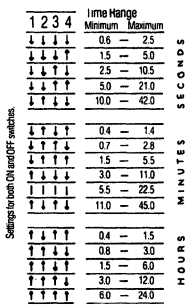
Action: Upon closure of control switch, output switch operates. Upon opening of control switch, time period begins. Any control switch closures prior to end of the time period will recycle timer. At end of the time period, output switch returns to normal. Continuous power must be furnished.

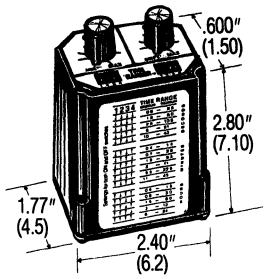
12

New! Programmable Cycle Timers

- ► 16 time ranges in single timer (see charts on front side)
- ► User sets time ranges. No math—just flip switches
- ► Instructions right on unit
- ► Fine tune knob for precision timing
- ► Pin for pin interchangeable with timers in the field—No rewiring
- ► All timers operate on either A/C or D/C
- ► CMOS digital circuitry—0.5% repeatable accuracy
- ► U.L. File No. E68626
- ► C.S.A. File No. LR45565







Suitable for continuous use. Line transient protected (MOV-10,000 volts/20 microseconds). Recycle time: typically 60Ms. **Power Consumption:** 2.5 watts max. **Output:** 10 amp DPDT (Resistive)—relay has its own dust cover. **Operating temp.:** – 30° to + 160°F.

SS 631 Series—Off-Delay Repeat Cycle

Action: Upon application of power "off" time period begins. When "off" time completed, "on" time period begins. When "on" time completed "off" time again begins and cycle repeats until power is removed.

Stock No.	Mfr.'s Type	Input Voltage	Pin Wiring	EACH 1-9	10-24	25-49	50-99
819-6001	SS-63122	120VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**
819-6002	SS-63128	24VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**
819-6003	SS-63126	12VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**

SS 651 Series—On-Delay Repeat Cycle

Action: Upon application of power "on" time period begins. When "on" time completed, "off" time period begins. When "off" time completed "on" time again begins and cycle repeats until power is removed.

Stock No.	Mfr.'s Type	Input Voltage	Pin Wiring	EACH 1-9	10-24	25-49	50-99
819-6004	SS-65122	120VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**
819-6005	SS-65128	24VAC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**
819-6006	SS-65126	12VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**

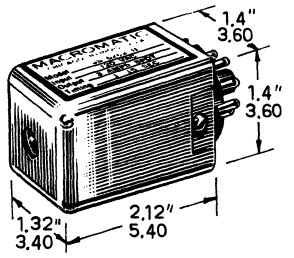
SS 661 Series-Single Cycle—Delayed Interval

Action: Upon application of power "off" time period begins. When "off" time completed, "on" time period begins. When "on" time completed timer returns to "off" state and remains there. Power must be removed and re-applied to initiate action again.

819-6007	SS-66122	120VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**
819-6008	SS-66128	24VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**
819-6009	SS-66126	12VAC/DC	8-Pin Octal	**55.00**	**49.92**	**46.36**	**43.26**

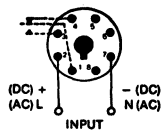
SS 6 And SS 8 Economy Series Solid State Time Delay Relays

- ► Output—3 Amp SPDT
- ► 8 Pin Octal Plug-In
- ► Adjustable
- ► 3 Watts Max. Power Consumption
- ► Operating Temperature °0F to + 130°F
- ► 100mS Recycle Time
- ► 2% Repeatable Accuracy



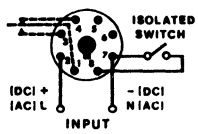
SS 6 (On Delay)

Action: Upon application of control power, time delay period begins. At end of time delay, output switch operates. When control power is removed, output switch returns to normal.



SS 8 (Off Delay)

Action: Upon closure of the control switch, output switch operates. Upon opening of control switch, time period begins. However, any control switch closures prior to the end of the time period will immediately reset the time. At the end of the time period, output switch returns to normal. Continuous power must be furnished to timer.

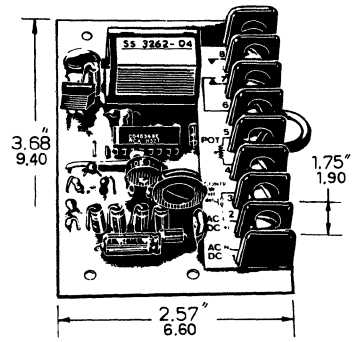


Stock No.	Mfr.'s Type	Input Voltage	Delay (sec.)	EACH 1-9	10-24	25-49	50-99
819-1113	SS-6262-C	120VAC	1-5	**22.95**	**20.83**	**19.34**	**18.05**
819-1115	SS-6262-II	120VAC	1-15	**22.95**	**20.83**	**19.34**	**18.05**
819-1116	SS-6262-Y	120VAC	1-30	**22.95**	**20.83**	**19.34**	**18.05**
819-1117	SS-6262-JJ	120VAC	1-60	**25.00**	**22.69**	**21.07**	**19.67**
819-1119	SS-6262-KK	120VAC	1-180	**29.75**	**27.00**	**25.07**	**23.40**
819-1122	SS-6266-II	12VDC	1-15	**22.95**	**20.83**	**19.34**	**18.05**
819-1124	SS-6266-JJ	12VDC	1-60	**25.00**	**22.69**	**21.07**	**19.67**
819-1121	SS-6268-II	24VAC	1-15	**22.95**	**20.83**	**19.34**	**18.05**
819-1123	SS-6268-JJ	24VAC	1-60	**25.00**	**22.69**	**21.07**	**19.67**

Stock No.	Mfr.'s Type	Input Voltage	Delay (sec.)	EACH 1-9	10-24	25-49	50-99
819-1134	SS-8562-C	120VAC	1-5	**28.50**	**25.88**	**24.03**	**22.43**
819-1135	SS-8562-II	120VAC	1-15	**28.50**	**25.88**	**24.03**	**22.43**
819-1140	SS-8562-Y	120VAC	1-30	**28.50**	**25.88**	**24.03**	**22.43**
819-1137	SS-8562-JJ	120VAC	1-60	**29.75**	**27.00**	**25.07**	**23.40**
819-1139	SS-8562-KK	120VAC	1-180	**35.00**	**31.77**	**29.50**	**27.53**
819-1142	SS-8566-II	12VDC	1-15	**28.50**	**26.77**	**24.03**	**22.43**
819-1144	SS-8566-JJ	12VDC	1-60	**29.75**	**27.00**	**25.07**	**23.40**
819-1141	SS-8568-II	24VAC	1-15	**29.75**	**27.00**	**25.07**	**23.40**
819-1143	SS-8568-JJ	24VAC	1-60	**29.75**	**27.00**	**25.07**	**23.40**

SS 32 And SS 35 Low Cost Digital Circuit Series

- ► Digitally Operated CMOS Circuitry
- ► Repeatable Accuracy ±0.5%
- ► Power Consumption 2.5 Watts Max.
- ► Suitable For Continuous Use At Rated Load
- ► Operating Temp.: – 30° to + 160°F
- ► Glass Epoxy PC Board
- ► Adjustable—On Board or Remote Pot
- ► Line Transient Protected



Output: 3 amp SPDT (resistive). **Input:** 120VAC standard. 12VDC, 24VDC and 24VAC also available. Contact your nearest Allied representative. **Mechanical:** screw-down terminal block wiring. Four holes for user-supplied stand-offs.

Note: For timing chart and action description see SS 6 and SS 8 series above.

SS 32 On Delay

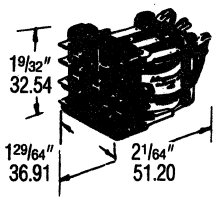
Stock No.	Mfr.'s Type	Input Voltage	Delay (sec.)	EACH 1-9	10-24	25-49	50-99
819-1018	SS-3262-04	120VAC	.15-5	**23.90**	**21.69**	**20.14**	**18.80**
819-1019	SS-3262-06	120VAC	.5-15	**23.90**	**21.69**	**20.14**	**18.80**
819-1020	SS-3262-07	120VAC	1-30	**23.90**	**21.69**	**20.14**	**18.80**
819-1021	SS-3262-08	120VAC	2-60	**23.90**	**21.69**	**20.14**	**18.80**
819-1022	SS-3262-12	120VAC	10-300	**23.90**	**21.69**	**20.14**	**18.80**
819-1023	SS-3262-14	120VAC	30 sec.-15 Min.	**26.50**	**21.69**	**20.14**	**18.80**
819-1024	SS-3262-15	120VAC	1-30 Min.	**26.50**	**21.69**	**20.14**	**18.80**
819-1025	SS-3262-16	120VAC	2-60 Min.	**26.50**	**21.69**	**20.14**	**18.80**

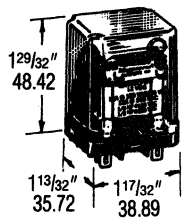
SS 35 Off Delay

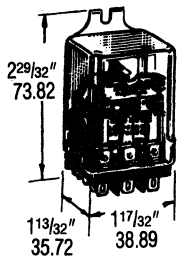
819-1026	SS-3562-04	120VAC	.15-5	**29.25**	**21.69**	**20.14**	**18.80**
819-1027	SS-3562-06	120VAC	.5-15	**29.25**	**21.69**	**20.14**	**18.80**
819-1028	SS-3562-07	120VAC	1-30	**29.25**	**21.69**	**20.14**	**18.80**
819-1029	SS-3562-08	120VAC	2-60	**29.25**	**21.69**	**20.14**	**18.80**
819-1030	SS-3562-12	120VAC	10-300	**29.25**	**21.69**	**20.14**	**18.80**
819-1031	SS-3562-14	120VAC	30 sec.-15 Min.	**31.90**	**28.95**	**26.88**	**25.09**
819-1032	SS-3562-15	120VAC	1-30 Min.	**31.90**	**28.95**	**26.88**	**25.09**
819-1033	SS-3562-16	120VAC	2-60 Min.	**31.90**	**28.95**	**26.88**	**25.09**

Class 388 Square Base Relays

Low cost, UL recognized, CSA certified general purpose relays. AC and DC operated types, 13, 12, and 11 amps SPST, DPDT, or 3PDT silver alloy gold flashed contacts. Terminals are 3-way for plug-in, solder, or 3/16" × .020" quick connect. UL/CSA E43641/LR37547.

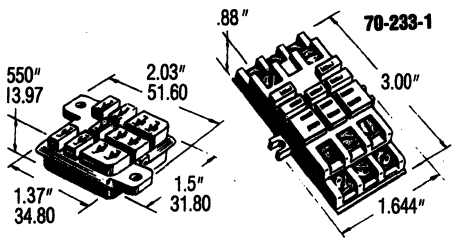






AC Open Relays

Stock No.	Mfr.'s Type	Cont. Comb.	Coil		EACH			
			Volts	Ohms	1-9	10-24	25-49	50-99
850-5014	W388AX-4	SPDT	120	—	9.61	7.61	6.92	6.26
850-5019	W388AX-9	DPDT	120	—	11.97	9.48	8.62	7.80
850-5048	W388AX-14	3PDT	120	—	14.55	11.52	10.48	9.48
AC Voltage Specified—Dust Cover Plug-In								
850-5058	W388ACPX-3	SPDT	24	—	9.91	7.84	7.13	6.46
850-5024	W388ACPX-4	SPDT	120	—	9.91	7.84	7.13	6.46
850-5028	W388ACPX-8	DPDT	24	—	12.30	9.74	8.86	8.02
850-5029	W388ACPX-9	DPDT	120	—	12.30	9.74	8.86	8.02
850-5049	W388ACPX-13	3PDT	24	—	14.76	11.68	10.63	9.62
850-5050	W388ACPX-14	3PDT	120	—	14.76	11.68	10.63	9.62
DC Voltage Specified—Dust Cover Plug-In								
850-5032	W388CPX-2	SPDT	12	120	8.87	7.02	6.38	5.78
850-5051	W388CPX-3	SPDT	24	470	8.87	7.02	6.38	5.78
850-5036	W388CPX-6	DPDT	12	120	11.25	8.90	8.10	7.33
850-5037	W388CPX-7	DPDT	24	470	11.25	8.90	8.10	7.33
850-5052	W388CPX-10	3PDT	12	120	13.51	10.70	9.73	8.81
850-5053	W388CPX-11	3PDT	24	470	13.51	10.70	9.73	8.81
AC Voltage Specified—Flange Cover								
850-5054	W388ACQX-4	SPDT	120	—	9.91	7.84	7.13	6.46
850-5055	W388ACQX-9	DPDT	120	—	12.30	9.74	8.86	8.02
850-5056	W388ACQX-14	3PDT	120	—	14.76	11.68	10.63	9.62
DC Voltage Specified—Flange Cover								
850-5042	W388CQX-2	SPDT	12	120	8.87	7.02	6.38	5.78
850-5043	W388CQX-3	SPDT	24	470	8.87	7.02	6.38	5.78
850-5046	W388CQX-6	DPDT	12	120	11.25	8.90	8.10	7.33
850-5047	W388CQX-7	DPDT	24	470	11.25	8.90	8.10	7.33
850-5057	W388CQX-11	3PDT	24	470	13.51	10.70	9.73	8.81



Class 388 Sockets

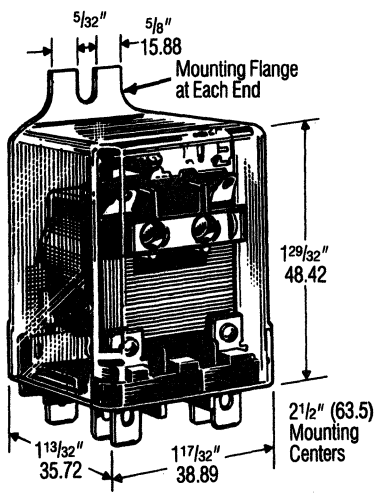
Heavy-duty molded thermoplastic screw terminal socket has closed back construction that requires no insulation. Nylon sockets offer choice of solder, quick connect, or printed circuit. U.L. recognized, File No. E43641, and CSA certified, File No. LR37547.

Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
850-5091	70-124-1	Nylon solder terminal	2.19	1.78	1.55	1.33
850-5092	70-124-2	Nylon quick connect	2.19	1.78	1.55	1.33
850-5093	70-178-1	Nylon printed circuit	2.28	1.86	1.61	1.38
850-5090	70-233-1	Screw terminal 11 pin*	14.26	11.61	10.08	8.66
850-1923	70-463-1	Screw term. 11 pin* DIN Mount	14.26	11.61	10.08	8.66

*Accepts all Class 388 plug-in relays.

Class 389 General Purpose Relays

Class 389 General Purpose Relays are designed to switch larger contact loads without increasing overall size. It is similar in design to Class 388 relays and features a flange mounted cover. **Contact Materials:** silver cadmium oxide, gold flashed. **Temperature Range:** Operating, – 30°C to + 50°C AC; -30°C to + 65°C DC. **Enclosure:** Clear polycarbonate. Quick connect terminals are 1/4 × .032" and suitable for soldering. **Size (max.):** 2 29/32"L × 1 17/32"W × 1 13/32"H. **Weight:** 3.3 oz UL/CSA E436 41/LR37547.



Class 389C-20 Amp Contacts—AC Voltage Operated 50/60 Hz

Stock No.	Mfr.'s Type	Contacts	Coil			EACH			
			Volts	Ohms	Nom. Power	1-9	10-24	25-49	50-99
850-7004	W389ACX-4	SPDT	120VAC	—	2.75VA	12.41	9.83	8.94	8.09
850-7008	W389ACX-8	DPDT	24VAC	—	2.75VA	14.87	11.77	10.70	9.69
850-7009	W389ACX-9	DPDT	120VAC	—	2.75VA	15.44	12.22	11.11	10.06
850-7014	W389ACX-14	3PDT	120VAC	—	3.5VA	17.58	13.92	12.66	11.45
Class 389C-20 Amp Contacts—DCVoltage Operated									
850-7102	W389CX-2	SPDT	12VDC	100	1.5W	11.12	8.80	8.01	7.25
850-7103	W389CX-3	SPDT	24VDC	400	1.5W	11.40	9.03	8.21	7.43
850-7107	W389CX-7	DPDT	12VDC	100	1.5W	14.51	11.48	10.44	9.45
850-7108	W389CX-8	DPDT	24VDC	400	1.5W	14.79	11.71	10.65	9.64
850-7109	W389CX-12	3PDT	12VDC	100	1.5W	17.33	13.72	12.47	11.29
850-7110	W389CX-13	3PDT	24VDC	400	1.5W	17.56	13.92	12.64	11.44
Class 389D-30 Amp Contacts—AC (50/60 Hz) & DC Voltage Operated.									
850-7204	W389ADCX-4	SPST-NO-DM	120VAC	—	3.5VA	12.54	9.93	9.03	8.17
850-7207	W389ADZCX-4	SPDT-NC-NO(DB-DM)	120VAC	—	3.5VA	15.03	11.90	10.82	9.79
850-7302	W389DCX-2	SPST-NO-DM	12VDC	100	1.5W	11.43	9.05	8.23	7.52
850-7303	W389DCX-3	SPST-NO-DM	24VDC	400	1.5W	7.15	6.79	6.44	6.08
850-7305	W389DZCX-2	SPDT-NC-NO(DB-DM)	12VDC	100	1.5W	13.94	11.03	10.04	9.08
850-7306	W389DZCX-3	SPDT-NC-NO(DB-DM)	24VDC	400	1.5W	14.21	11.25	10.23	9.26

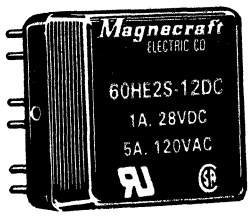
Series 301 Opto-Isolators

Optical coupling provides high input-to-output isolation. Couplers can be used as on/off switches or as voltage-controlled resistors. Ideal for triggering SCRs and triacs. **Off Resistance:** 10 megohms, min. **Output Voltage:** 250 VAC/DC, 100 VDC or AC peak. **Dielectric Strength:** 1000 V rms between all insulated points. **Insulation Resistance:** 10^9 Ohms. **Operating Temp. Range:** – 40°C to + 60°C.

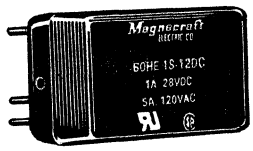
Stock No.	Mfr.'s Type	Input		Output on Resis. Ohms	EACH			
		Volts (AC/DC)	mA		1-9	10-24	25-49	50-99
850-0504*	W301T1-12B1	12	24.0	400	6.90	6.01	5.17	4.42
850-0505	W301T1-120A1	120	1.3	1200	7.37	6.42	5.53	4.72

*Incandescent

General Purpose Relays

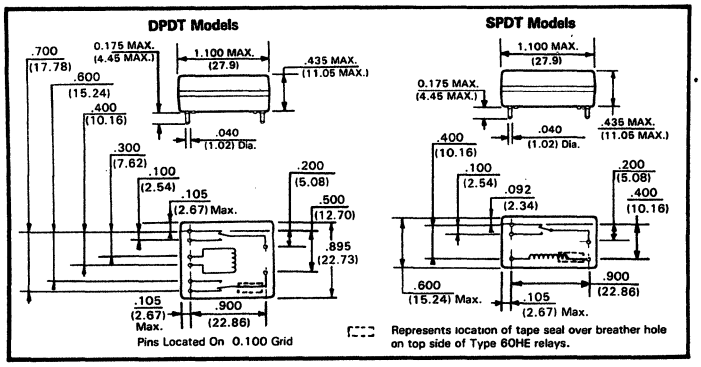


Type 60HE2



Type 60HE1

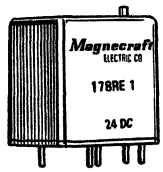
Mechanical Data



Series 60 Printed Circuit Relays
The installed height of 0.570" max. is ideal for low profile PC board applications. Terminal pins, tightly anchored to the case, can be bent without affecting internal contact adjustment. High contact force plus self-cleaning action assure minimum contact resistance. Series 60 relays are available in SPDT and DPDT models. **Applications include:** business machines, alarm and control systems, communications, and data processing and telephone switching equipment. Can be driven from TTL driver or transistor circuits with 1.50 Ma output. **Operate time:** 5 MS typ. **Release time:** 2 MS typ. **Dielectric strength:** 500 VAC rms between contact and coil. **Contact Ratings (resistive load):** 2 Amp at 24 VDC or .6 Amp at 100 VAC. UL and CSA listed. The 60HE is immersion cleanable with unique tape seal which is removed after wave soldering and cleaning for normal out-gassing of the enclosure. **Standard Coil:** 1 amp. **Sensitive Coil:** 2 amps.

Stock No.	Mfr.'s Type	Volts	Pi/Ohms	Contacts	EACH			
					1-9	10-24	25-49	50-99
850-0116	W60HE1-5DC	5DC	4.0VDC/75	1C	8.47	8.04	7.62	7.36
850-0118	W60HE1-12DC	12DC	9.6VDC/440	1C	8.47	8.04	7.62	7.36
850-0119	W60HE1-24DC	24DC	19.2VDC/1550	1C	8.79	8.35	7.91	7.65
850-7010	W60HE1-48DC	48DC	38.4VDC/5250	1C	8.79	8.35	7.91	7.65
850-7011	W60HE1S-5DC	5DC	/42	1C	8.73	8.29	7.85	7.59
850-7012	W60HE1S-12DC	12DC	/310	1C	8.73	8.29	7.85	7.59
850-7013	W60HE1S-24DC	24DC	/1100	1C	9.29	8.83	8.37	8.09
850-7714	W60HE1S-48DC	48DC	38.4VDC/5250	1C	9.29	8.83	8.37	8.09
850-0124	W60HE2-5DC	5DC	/35	2C	10.60	10.07	9.54	9.23
850-0126	W60HE2-12DC	12DC	/440	2C	10.60	10.07	9.54	9.23
850-0127	W60HE2-24DC	24DC	/1550	2C	10.93	10.38	9.84	9.51
850-7015	W60HE2-48DC	48DC	38.4VDC/5250	2C	10.93	10.38	9.84	9.51
850-7016	W60HE2S-5DC	5DC	/42	2C	11.28	10.72	10.15	9.81
850-7017	W60HE2S-12DC	12DC	/260	2C	11.28	10.72	10.15	9.81
850-7018	W60HE2S-24DC	24DC	/950	2C	11.43	10.86	10.29	9.95
850-7019	W60HE2S-48DC	48DC	38.4VDC/5250	2C	11.43	10.86	10.29	9.95

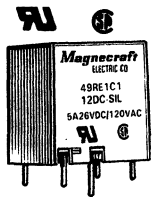
Series 178 SPDT DC Relays



Subminiature relay for printed circuit use. Polypropylene case for handling and reduction of contact contamination from solder flux and degreasing solvents. Positive response to power coil signals as low as .4 Watts. **Life Rated:** 1,000,000 operations, mechanically; 100,000 operations, electrically, min. **Operating Temperature Range:** – 30°C to + 60°C. Contact 3 amps at 28 VDC/120 VAC resistive. **Size H × W × D:** .945 × .669 × .846".

Stock No.	Mfr.'s Type	Coil Volts	EACH	
			1-24	25-99
850-0152	W178RE1-12DC	12DC	5.82	5.03
850-0153	W178RE1-24DC	24DC	5.82	5.03

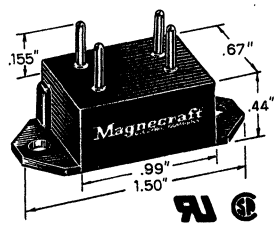
Series 49 SPDT DC Relay



A low-cost, printed-circuit board relay for switching up to 5 Amps in just over 1 cubic inch. Units have dust covers and contact placement furthest away from the PC board. Typical applications are garage door openers, antenna rotor controls, vending machines, automatic toys and games. **Size:** .759 × 1.146 × 1.255". **Temperature Range:** – 55°C to + 85°C. **Weight:** 1.5 ozs. SCO in stock number denotes silver cadmium oxide. **Expected Contact Electrical Life:** 100,000 operations at rated load. **Initial Contact Resistance (max.):** 100 milliohms at 6 V, 1 Amp. Max. **Coil Dissipation:** 2 Watts at 25°C. **Coil Pickup Voltage (max.):** 75% of nominal voltage.

Stock No.	Mfr.'s Type	Coil Volts	Description	EACH			
				1-9	10-24	25-49	50-99
850-0207	W49RE1C1VG-5DC-SCO	5DC	P.C. Relay	8.01	7.31	6.63	5.64
850-0209	W49RE1C1VG-12DC-SCO	12DC	P.C. Relay	8.38	7.64	6.94	5.90
850-0210	W49RE1C1VG-24DC-SCO	24DC	P.C. Relay	8.84	8.06	7.32	6.22

Series 226 Solid State Miniature Relays

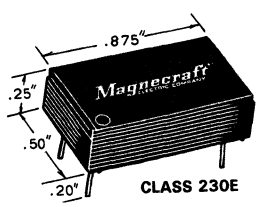


Low cost solid state relay designed to switch low to medium current AC loads from low level logic signals. Can be chassis mounted and connected with standard push on connectors. Compatible with TTL logic. Unit is completely potted to resist shock and moisture effects. DC input versions have LED activated optoisolator input. **Operate time:** 8 msec typ. **Release time:** 25 msec typ. **Dielectric strength:** 2500 VAC rms from input to output and case. Units have continuous current rating without heatsink of 0.05 to 1.5 amps; 0.05 to 7 amps with heatsink.

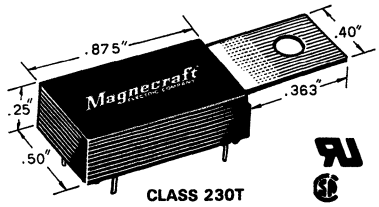
Stock No.	Mfr.'s Type	Input Volts (DC)	Output Volts		EACH			
			Non-line VRMS	Blocking	1-9	10-24	25-49	50-99
850-0400	W226R-7-5A1	5	120	400	18.65	16.24	13.99	11.93
850-0401	W226R-7-12A1	12	120	400	18.65	16.24	13.99	11.93
850-0404*	W226RE-7-5A1	5	120	400	18.65	16.24	13.99	11.93
850-0405*	W226RE-7-12A1	12	120	400	18.65	16.24	13.99	11.93

*PC Mount.

Series 230 Solid State Relays



CLASS 230E

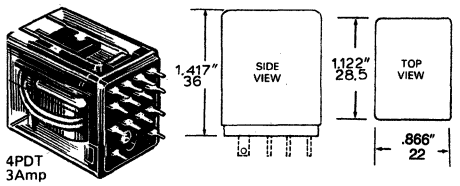


CLASS 230T

The Series 230 are optically coupled solid state relays offering high efficiency and reliability with Zero Angle Firing. Unlike other ZAF types which have high leakage (1 to 5 mA), the 230 features leakage less than 1.0 mA. Units handle 1 cycle surges of 50 Amps and 2 minute overloads of 100%. **Isolation Input/Output:** 4000 VAC. **Operating Temp. Range:** 0°C to + 115°C. UL and CSA pending.

Stock No.	Mfr.'s Type	Input Voltage	Output			EACH			
			Amps	VAC	Blocking (±VDC)	1-9	10-24	25-49	50-99
850-0450	W230E1-5	5DC	1.5	120	400	28.83	22.82	20.76	17.68
850-0451	W230E2-5	5DC	1.5	240	500	31.80	25.17	22.89	19.50
850-0452	W230E1-12	12DC	1.5	120	400	28.83	22.82	20.76	17.68
850-0454	W230T3-5	5DC	3.0	120	400	31.80	25.17	22.89	19.50
850-0455	W230T4-5	5DC	3.0	240	500	34.66	27.44	24.96	21.26
850-0456	W230T3-12	12DC	3.0	120	400	31.80	25.17	22.89	19.50

Class 78 General Purpose Industrial Relays

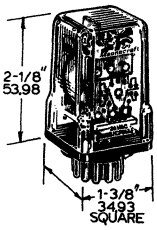


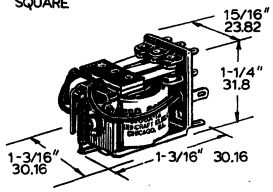
Class 78 relays are the most widely used of all general purpose industrial relays. Slightly larger than one cubic inch, these relays are interchangeable with all comparable types. 4 PDT with 3 amp contacts or DPDT with 10 amp contacts or SPDT with 15 amp contacts. Plug-in, printed circuit, or quick connect terminal. **Dimensions:** 1.4 × 1.1 × .86". Dust-proof enclosures.

Stock No.	Mfr.'s Type	Volts	Ohms	Description	EACH 1-24	EACH 25-49	EACH 50-99
850-1862	W78ACSX-2	12	42	AC coil; solder lug/plug-in; 3 amp	9.53	8.70	7.89
850-1863	W78ACSX-3	24	157	AC coil; solder lug/plug-in; 3 amp	9.53	8.70	7.89
850-1815	W78ACSX-5	120	4,400	AC coil; solder lug/plug-in; 3 amp	10.05	9.16	8.32
850-1802	W78CSX-2	12	160	DC coil; solder lug/plug-in; 3 amp	9.53	8.70	7.89
850-1803	W78CSX-3	24	650	DC coil; solder lug/plug-in; 3 amp	9.53	8.70	7.89
850-1866	W78APCX-5	120	4,400	AC coil; solder lug/plug-in; 3 amp	10.05	9.16	8.32
850-1812	W78PCX-2	12	160	DC coil; solder lug/plug-in; 3 amp	9.53	8.70	7.89
850-1867	W78PCX-4	48	2,600	DC coil; solder lug/plug-in; 3 amp	9.53	8.70	7.89
850-1872	W78ARCSX-8	12	42	AC operated; solder lug/quick connect; 10 amp; direct mount	10.37	9.46	8.59
850-1873	W78ARCSX-9	24	157	AC operated; solder lug/quick connect; 10 amp; direct mount	10.37	9.46	8.59
850-1837	W78RCSX-7	12	160	DC operated; solder lug/quick connect; 10 amp; direct mount	10.37	9.46	8.59
850-1875	W78RPCX-2	12	160	DC coil; printed circuit; 10 amp	10.37	9.46	8.59
850-1869	W78ARPCX-24	120	4,400	AC coil; printed circuit; 15 amp	9.79	8.93	8.11
850-1871	W78RPCX-25	24	650	DC coil; printed circuit; 15 amp	9.08	8.29	7.52
850-1858	W78ARCSX-28	24	180	AC coil; solder plug-in; 15 amp	9.08	8.29	7.52
850-1860	W78ARCSX-30	120	4,400	AC coil; solder plug-in; 15 amp	9.70	8.93	8.11
850-1861	W78ARCSX-31	240	3,000	AC coil; solder plug-in; 15 amp	12.52	11.33	10.29
850-1847	W78RCSX-27	12	160	DC coil; solder plug-in; 15 amp	9.08	8.29	7.52
850-8115	W78RCSX-9	48	2,600	DC operated; solder lug/quick connect; 10 amp; direct mount	10.37	9.46	8.59
850-8120	W78RCSX-10	110	13,300	DC operated; solder lug/quick connect; 10 amp; direct mount	12.46	11.36	10.31

Class 88 Open and Octal Base General Purpose Relays

Highly reliable general purpose relay has glass melamine insulation for high dielectric strength and resistance to humidity or temperature change. Modeled nylon bobbin. Hinge-pin armature. Contacts SPDT, DPDT, or 3PDT rated 10 amps. Open styles have tinned solder terminals; plug-in versions have 8-pin octal or 3PDT 11-pin octal base.





Stock No.	Mfr.'s Type	Contacts	Coil Volts or MA	Coil Ohms	Description	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
850-2014	W88AX-4	SPDT	120.0	—	AC voltage specified — open style	11.77	9.31	8.47	7.67
850-2018	W88AX-8	DPDT	120.0	—	AC voltage specified — open style	14.19	11.23	10.22	9.25
850-2012	W88AX-12	3PDT	120.0	—	AC voltage specified — open style	17.42	13.79	12.54	11.35
850-2007	W88X-7	DPDT	12.0	120	DC voltage specified — open style	14.38	11.38	10.35	9.37
850-2064	W88X-11	3PDT	12.0	120	DC voltage specified — open style	17.70	14.01	12.75	11.54
850-2048	W88ACPX-8	DPDT	120.0	—	plug-in AC voltage dust cover	19.92	15.77	14.35	12.98
850-2070	W88ACPX-11	3PDT	24.0	—	plug-in AC voltage dust cover	24.66	19.53	17.76	16.07
850-2071	W88ACPX-12	3PDT	120.0	—	plug-in AC voltage dust cover	24.66	19.53	17.76	16.07
850-2072	W88CPX-2	SPDT	12.0	120	plug-in DC voltage dust cover	16.57	13.12	11.93	10.80
850-2026	W88CPX-6	DPDT	12.0	120	plug-in DC voltage dust cover	19.36	15.32	13.94	12.61
850-2027	W88CPX-7	DPDT	24.0	470	plug-in DC voltage dust cover	19.36	15.32	13.94	12.61
850-2031	W88CPX-11	3PDT	24.0	470	plug-in DC voltage dust cover	23.53	18.63	16.94	15.33
850-2074	W88CPX-18	DPDT	5.0MA	10,000	DC current specified; plug-in dust cover	22.73	17.99	16.36	14.81

Class 21 Power Relays

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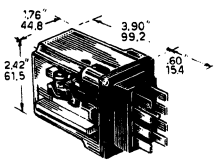
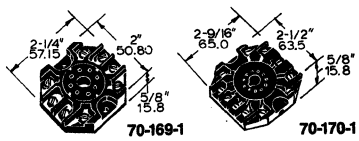
Designed for transportation and traffic control industry. Switches tungsten lamps for traffic signaling, street lighting, and energy controls. Suitable for domestic switching of tungsten lamp loads of 1000 watts at 120 VAC. Mechanical life expectancy is five million operations. Its electrical expectancy is 200,000 operations at rated load.



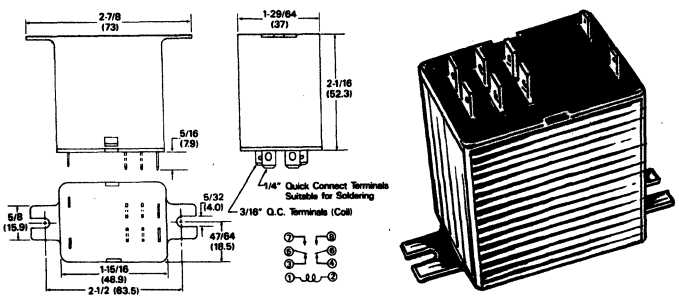
Stock No.	Mfr.'s Type	Contacts 20 amps	Coil Volts	Coil Nom. Power	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
850-7304	W21ACPX-2	DPDT	120 VAC	8.0 VA	57.73	47.01	40.82	35.88

Series 88 Sockets

Closed back construction sockets are rated 10 amps. UL recognized. Can also be used for Class 211 and 222 time delay relays.



Stock No.	Mfr.'s Type	Description	Weight (Grams)	EACH 1-0	EACH 10-24	EACH 25-49	EACH 50-Up
850-2091	70-169-1	Screw Terminal 8 Pin Octal	28.3	6.73	5.48	4.76	4.08
850-2092	70-170-1	Screw Terminal 11 Pin Octal	54.6	11.82	9.62	8.35	7.17



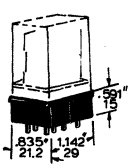
Class 21CQ Flange Style Power Relays

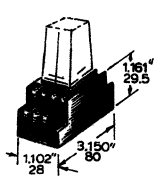
Class 21CQ Flange Style units have same characteristics as Class 21 Enclosed Style units except for the following differences: 30 amp @ 120/240 VAC or 28 VDC. Coil voltage is 6-240 VAC 5-14 VDC. Terminals are solder or 1/4" quick connect. The cover is see-through polycarbonate. Units mount directly with enclosure flange. UL recognized, CSA certified. Class 21 DCQ has the same characteristics as Class 21 CQ except the contact rating is 60 amps @ 120 VAC and arrangement is SPST-NO-DM. Class 21 DCQ not UL, CSA.

Stock No.	Mfr.'s Type	Volts	Nominal Power	EACH 1-9	EACH 10-24	EACH 25-49
850-7000	W21ACQX-4	120 VAC	8.0 VA	50.61	41.21	35.79
850-7001	W21ACQX-5	240 VAC	8.0 VA	53.55	43.61	37.87
850-7002	W21ADCQX-4	120 VAC	8.0 VA	41.49	33.79	29.34
850-7003	W21ADCQX-5	240 VAC	8.0 VA	45.34	36.92	32.06

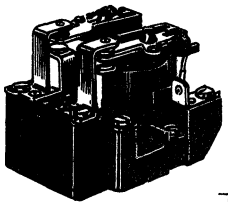
Series 78 Sockets for Above Relays

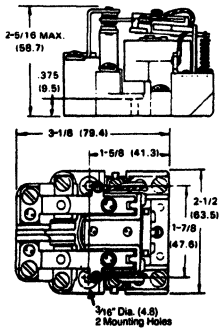
Stock No.	Mfr.'s Type	Description	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
850-1908	70-378	4 PDT Solder Type	1.52	1.45	1.38	1.07
850-1920	70-400	SPDT/DPDT Screw Type	8.96	7.80	6.72	5.96
850-1919	70-399	4 PDT Screw Type	12.13	10.56	9.10	8.50
850-1922	70-402	SPDT/DPDT PC Type	2.22	1.93	1.67	1.04





Class W199 Series Relays





Dimensionally interchangeable with relays made by others. Outstanding quality, molded nylon bobbin and longer life. **Standard dielectric strength:** 3000VAC rms. Screw type terminals and molded phenolic base. **Contacts:** silver alloy, 5/16" dia. gold flashed. **Size:** SPDT, 2 7/16"L × 2 1/2"W × 2 3/16"H; DPDT, 3 1/8"L × 2 1/2"W × 2 5/16"H. U.L. listed File No. 43641. CSA certified File No. LR37547.

AC Voltage Operated — 30A Contacts

Stock No.	Mfr.'s Type	Contacts	Coil		EACH			
			Volts	Ohms	1-9	10-24	25-49	50-99
850-3004	W199AX-4	SPDT	120VAC	—	17.86	14.14	12.86	11.64
850-3008	W199AX-8	DPST-NO	24VAC	—	19.45	15.40	14.00	12.68
850-3009	W199AX-9	DPST-NO	120VAC	—	19.45	15.40	14.00	12.68
850-3010	W199AX-10	DPST-NO	240VAC	—	19.86	15.72	14.30	12.94
850-3013	W199AX-13	DPDT	24VAC	—	24.62	19.49	17.72	16.04
850-3014	W199AX-14	DPDT	120VAC	—	24.62	19.49	17.72	16.04
850-3015	W199AX-15	DPDT	240VAC	—	25.03	19.81	18.02	16.31
850-3204	W199ADX-4	SPST-NO-DM	120VAC	—	17.18	13.60	12.37	11.20

DC Voltage Operated — 30A Contacts

Stock No.	Mfr.'s Type	Contacts	Coil		EACH			
			Volts	Ohms	1-9	10-24	25-49	50-99
850-3102	W199X-2	SPDT	12VDC	70	17.21	13.63	12.39	11.22
850-3103	W199X-3	SPDT	24VDC	290	17.21	13.63	12.39	11.22
850-3107	W199X-7	DPST-NO	12VDC	70	18.93	14.99	13.63	12.34
850-3108	W199X-8	DPST-NO	24VDC	290	18.93	14.99	13.63	12.34
850-3112	W199X-12	DPDT	12VDC	70	24.03	19.03	17.30	15.66
850-3113	W199X-13	DPDT	24VDC	290	24.03	19.03	17.30	15.66
850-3114	W199X-14	DPDT	110VDC	6000	25.72	20.36	18.52	16.76
850-3202	W199DX-2	SPDT-NO-DM	12VDC	70	16.57	13.12	11.93	10.80
850-3203	W199DX-3	SPST-NO-DM	24VDC	290	16.57	13.12	11.93	10.80

Mercury Displacement Relays

Mercury Displacement Contactor Tube operates in relative silence, eliminating "knocking" associated with conventional hard contactors. **Specifications. Pull-in Voltage:** 96V typical. **Drop-out Voltage:** 93V typical. **Operate time:** 50 milliseconds typical. **Release Time:** 80 milliseconds typical. **Contact Bounce:** None. ± 10% of rated coil voltage. **Contact Resistance:** 35 amp models, .003 ohm terminal to terminal; 60 amp models, .002 ohm terminal to terminal. **Temperature Range:** – 35°C to + 60°C ambient (operating). **Dielectric Strength:** 2650 rms (1 sec.). **Insulation Material:** Class B (130°C) U.L. approved. **Terminals:** 35 amp models, pressure connectors for AWG6-14; 60 amp models, pressure connectors for AWG 2-8. **Mounting:** vertical ± 10°.

M35A-M35B

Voltage	Phase		H.P.		Motor Amps		Resistive Amps	Tungsten Amps
120VAC	1φ	3φ	3*	5.0*	34	30	35*	35*
240VAC	1φ	3φ	5*	7.5*	28	19	35*	17*

* U.L. and CSA listed.

M60A

Voltage	Phase		H.P.		Motor Amps		Resistive Amps	Tungsten Amps	
								Type A	Type B
120VAC	1φ	3φ	3	5	34	30	60*	60*	45*

* U.L. and CSA listed.

Voltage	Resistive Amps	Tungsten Amps	Horse Power
24VDC	100	100	1.5
120VAC	100	100	3*
240VAC	100	60	5*

* U.L. and CSA listed.

35 Amp Steel Tube Relay

Stock No.	Mfr.'s Type	Contacts	Coil			EACH		
			Nominal Volts*	Nominal Current	Ohms	1-9	10-49	50-Up
850-0035	WM35A-120A	SPST-NO	120VAC	.058	700	27.33	22.36	21.12
850-0036	WM35B-120A	SPST-NC	120VAC	.115	460	39.63	32.42	30.62
850-0037	WM35A-240A	SPST-NO	240VAC	.029	2800	28.79	23.56	22.25
850-0038	WM35AA-120A	DPST-NO	120VAC	.135	218	52.29	42.78	40.40
850-0040	WM35AA-240A	DPST-NO	240VAC	.063	1200	74.57	61.01	57.62
850-0042	WM35AAA-120A	3PST-NO	120VAC	.220	111	74.57	61.01	57.62

* 50/60 Hz.

60 Amp Steel Tube Relay

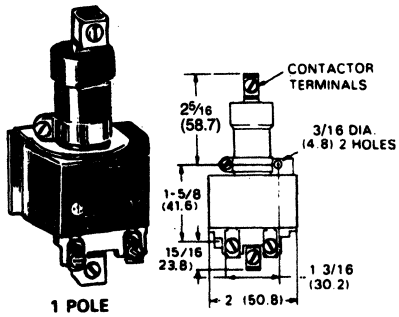
Stock No.	Mfr.'s Type	Contacts	Coil			EACH		
			Nominal Volts*	Nominal Current	Ohms	1-9	10-49	50-Up
850-0060	WM60A-120A	SPST-NO	120VAC	.058	700	43.35	35.47	33.50
850-0048	WM60A-24D	SPST-NO	24VDC	.120	186	43.35	35.47	33.50
850-0062	WM60AA-120A	DPST-NO	120VAC	.135	218	81.70	66.85	63.14

* 50/60 Hz.

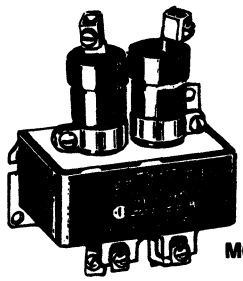
100 Amp Steel Tube Relay

Stock No.	Mfr.'s Type	Contacts	Coil			EACH		
			Nominal Volts*	Nominal Current	Ohms	1-9	10-49	50-Up
850-8050	WM100A-24D	SPST-NO	120VAC	.275	74	113.21	92.63	87.48
850-8055	WM100A-120A	SPST-NO	240VAC	.138	300	113.21	92.63	87.48
850-8060	WM100A-240A	SPST-NO	24VDC	.380	63	113.79	93.10	87.93

M35A

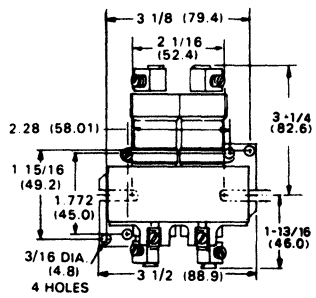


1 POLE



M60AA

2 POLE



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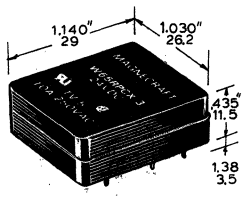
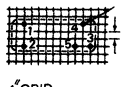
Class 65 SPDT Epoxy Sealed Relay



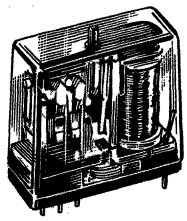


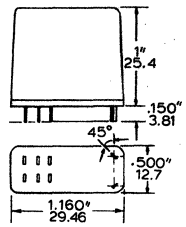
CLASS 65
FLATPACK

Epoxy sealed relay provides protection during automatic wave soldering and cleaning. Immersion proof — which allows a wide variety of uses and placements. A pierced hole in cover after PCB washing extends contact life and lowers operating temperature. Types W65ERPCX-3 through W65ERPCX-4 are flatpacks. Types W65ERPCX-203 through W65ERPCX-204 are uprights.

Stock No.	Mfr.'s Type	Coil		EACH			
		Nom. VDC	Ohms	1-9	10-24	25-49	50-99
850-1003	W65ERPCX-3	12	230	**10.14**	**8.95**	**8.16**	**7.41**
850-1004	W65ERPCX-4	24	900	**10.14**	**8.95**	**8.16**	**7.41**
850-1013	W65ERPCX-203	12	230	**10.14**	**8.95**	**8.16**	**7.41**
850-1014	W65ERPCX-204	24	900	**10.14**	**8.95**	**8.16**	**7.41**

Class 76 Miniature Printed Circuit Relays— Epoxy Sealed

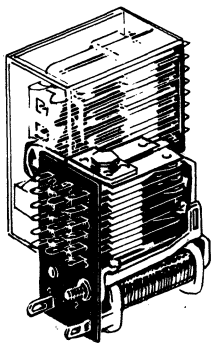


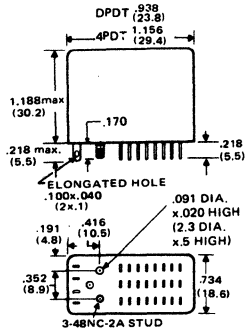


5, 10, and 16 amp general purpose, high current, printed circuit relays. They are versatile, provide long life and reliable performance. Minimum mechanical life of 5,000,000 operations. After soldering and washing process, pierce the hole in the cover.

Stock No.	Mfr.'s Type	Action	Contact Rating	Coil		EACH			
				Volt DC	Resist. Ohms	1-9	10-24	25-49	50-99
850-7020	W76EURCPCX-14	SPDT	10 amp	5	37	**7.46**	**6.81**	**6.18**	**5.58**
850-7021	W76EURCPCX-16	SPDT	10 amp	12	250	**7.46**	**6.81**	**6.18**	**5.58**
850-7022	W76EURCPCX-17	SPDT	10 amp	24	1150	**7.68**	**7.00**	**6.36**	**5.74**
850-7023	W76EURCPCX-18	SPDT	10 amp	48	4360	**8.44**	**7.70**	**6.99**	**6.32**
850-7024	W76EURCPCX-146	SPDT	16 amp	5	37	**8.44**	**7.70**	**6.99**	**6.32**
850-7025	W76EURCPCX-148	SPDT	16 amp	12	250	**8.44**	**7.70**	**6.99**	**6.32**
850-7026	W76EURCPCX-149	SPDT	16 amp	24	1150	**8.75**	**7.98**	**7.25**	**6.55**
850-7027	W76EURCPCX-61	DPDT	5 amp	5	37	**8.44**	**7.70**	**6.99**	**6.32**
850-7028	W76EURCPCX-62	DPDT	5 amp	6	50	**8.20**	**7.48**	**6.79**	**6.13**
850-7029	W76EURCPCX-63	DPDT	5 amp	12	180	**8.20**	**7.48**	**6.79**	**6.13**
850-7030	W76EURCPCX-64	DPDT	5 amp	24	800	**8.44**	**7.70**	**6.99**	**6.32**

Class 67 Miniature Industrial Relays





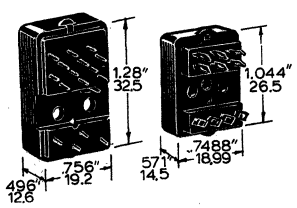
Plug-in or solder terminal mount relays with 3-48 NC stud. Single and bifurcated crossbar contacts of silver alloy rated 3 to 5 amps at 32DC or 120VAC resistive load. All relays with plastic dust covers. Voltage specified relays pull-in at 80% of nominal or less. **Resistance values** ± 10% measured at 25°C. **Size:** DPDT, 0.734 x 0.938 x 1.88″; 4PDT, 0.734 x 1.156 x 1.188″; 6PDT, 0.734 x 1.375 x 1.188″; 8PDT, 0.734 x 1.592 x 1.188″. U.L. File No. E52197. CSA File No. LR41729. **CSX or RCSX:** Solder terminals. PCX or RPCX: P.C. terminals.

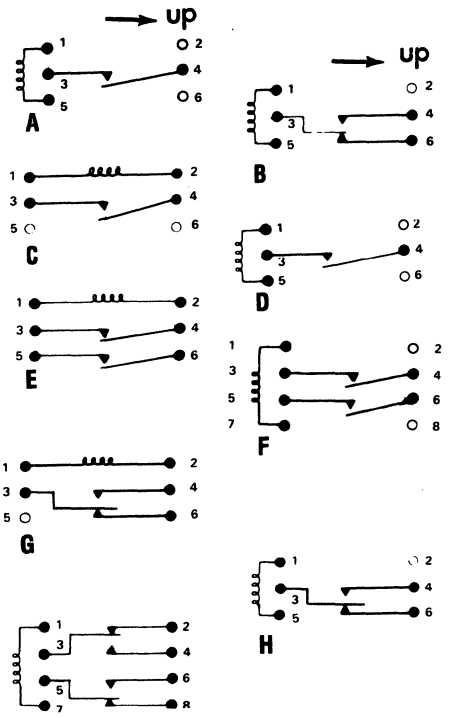
Stock No.	Mfr.'s Type	Arrangement	Contact Rating	Coil		EACH			
				DCV	Ohms	1-9	10-24	25-49	50-99
850-1021	W67CSX-1	DPDT	5A	6	52	**7.31**	**6.67**	**6.05**	**4.97**
850-1022	W67CSX-2	DPDT	5A	12	185	**7.31**	**6.67**	**6.05**	**4.97**
850-1023	W67CSX-3	DPDT	5A	24	700	**7.31**	**6.64**	**6.05**	**4.97**
850-1025	W67CSX-5	DPDT	5A	115	15,000	**8.66**	**7.90**	**7.17**	**5.89**
850-1041	W67RCSX-1	DPDT	5A	6	52	**7.31**	**6.67**	**6.05**	**4.97**
850-1042	W67RCSX-2	DPDT	5A	12	185	**7.31**	**6.67**	**6.05**	**4.97**
850-1043	W67RCSX-3	DPDT	5A	24	700	**7.31**	**6.67**	**6.05**	**4.97**
850-1045	W67RCSX-5	DPDT	5A	115	15,000	**8.66**	**7.90**	**7.17**	**5.89**
850-1055	W67TRCSX-3	DPDT	5A*	24	700	**9.33**	**8.51**	**7.73**	**6.35**
850-1056	W67CSX-12	6PDT	5A	12	90	**13.22**	**12.05**	**10.94**	**8.99**
850-1057	W67CSX-13	6PDT	5A	24	430	**13.22**	**12.05**	**10.94**	**8.99**
850-1058	W67RCSX-12	6PDT	5A	12	90	**13.22**	**12.05**	**10.94**	**8.99**
850-1059	W67RCSX-13	6PDT	5A	24	430	**13.22**	**12.05**	**10.94**	**8.99**
850-1060	W67TCSX-12	6PDT	3A	12	90	**16.41**	**14.96**	**13.58**	**11.16**
850-1027	W67CSX-7	4PDT	5A	12	185	**9.96**	**9.09**	**8.25**	**6.77**
850-1028	W67CSX-8	4PDT	5A	24	700	**9.96**	**9.09**	**8.25**	**6.77**
850-1029	W67RCSX-6	4PDT	5A	6	52	**9.96**	**9.09**	**8.25**	**6.77**
850-1047	W67RCSX-7	4PDT	5A	12	185	**9.96**	**9.09**	**8.25**	**6.77**
850-1067	W67RCSX-8	4PDT	5A	24	700	**9.96**	**9.09**	**8.25**	**6.77**
850-1068	W67RCSX-9	4PDT	5A	48	2,500	**10.15**	**9.25**	**8.40**	**6.90**
850-1069	W67RCSX-10	4PDT	5A	115	15,000	**11.29**	**10.29**	**9.35**	**7.68**
850-1072	W67CSX-17	8PDT	5A	12	72	**19.36**	**17.66**	**16.03**	**13.17**
850-1073	W67CSX-18	8PDT	5A	24	350	**19.36**	**17.66**	**16.03**	**13.17**
850-1074	W67RCSX-18	8PDT	5A	24	350	**19.36**	**17.66**	**16.03**	**13.17**
850-1075	W67TCSX-17	8PDT	3A	12	72	**21.44**	**19.55**	**17.75**	**14.58**
850-1076	W67TCSX-18	8PDT	3A*	24	350	**21.44**	**19.55**	**17.75**	**14.58**
850-1077	W67TRCSX-18	8PDT	5A*	24	350	**21.44**	**19.55**	**17.75**	**14.58**

*Bifurcated contacts.

Class 67 Sockets

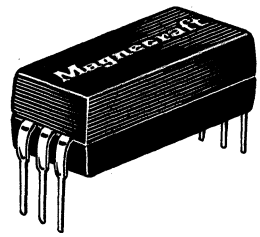
Stock No.	Mfr.'s Type	Arrangement	Dim "L"	EACH			
				1-9	10-24	25-49	50-99
850-1063	70-303	2 pole solder terminal	.959	**3.55**	**2.74**	**2.37**	**1.90**
850-1064	70-304	2 pole PC terminal	1.047	**3.55**	**2.74**	**2.37**	**1.90**
850-1065	70-305	4 pole solder terminal	1.170	**4.87**	**3.76**	**3.25**	**2.61**
850-1066	70-306	4 pole PC terminal	1.280	**4.87**	**3.76**	**3.25**	**2.61**
850-1078	70-307	6 pole solder terminal	1.385	**6.93**	**6.10**	**5.34**	**4.63**
850-1079	70-308	6 pole PC terminal	1.516	**6.93**	**6.10**	**5.34**	**4.63**
850-1080	70-310	8 pole PC terminal	1.596	**10.73**	**8.28**	**7.17**	**5.75**





Reed Relays And Micro-Miniature Relays

Epoxy molded construction modular, completely resistant to standard printed circuit board cleaning processes. **Insulation Resistance (Ohms):** 10^{10} minimum (tested at 100VDC).



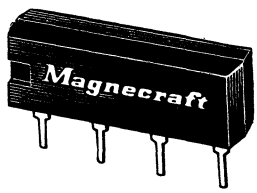
Specifications

Series	Contact Rated Max.	Switching Max.		Dielectric Standoff Open (min.)
		Volts	Amps	
Class 131	50 VA	500 VDC	2.00A	1000 VDC
Class 134	50 VA	500 VDC	1.00A	1500 VDC
Class 101	10 VA	200 VDC	0.50A	300 VDC
Class 104	4 VA	100 VDC	0.25A	200 VDC

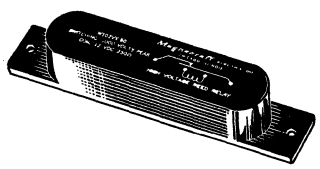
Stock No.	Mfr.'s Type	Fig.	Coil		Description	EACH		
			VDC	Ohms		1-24	25-49	50-74
850-1573	W131MIP-2	A	12	330	Class W131 SPST-NO (mercury)	**18.75**	**14.05**	**12.75**
850-1574	W131MIP-3	A	24	1400	Class W131 SPST-NO (mercury)	**19.60**	**14.70**	**13.33**
850-1575	W134MIP-1	B	5/6	60	Class W134 SPDT (mercury)	**27.89**	**20.98**	**19.03**
850-1576	W134MIP-2	B	12	330	Class W134 SPDT (mercury)	**25.44**	**20.98**	**19.03**
850-1577	W134MIP-3	B	24	1400	Class W134 SPDT (mercury)	**26.24**	**21.65**	**19.63**
850-1578	W101MIP-1	C	5/6	250	Class W101 SPST-NO	**8.73**	**7.55**	**6.83**
850-1579	W101MIP-2	C	12	1400	Class W101 SPST-NO	**9.56**	**8.26**	**7.48**
850-1581	W101MIP-4	D	5/6	250	Class W101 SPST-NO	**8.73**	**7.55**	**6.83**
850-1585	W101MIP-14	E	12	450	Class W101 DPST-NO	**10.10**	**8.73**	**7.90**
850-1587	W101MIP-80	F	5/6	90	Class W101 DPST-NO	**9.60**	**8.29**	**7.50**
850-1590	W104MIP-38	G	12	900	Class W104 SPDT	**15.28**	**13.20**	**11.95**
850-1592	W104MIP-19	H	5/6	180	Class W104 SPDT	**14.42**	**12.46**	**11.28**
850-1593	W104MIP-42	H	12	900	Class W104 SPDT	**15.28**	**13.20**	**11.95**
850-1594	W104MIP-65	H	24	2600	Class W104 SPDT	**16.66**	**14.40**	**13.03**
850-1595	W104MIP-25	I	5/6	45	Class W104 DPDT	**22.98**	**19.85**	**17.97**
850-1596	W104MIP-48	I	12	230	Class W104 DPDT	**23.01**	**19.88**	**17.99**
850-1597	W104MIP-71	I	24	1200	Class W104 DPDT	**23.32**	**20.15**	**18.24**

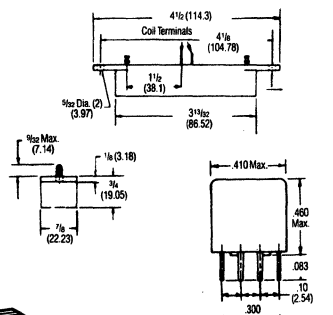
Class 117 SIP

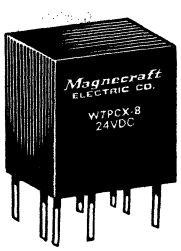
Construction is immersion resistant, epoxy molded. Has solderable printed circuit terminals. Can be mounted in any position.



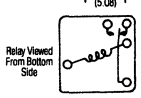
Stock No.	Mfr.'s Type	Coil		Description	EACH		
		Volts	Ohms		1-24	25-49	50-74
850-1557	W117SIP-5	24	3200	SPST-NO without diode	**7.04**	**5.28**	**4.79**
850-1558	W117SIP-6	5/6	500	SPST-NO with diode	**5.94**	**4.45**	**4.04**
850-1560	W117SIP-10	24	3200	SPST-NO with diode	**7.39**	**5.54**	**5.02**







SPDT



Reed Relays

Class 102V 5,000 Volt Reed 1, Form A SPST

Operate in any position. Contacts SPST-NO, rated at 50VA max. at 3A max. or 5000VDC max. resistive. Life rated at 10 million operations. Standard operating temperature range is from – 40°C to + 85°C. Storage Temperature is from – 60° to + 105°C. Operating time is 3 milliseconds. **Capacitance:** (Non-shielded relay) across open contacts is 1.0 pF. Coil dissipation in MW at nominal coil voltage is between 200 and 500. **Size:** 4½″L × 15/16″W × 7/8″H. **Weight:** 3 oz.

Stock No.	Mfr.'s Type	Coil		Nom. PWR MW	Contacts	EACH		
		Volts	Ohms			1-24	25-49	50-74
850-1561	W102VX-49	6	70	500	NO	**59.29**	**51.22**	**46.36**
850-1563	W102VX-51	24	1000	580	NO	**59.29**	**51.22**	**46.36**

Class 102HV 10,000V$_0$ 1 Form A

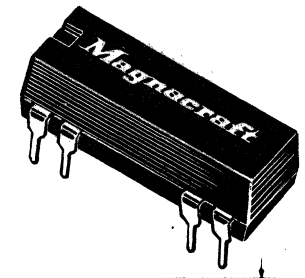
Contact load rating 10,000 volts peak at .001 amperes. SPST-NO nominal coil power, 1-5W average. Operate time, typically 20mS. Contact resistance, 150 milliohms average. Typical life at rated load, 1 million — longer at reduced loads. 1¾ ozs.

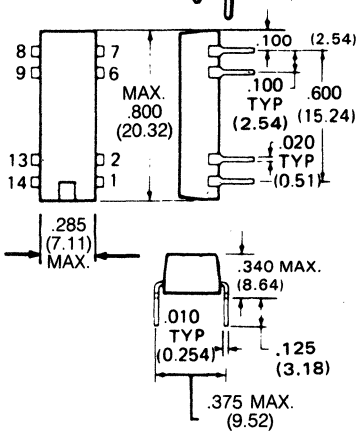
Stock No.	Mfr.'s Type	Coil		EACH		
		Volts	Ohms	1-24	25-49	50-74
850-1566	W102HVX-3	24	400	**68.33**	**59.03**	**53.43**

Class 7 Micro-Miniature Relays

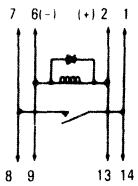
Excellent for fast operating, release time, and RF switching characteristics. Rated for low level to 2.0 Amp switching, it also has low contact resistance. Long life, more than 100 million operations. Footprint compatible with .1″ (2.54mm) grid arrangement. Total volume less than 1cc. Requires .168 inch circuit board space.

Stock No.	Mfr.'s Type	Contact Combinations	Coil				EACH			
			Nominal Voltage	Resist. Ohms	Maximum Pull-In Voltage	Mininum Drop-Out Voltage	1-9	10-24	25-49	50-Up
850-7405	W7PCX-8	DPDT	24VDC	1550	19.2	1.20	**15.41**	**12.55**	**10.90**	**9.35**
850-7404	W7PCX-7	DPDT	12VDC	440	9.6	0.60	**11.57**	**9.42**	**8.18**	**7.02**
850-7403	W7PCX-5	DPDT	5VDC	75	4.0	0.25	**11.57**	**9.42**	**8.18**	**7.02**
850-7402	W7PCX-4	SPDT	24VDC	1550	19.2	1.20	**14.30**	**11.65**	**10.12**	**8.68**
850-7401	W7PCX-3	SPDT	12VDC	440	9.6	0.60	**11.18**	**9.11**	**7.91**	**6.79**
850-7400	W7PCX-1	SPDT	5VDC	75	4.0	0.25	**11.18**	**9.11**	**7.91**	**6.79**

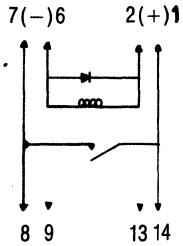




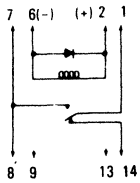
Note: (mm) for reference only.



WD28
W107DIP-5
W107DIP-6
W107DIP-7
W107DIP-8



WD28
W171DIP-7
W171DIP-9
W171DIP-10



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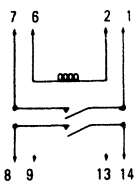
W172DIP-5
W172DIP-6
W172DIP-7
W172DIP-8



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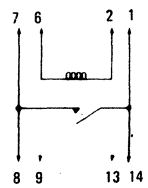
W171DIP-21
W171DIP-22
W171DIP-23
W171DIP-24



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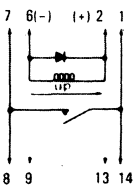
W173DIP-1
W173DIP-3
W173DIP-4



WD37
W174DIP-5
W174DIP-7
W174DIP-8

Series 107, 171, 172, 173 and 174 DIP Reed Relays

	107 SPST-NO	171 SPST-NO	171 DPST-NO	172 SPDT	172 DPDT	173 SPST-NO	174 SPST-NO
Max. Resistive Load	10VA	10VA	10VA	4VA	3VA	3VA	50VA
Switching Volts Max. VDC	100	100	100	100	100	28	500
Switching Current Max. Amps	.5	.5	.5	.25	.25	.1	2
Carry Current Amps	1.5	1.5	1.5	.5	.5	.5	3
Life at Rated Load	5×10^6	5×10^6	5×10^6	5×10^6	5×10^6	20×10^6 50×10^6 at low level	40×10^6 3×10^9 at low level

Class 107 DIP—SPST-NO, 1 Form A

Stock No.	Mfr.'s Type	Coil		EACH			
		Volts	Ohms	1-24	25-49	50-74	75-99
850-1550	W107DIP-1	5	500	4.82	3.61	3.28	2.96
850-1552	W107DIP-3	12	1200	4.88	3.66	3.32	2.99
850-1640	W107DIP-4	24	2200	5.56	4.17	3.78	3.41
850-1554	W107DIP-5*	5	500	5.56	4.17	3.78	3.41
850-1642	W107DIP-7*	12	1200	5.23	3.92	3.56	3.21
850-1643	W107DIP-8*	24	2200	5.87	4.41	3.99	3.60

*Internal Clamping Diode

Class 171 DIP—SPST-NO, 1 Form A

850-1602	W171DIP-2	5/6	500	4.76	3.57	3.23	2.92
850-1604	W171DIP-4	12	1200	4.76	3.57	3.23	2.92
850-1605	W171DIP-5	24	2200	6.33	4.75	4.31	3.88
850-1607	W171DIP-7*	5	500	5.13	3.85	3.49	3.15
850-1609	W171DIP-9*	12	1200	5.23	3.92	3.56	3.21
850-1610	W171DIP-10*	24	2200	6.68	5.01	4.54	4.10

*Internal Clamping Diode

Class 171 DIP—SPST-NC, 1 Form B

850-1612	W171DIP-12	5/6	500	6.84	5.13	4.65	4.19
850-1648	W171DIP-15	24	2200	8.80	6.60	5.99	5.40
850-1617	W171DIP-17*	5	500	7.48	5.61	5.09	4.59
850-1649	W171DIP-19*	12	1200	8.43	6.32	5.73	5.17

*Internal Clamping Diode

Class 171 DIP—DPST-NO, Form A

850-1621	W171DIP-21	5/6	200	6.49	4.87	4.41	3.98
850-1652	W171DIP-23	12	500	6.49	4.87	4.41	3.98
850-1624	W171DIP-24	24	2200	8.22	6.17	5.59	5.04
850-1625	W171DIP-25*	5/6	200	6.91	5.19	4.70	4.24
850-1627	W171DIP-27*	12	500	6.91	5.19	4.70	4.24

*Internal Clamping Diode

Class 172 DIP—SPDT, 1 Form C

850-1631	W172DIP-1	5/6	200	9.26	6.95	6.30	5.68
850-1633	W172DIP-3	12	500	10.63	7.97	7.23	6.52
850-1634	W172DIP-4	24	2200	12.79	9.59	8.70	7.84
850-1635	W172DIP-5*	5/6	200	9.61	7.21	6.53	5.89
850-1637	W172DIP-7*	12	500	9.61	7.21	6.53	5.89
850-1638	W172DIP-8*	24	2200	11.37	8.53	7.73	6.97

*Internal Clamping Diode

Class 172 DIP—DPDT, 2 Form C

850-1670	W172DIP-17	5/6	46	32.28	24.21	21.95	19.80
850-1672	W172DIP-20	24	1066	32.28	24.21	21.95	19.80
850-1673	W172DIP-21*	5/6	46	36.08	27.06	24.53	22.13
850-1675	W172DIP-23*	12	266	36.08	27.06	24.53	22.13
850-1676	W172DIP-24*	24	1066	36.08	27.06	24.53	22.13

*Internal Clamping Diode

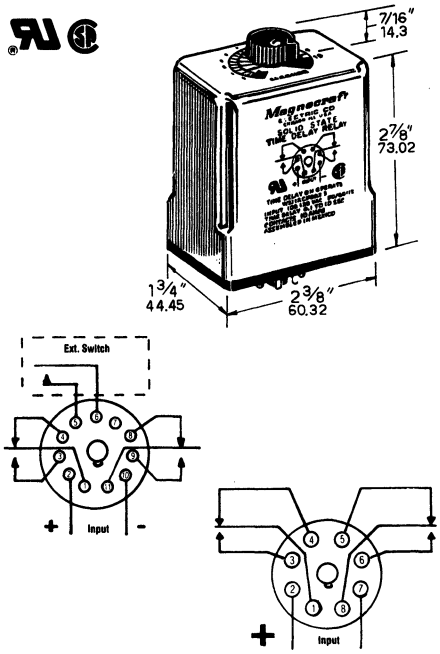
Class 174 DIP—SPST-NO Mercury, 1 Form A

850-1684	W174DIP-1	5/6	55	14.60	10.95	9.93	8.95
850-1685	W174DIP-3	12	300	14.60	10.95	9.93	8.95
850-1686	W174DIP-4	24	1100	15.40	11.55	10.47	9.45
850-1687	W174DIP-5*	5/6	55	15.26	11.45	10.38	9.36

*Internal Clamping Diode

Class 211 Time Delay Relays

The Class 211CP Time Delay Relay makes use of hybrid circuitry, combining solid state circuitry for timing function with an EMR for DPDT 10 amperes output switching. Features nylon dust covers, and reverse polarity protection on DC models. **Repeat Accuracy:** ± .1% of setting at nominal voltage at 25°C. **Contact Combination:** DPDT standard. **Reset Time:** 100mS max. **Temperature Range:** Operate, – 10°C to + 55°C; Storage, 55°C to + 85°C. Transient protection of 2000V for 8mS standard.



Operate Delay, DPDT Contacts 10 Amps

Stock No.	Mfr.'s Type	Time Delay	Coil Volts	EACH 1-9	EACH 10-24	EACH 25-49
850-4109	W211ACPSOX-5	1-10 sec.	120VAC	55.14	48.02	41.36
850-4007	W211ACPSOX-7	1-180 sec.	120VAC	55.14	48.02	41.36
850-4008	W211ACPSOX-8	2-300 sec.	120VAC	55.14	48.02	41.36
850-4110	W211ACPSOX-18	1-1 sec.	120VAC	55.14	48.02	41.36
850-4111	W211CPSOX-3	1-180 sec.	24VDC	55.14	48.02	41.36
850-4112	W211CPSOX-4	2-300 sec.	24VDC	55.14	48.02	41.36

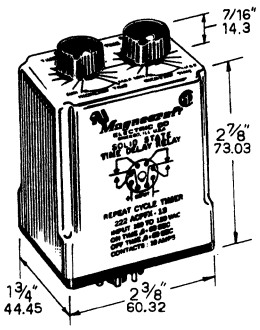
Release Delay, DPDT Contacts 10 Amps

850-4105	W211ACPSRX-5	1-10 sec.	120VAC	61.01	55.13	45.76
850-4107	W211ACPSRX-7	1-180 sec.	120VAC	61.01	53.13	45.76
850-4108	W211ACPSRX-8	2-300 sec.	120VAC	61.01	53.13	45.76
850-4113	W211ACPSRX-14	.1-1 sec.	120VAC	54.81	47.73	41.11
850-4115	W211CPSRX-3	1-180 sec.	24VDC	61.01	53.13	45.76

Extended Time Delay Relay—Slow Operate

850-4060	W211ACPSOX-60	1-15 min.	120VAC	55.63	48.45	41.72
850-4118	W211ACPSOX-62	4-60 min.	120VAC	55.63	48.45	41.72
850-4122	W211CPSOX-42	4-60 min.	24VDC	49.97	43.52	37.48

Class 222 Repeat Cycle Timer



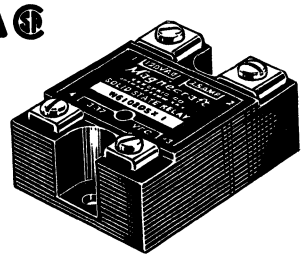
Features plug-in mounting, octal style 8-pin terminals, knob adjustable timing and impact-proof dust cover. The Class 222 Repeat Cycle Timer contact combinations are DPDT (2 Form C), with a contact rating of 10A. It has a repeat accuracy of ± .1%, ± 33m/SAC, and ± 10mSDC. The reset time is 100mS maximum. It has a contact life that is 2,000,000 operations at 120VAC, 2 amps resistive. U.L. recognized No. E43641. CSA certified No. LR41729.

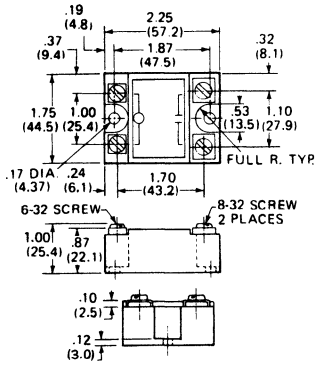
Stock No.	Mfr.'s Type	On & Off Timing Range	Nom. Coil Voltage	EACH 1-9	EACH 10-24	EACH 25-49
850-4127	W222ACPFX-11	1-10 sec.	120VAC	80.00	69.66	60.00
850-4128	W222ACPFX-16	3-300 sec.	120VAC	80.00	69.66	60.00

12

Class W6 Solid State Relays

All models incorporate opto-isolation between input and output, and zero-voltage switching. Features high transient capability. DC controlled models have an input impedance of 1500 ohms min.; AC models, 60K ohms typical.





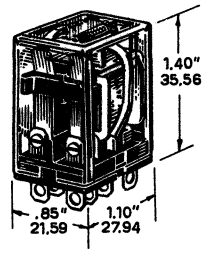
SCR Output—DC Controlled

Stock No.	Mfr.'s Type	AC Load Max. L. Volt	AC Load Max. L. Current	Control Sig. Range	EACH 1-9	EACH 10-24	EACH 25-49
850-7308	W6102DSX-1	20-140VAC	2.5A	3-32VDC	23.32	20.14	19.08
850-7309	W6110DSX-1	20-140VAC	10.0A	3-32VDC	31.57	29.54	25.51
850-7310	W6125DSX-1	20-140VAC	25.0A	3-32VDC	34.67	30.52	28.91
850-7311	W6140DSX-1	20-140VAC	40.0A	3-32VDC	35.01	29.84	28.27
850-7312	W6202DSX-1	40-280VAC	2.5A	3-32VDC	20.58	19.92	17.76
850-7313	W6210DSX-1	40-280VAC	10.0A	3-32VDC	31.87	26.04	24.67
850-7314	W6225DSX-1	40-280VAC	25.0A	3-32VDC	33.27	28.82	27.30
850-7315	W6240DSX-1	40-280VAC	40.0A	3-32VDC	38.33	33.10	31.36

AC Controlled

850-7316	W6110ASX-1	20-140VAC	10.0A	90-280VAC 80-140VDC	34.32	29.64	28.08
850-7317	W6125ASX-1	20-140VAC	25.0A	90-280VAC 80-140VDC	33.89	29.27	27.73
850-7318	W6140ASX-1	20-140VAC	40.0A	90-280VAC 80-140VDC	37.10	33.82	30.35
850-7319	W6202ASX-1	40-280VAC	2.5A	90-280VAC 80-140VDC	22.46	21.34	19.40
850-7320	W6210ASX-1	40-280VAC	10.0A	90-280VAC 80-140VDC	35.15	30.69	28.76
850-7321	W6225ASX-1	40-280VAC	25.0A	90-280VAC 80-140VDC	35.62	30.97	29.15
850-7322	W6240ASX-1	40-280VAC	40.0A	90-280VAC 80-140VDC	39.42	35.25	32.25

General Purpose Relays and Sockets



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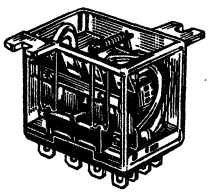
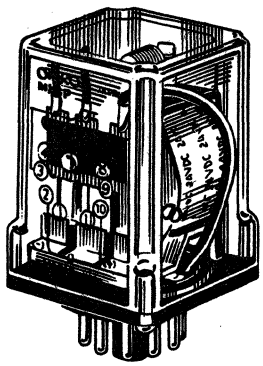
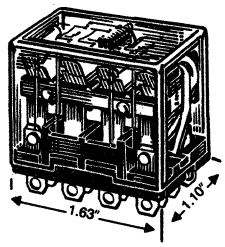
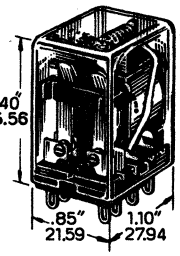

LY2F

LY2 (without Flange)

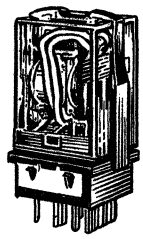

Super MK



LY4



MY 2-Pole Type


MY4

Model LY General-Purpose Relays

Small . . . Low Cost . . . Modern Design . . . Versatile . . . 12 Amps to 15 Amps . . . U.L.-CSA

► **High Shock and Vibration Resistant** ► **Arc Barrier Equipped** ► **High Dielectric Strength (2000 VAC)** ► **Operate/Release Time, 25 mS**

Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		Terminal Type*	Case Style	EACH		
			Action	Amps	MA	Ohms			1-9	25-99	100-249
821-2000	LY1-AC120	120 AC	SPDT	15	9.2	4430	Q/C	STD	5.77	5.02	4.44
821-2001	LY1-AC24	24 AC	SPDT	15	46.0	180	Q/C	STD	5.77	5.02	4.44
821-2002	LY1-DC12	24 DC	SPDT	15	75.0	160	Q/C	STD	5.77	5.02	4.44
821-2003	LY1-DC24	24 DC	SPDT	15	36.9	650	Q/C	STD	5.77	5.02	4.44
821-2004	LY1-0-DC12	12 DC	SPDT	15	75.0	160	PCB	STD	5.77	5.02	4.44
821-2005	LY1-0-DC24	24 DC	SPDT	15	36.9	650	PCB	STD	5.77	5.02	4.44
821-2006	LY1F-AC120	120 AC	SPDT	15	9.2	4430	Q/C	UBM	6.03	5.25	4.64
821-2007	LY1F-AC24	24 AC	SPDT	15	46.0	180	Q/C	UBM	6.03	5.25	4.64
821-2008	LY1F-DC12	12 DC	SPDT	15	75.0	160	Q/C	UBM	6.03	5.25	4.64
821-2009	LY1F-DC24	24 DC	SPDT	15	36.9	650	Q/C	UBM	6.03	5.25	4.64
821-2010	LY2-AC120	120 AC	DPDT	12	9.2	4430	Q/C	STD	6.34	5.52	4.88
821-2011	LY2-AC24	24 AC	DPDT	12	46.0	180	Q/C	STD	6.34	5.52	4.88
821-2012	LY2-AC240	240 AC	DPDT	12	4.6	18790	Q/C	STD	6.55	5.70	5.04
821-2013	LY2-DC12	12 DC	DPDT	12	75.0	160	Q/C	STD	6.10	5.43	4.64
821-2014	LY2-DC24	24 DC	DPDT	12	36.9	650	Q/C	STD	6.34	5.52	4.88
821-2015	LY2-DC6	6 DC	DPDT	12	150.0	40	Q/C	STD	6.34	5.52	4.88
821-2016	LY2-0-DC12	12 DC	DPDT	12	75.0	160	PCB	STD	7.02	6.11	5.40
821-2017	LY2-0-DC24	24 DC	DPDT	12	36.9	650	PCB	STD	7.02	6.11	5.40
821-2018	LY2F-AC120	120 AC	DPDT	12	9.2	4430	Q/C	UBM	6.55	5.70	5.04
821-2019	LY2F-DC12	12 DC	DPDT	12	75.0	160	Q/C	UBM	6.55	5.70	5.04
821-2020	LY2F-DC24	24 DC	DPDT	12	36.9	650	Q/C	UBM	6.55	5.70	5.04
821-2021	LY4-AC120	120 AC	4PDT	12	16.4	2200	Q/C	STD	10.09	8.78	7.77
821-2022	LY4-AC24	24 AC	4PDT	12	80.0	78	Q/C	STD	10.09	8.78	7.77
821-2023	LY4-DC12	12 DC	4PDT	12	120.0	100	Q/C	STD	10.09	8.78	7.77
821-2024	LY4-DC24	24 DC	4PDT	12	69.0	350	Q/C	STD	10.09	8.78	7.77

*In Terminal Type, UBM means UPPER BRACKET MOUNT, Q/C fits sockets or .200" quick connect terminals.

Super MK Series

Reliable, high quality, long life. (Silver contacts rated at 10 amps. U.L., CSA rated.)

Stock No.	Mfr.'s Type	Voltage	Contact Action	Coil		EACH		
				MA	Ohms	1-9	25-99	100-249
821-5020	MK2P-S-AC120	120 AC	DPDT	18.0	1578	8.08	7.51	6.22
821-5025	MK2P-S-AC24	24 AC	DPDT	88.0	68	7.45	6.93	5.74
821-5030	MK2P-S-AC240	240 AC	DPDT	9.2	6737	8.62	8.02	6.64
821-5035	MK2P-S-DC12	12 DC	DPDT	126.0	95	7.45	6.93	5.74
821-5040	MK2P-S-DC24	24 DC	DPDT	56.0	430	7.45	6.93	5.74
821-5045	MK2P-S-DC110	110 DC	DPDT	15.1	7300	8.62	8.02	6.64
821-5050	MK3P5-S-AC120	120 AC	3PDT	18.0	1578	9.12	8.48	7.02
821-5055	MK3P5-S-AC24	24 AC	3PDT	88.0	68	8.50	7.91	6.55
821-5060	MK3P5-S-AC240	240 AC	3PDT	9.2	6737	9.62	8.95	7.41
821-5065	MK3P5-S-DC12	12 DC	3PDT	126.0	95	8.50	7.91	6.55
821-5070	MK3P5-S-DC24	24 DC	3PDT	56.0	430	8.50	7.91	6.55
821-5075	MK3P5-S-DC110	110 DC	3PDT	15.1	7300	9.62	8.95	7.41

Dual Coil—Magnetic Latching*

Stock No.	Mfr.'s Type	Voltage	Contact Action	Coil		EACH		
				MA	Ohms	1-9	25-99	100-249
821-4013	MK2KP-AC24	24 AC	DPDT-S DPDT-R	66.0 10.8	105 965	26.05	23.44	20.05
821-4014	MK2KP-AC120	120 AC	DPDT-S DPDT-R	19.0 3.6	1,900 14,400	26.05	23.44	20.05
821-4015	MK2KP-DC12	12 DC	DPDT-S DPDT-R	128.0 14.4	25 325	26.05	23.44	20.05
821-4016	MK2KP-DC24	24 DC	DPDT-S DPDT-R	66.0 10.6	105 965	26.05	23.44	20.05

*S = Set, R = Reset in coil resistance. DPDT—8 pin octal socket. 3PDT—11 pin octal socket.

MY Series

Miniature, high sensitivity power relays. Contacts rated at 3 and 5 amps. Type "E" are silver cadmium oxide contacts. U.L., CSA rated.

Stock No.	Mfr.'s Type	Voltage	Contact		Coil		EACH		
			Action	Amps	MA	Ohms	1-9	25-99	100-249
821-4029	MY2-AC24	24 AC	DPDT	5A	46.0	—	5.19	4.52	4.00
821-4030	MY2-AC120	120 AC	DPDT	5A	9.2	—	5.19	4.52	4.00
821-4031	MY2-DC12	12 DC	DPDT	5A	75.0	160	5.19	4.52	4.00
821-4032	MY2-DC24	24 DC	DPDT	5A	36.9	650	5.19	4.52	4.00
821-4033	MY2E-AC24	24 AC	DPDT	5A	46.0	—	5.84	5.08	4.50
821-4034	MY2E-AC120	120 AC	DPDT	5A	9.2	—	5.84	5.08	4.50
821-4035	MY2E-DC12	12 DC	DPDT	5A	75.0	160	5.84	5.08	4.50
821-4036	MY2E-DC24	24 DC	DPDT	5A	36.9	650	5.84	5.08	4.50
821-4037	MY4-AC24	24 AC	4PDT	3A	46.0	—	5.65	4.92	4.35
821-4038	MY4-AC120	120 AC	4PDT	3A	9.2	—	5.65	4.92	4.35
821-4039	MY4-DC6	6 DC	4PDT	3A	150.0	40	5.65	4.92	4.35
821-4040	MY4-DC12	12 DC	4PDT	3A	75.0	160	5.65	4.92	4.35
821-4041	MY4-DC24	24 DC	4PDT	3A	36.9	650	5.65	4.92	4.35
821-4042	MY4-DC48	48 DC	4PDT	3A	18.5	2,000	5.65	4.92	4.35
821-4043	MY4-DC110	110 DC	4PDT	3A	10.0	11,000	5.98	5.20	4.60
821-4044	MY4E-AC24	24 AC	4PDT	5A	46.0	—	6.17	5.37	4.75
821-4045	MY4E-AC120	120 AC	4PDT	5A	9.2	—	6.17	5.37	4.75
821-4046	MY4E-DC12	12 DC	4PDT	5A	75.0	160	6.17	5.37	4.75
821-4047	MY4E-DC24	24 DC	4PDT	5A	36.9	2,600	6.17	5.37	4.75
—	—	—	—	—	—	—	—	—	—

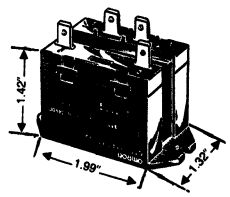
Quality Sockets and Clips for Relays

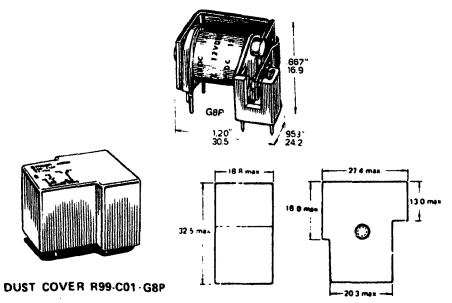
Stock No.	Mfr.'s Type	For Relay Series	Application	EACH		
				1-9	25-99	100-Up
821-3013	PF083A	MK 1 and 2 Pole	Surface mount or rail	4.51	3.92	3.47
821-3014	PF113A	MK 3 Pole	Surface mount or rail	6.42	5.59	4.94
821-3015	PL08	MK 2 Pole	Chassis mount	1.45	1.26	1.12
821-3016	PL11	MK 3 Pole	Chassis mount	1.45	1.26	1.12
821-3017	PFP-100N	All Relays	Mounting rail	7.69	6.69	5.92
821-3021	PYF08A	MY 2 Pole	Surface or rail mount	3.81	3.32	2.93
821-3022	PYF11A	MY 3 Pole	Surface or rail mount	5.43	4.72	4.18
821-3023	PYF14A	MY 4 Pole	Surface or rail mount	5.66	4.92	4.36
821-3024	PY08	MY 2 Pole	Chassis mount	1.10	0.96	0.85
821-3025	PY11	MY 3 Pole	Chassis mount	1.39	1.21	1.07
821-3026	PY14	MY 4 Pole	Chassis mount	1.50	1.31	1.16
821-3027	PYC-A1	LY, MYPYF A	Hold-down clip	0.35	0.30	0.27
821-3028	PTF08A	LY 1 and 2 Pole	Surface or rail mount	4.16	3.62	3.20
821-3029	PTF14A	MY 4 Pole	Surface or rail mount	7.69	6.69	5.92
821-3030	PT08	LY 1 and 2 Pole	Chasses—solder	1.57	1.39	1.21
821-3031	PT14	LY 4 Pole	Chassis—solder	1.73	1.51	1.33
821-3032	PT08-0	LY 1 and 2 Pole	PCB terminal	1.57	1.39	1.21
821-3033	PT14-0	LY 4 Pole	PCB terminal	1.73	1.51	1.33

Model G5D Power Relays

High Capacity 20-30 Amp...Low Cost...Quick Connect
Upper Bracket Mounting...High Dielectric Strength...VDE, U.L. & CSA Approved
► Nonflammable Insulating Materials Satisfying UL94V-0 ► Positive Lock Terminals

Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		EACH		
			Action	Amp	MA	Ohms	1-9	10-99	100-249
821-2025	G5D-11423T-US-AC120	120AC	SPST-NO	30	25.0	920.0	9.97	8.67	7.68
821-2026	G5D-11423T-US-AD24	24AC	SPST-NO	30	125.0	36.5	9.97	8.67	7.68
821-2027	G5D-11423T-US-AC240	240AC	SPST-NO	30	12.5	4020.0	9.97	8.67	7.68
821-2028	G5D-11423T-US-DC12	12DC	SPST-NO	30	158.0	75.0	9.70	9.02	8.44
821-2029	G5D-11423T-US-DC24	24DC	SPST-NO	30	79.0	303.0	9.70	9.02	8.44
821-2030	G5D-11423T-US-DC48	48DC	SPST-NO	30	40.0	1220.0	9.70	9.02	8.44
821-2031	G5D-22423T-US-AC24	24AC	DPST-NO	20	125.0	36.5	10.76	10.01	8.29
821-2032	G5D-22423T-US-AC120	120AC	DPST-NO	20	25.0	920.0	10.76	10.01	8.29
821-2033	G5D-22423T-US-AC240	240AC	DPST-NO	20	12.5	4020.0	10.76	10.01	8.29
821-2034	G5D-22423T-US-DC12	12DC	DPST-NO	20	158.0	75.0	10.36	9.01	7.98
821-2035	G5D-22423T-US-DC24	24DC	DPST-NO	20	79.0	303.0	10.36	9.01	7.98
821-2036	G5D-22423T-US-DC48	48DC	DPST-NO	20	40.0	1220.0	10.36	9.01	7.98





Model G8P PC-Board Use 30-Amp Relays

► U.L./CSA Recognized ► Ideal for Heating, Ventilation, Air Conditioning Uses
► Dust Cover Available ► Small Size, Yet Capable of Switching up to 30A Load

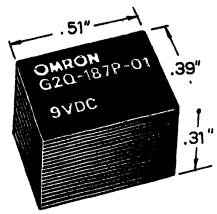
Stock No.	Mfr.'s Type	Coil Voltage	Contact		Coil		EACH		
			Action	Amp	MA	Ohms	1-9	10-99	100-249
821-2037	G8P-1111P-US-DC5	5DC	SPST-NO	30	185	27	3.46	3.29	2.60
821-2038	G8P-1111P-US-DC12	12DC	SPST-NO	30	77	155	3.46	3.29	2.60
821-2039	G8P-1111P-US-DC24	24DC	SPST-NO	30	36	660	3.46	3.29	2.60
821-2040	G8P-111P-US-DC5	5DC	SPDT	20/10*	185	27	3.68	3.31	2.76
821-2041	G8P-111P-US-DC12	12DC	SPDT	20/10	77	155	3.68	3.31	2.76
821-2042	G8P-111P-US-DC24	24DC	SPDT	20/10	36	660	3.68	3.31	2.76
821-2043	G8P-111P-US-DC48	48DC	SPDT	20/10	19	2480	3.81	3.43	2.86
821-2044	R99-C01-G8P†	—	—	—	—	—	0.34	0.32	0.26

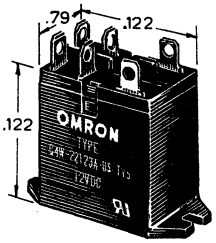
* 20/10A SPDT, NO Contact = 20A, NC Contact = 10A. † Dust Cover.

G2Q Series General Purpose, Horizontal Mount Relays

Sealed, general purpose, horizontal mount types. Features high international .10" terminal pitch arrangement. **Specifications. Contact. Rated Load:** 110VAC 0.5A, 24VDC 1A. **Carry Current:** 2A. **Maximum Operating Voltage:** 125VAC, 60VDC. **Maximum Operating Current:** 1A. **Maximum Switching Capacity:** 60VA, 30W. **Minimum Permissible Load (reference value):** 5VDC 1mA.

Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-9	10-99	100-249
821-1041	G2Q-184P-R-5VDC	5VDC	56.0	89	280	3.48	3.13	2.61
821-1042	G2Q-184P-R-12VDC	12VDC	23.5	510	280	3.48	3.13	2.61
821-1043	G2Q-184P-R-24VDC	24VDC	15.0	1600	360	3.59	3.23	2.69





G4W Series High Voltage Upper Mounting Bracket Type

Features impulse withstand voltage of 10,000V between input and output (coil and contact). Creepage distance of .31" minimum between coil and contact fully meets VDE C/250 and dielectric strength of 4,000VAC minimum conforms to U.L., CSA and IEC Class II. Upper mounting bracket type with solder terminal. **Specifications. Contact Form:** SPST-NO. **Rated Load (resistive):** 220VAC 15A. **Carry Current:** 15A. **Max. Operating Voltage:** 250VAC. **Max. Switching Capacity (resistive):** 3750VA. **Minimum Permissible Load (ref. value):** 5VDC 100mA.

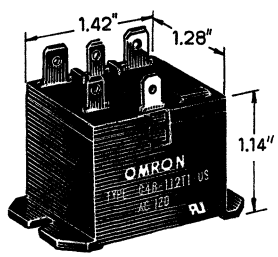
Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-9	10-99	100-249
821-1044	G4W-11123A-US-TV8-12DC	12VDC	66.7	180	800	4.21	3.79	3.16
821-1045	G4W-11123A-US-TV8-24DC	24VDC	33.3	720	800	4.21	3.79	3.16

G4B Series Upper Mounting Bracket Type

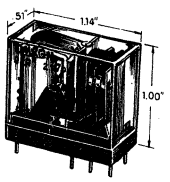
Creepage distance of more than .08". Upper mounting bracket type for easy wiring and mounting. **Specifications. Load Contact Terminal:** quick connect #250. **Coil Terminal:** quick connect #110. **Contact Form:** SPDT. **Contact Resistance:** 30MΩ max. **Rated Load (resistive):** 220VAC 15A, 24VDC 15A. **Carry Current:** 20A. **Max. Operating Voltage:** 250VAC, 125VDC. **Max. Operating Current:** 20A. **Max. Switching Capacity (resistive):** 3,300VA, 360W.

Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-9	10-99	100-249
821-1023	G4B-112T-C-US-120VAC	120VAC	10.8*	—	1.3VA	8.40	7.56	6.30
821-1024	G4B-112T-C-US-12VDC	12VDC	89.0	135	1.2W	8.40	7.56	6.30
821-1025	G4B-112T-C-US-24VDC	24VDC	50.0	480	1.2W	8.40	7.56	6.30

* At 60 Hz.



G2R Series General Purpose, Unsealed Relays



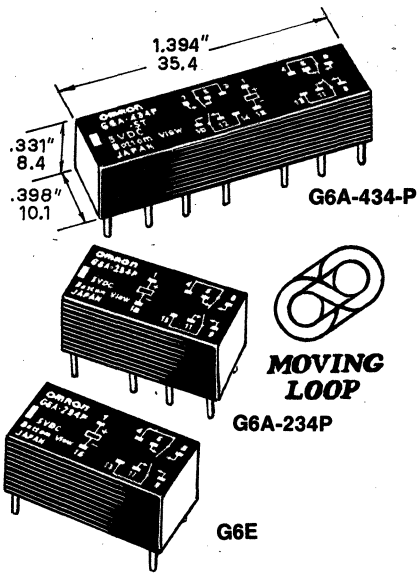
General purpose, unsealed relays. **Specifications. Contact Form. 117P-V-US:** SPDT. **217P-V-US:** DPDT. **Contact Resistance. 117P-V-US:** 30Ω maximum. **217P-V-US:** 50 Ω maximum. **Contact Rating. 117P-V-US:** 10A 250VAC (general use), 10A 30VDC (resistive). **217P-V-US:** 5A 250VAC (general use), 5A 30VDC (resistive). **Operate Time:** 15mS maximum. **Release Time. AC:** 10mS maximum. **DC:** 5mS maximum.

Stock No.	Mfr.'s Type	Rated Voltage	Rated Current mA	Coil Resistance Ω	Power Consumption mW	EACH		
						1-9	10-99	100-249
821-1026	G2R-117P-V-US-120VAC	120VAC	7.5*	6500	0.90VA*	5.36	4.82	4.02
821-1027	G2R-117P-V-US-5VDC	5VDC	106.0	47	0.53W	3.67	3.30	2.75
821-1028	G2R-117P-V-US-12VDC	12VDC	43.6	275	0.53W	3.67	3.30	2.75
821-1029	G2R-117P-V-US-24VDC	24VDC	21.8	1100	0.53W	3.67	3.30	2.75
821-1030	G2R-217P-V-US-120VAC	120VAC	7.5*	6500	0.90VA*	6.21	5.59	4.43
821-1031	G2R-217P-V-US-5VDC	5VDC	106.0	47	0.53W	4.33	3.90	3.25
821-1032	G2R-217P-V-US-12VDC	12VDC	43.6	275	0.53W	4.33	3.90	3.25
821-1033	G2R-217P-V-US-24VDC	24VDC	21.8	1100	0.53W	4.33	3.90	3.25

* At 60 Hz.

G6A Series PC Board-Use Relays

Plastic sealed relay with high surge dielectric for use in telecommunication equipment. High sensitivity. Low profile design for use in 1/2" PC board rack. Surge withstand voltage of 1500 VDC meets FCC Part 68 requirements. Unique moving loop (permanent magnet) armature reduces relay size, magnetic interference, and contact bounce time. DPDT or 4PDT bifurcated crossbar AgPd contacts (Au clad). Rated 2 amps carry current.



DPDT

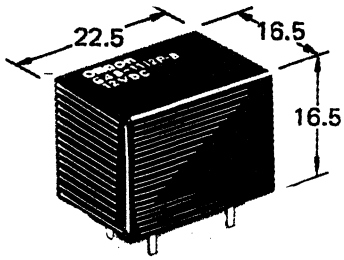
Stock No.	Mfr.'s Type	Coil Voltage	Coil mA	Coil Res.	Pwr. mW	EACH 1-9	EACH 10-99	EACH 100-Up
821-3001	G6A-234P-ST-US-DC12	12DC	16.7	720	200	5.22	4.69	3.91
821-3002	G6A-234P-ST-US-DC24	24DC	8.3	2880	200	5.22	4.69	3.91
821-3003	G6A-234P-ST-US-DC48	48DC	4.9	9750	200	6.18	5.56	4.17
821-3004	G6A-234P-ST-US-DC5	5DC	40.0	125	200	5.22	4.69	3.91

4PDT

821-3005	G6A-434P-ST-US-DC12	12DC	30.0	400	360	9.24	8.31	6.93
821-3006	G6A-434P-ST-US-DC24	24DC	15.0	1600	360	9.24	8.31	6.93
821-3007	G6A-434P-ST-US-DC48	48DC	7.5	6400	360	10.26	9.23	7.69
821-3008	G6A-434P-ST-US-DC5	5DC	72.5	69	360	9.24	8.31	6.93

G6E Series—SPDT With Features As Above

821-3009	G6E-134P-ST-US-DC5	5DC	40.0	125	200	4.03	3.62	3.02
821-3010	G6E-134P-ST-US-DC12	12DC	16.7	720	200	4.03	3.62	3.02
821-3011	G6E-134P-ST-US-DC24	24DC	8.3	2880	200	4.03	3.62	3.02
821-3012	G6E-134P-ST-US-DC48	48DC	8.3	5760	400	5.23	4.70	3.92



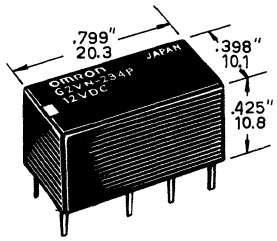
G4S Series

Sealed, SPDT relay ideal for applications in household electrical appliances. Construction resistant to flux wicking. Dip soldering is possible. **Specifications. Contact Resistance:** 100 MΩ maximum. **Operate Time:** 15 mS maximum. **Release Time:** 5 mS maximum. **Insulation Resistance:** 100 MΩ minimum (at 500 VDC). Replaces G2U Series.

Stock No.	Mfr.'s Type	Related Current mA	Rated Voltage	Coil Resistance	Power Consumption mW	EACH 1-9	EACH 10-99	EACH 100-249
821-1034	G4S-114P-US-5VDC	60	5VDC	100	approx. 360	3.13	2.82	2.35
821-1035	G4S-114P-US-12VDC	30	12VDC	400	approx. 360	3.13	2.82	2.35
821-1036	G4S-114P-US-24VDC	15	24VDC	1600	approx. 360	3.13	2.82	2.35

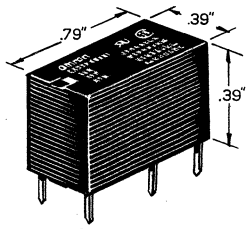
G2VN Series (FCC Part 68)

DPDT. Bifurcated contacts. Designed for telecommunications; low level to 2 amps maximum. Contact Resistance: 50 megohms. **Operate Time:** 6 mS max. **Release Time:** 3 mS max. **Insulation Resistance:** 100 megohms min. **Dielectric Strength:** 1000 VAC, 50/60 Hz for 1 minute. Sealed case allows automatic soldering and cleaning. UL and CSA approved.



Stock No.	Mfr.'s Type	Related Current mA	Rated Voltage	Coil Resistance	Power Consumption mW	EACH 1-9	EACH 10-99	EACH 100-249
821-1037	G2VN-234P-US-5VDC	5VDC	72.0	69	360	4.22	3.80	3.16
821-1038	G2VN-234P-US-12VDC	12VDC	30.0	400	360	4.22	3.80	3.16
821-1039	G2VN-234P-US-24VDC	24VDC	15.0	1600	360	4.22	3.80	3.16
821-1040	G2VN-234P-US-48VDC	48VDC	7.5	6400	360	4.69	4.22	3.51

12



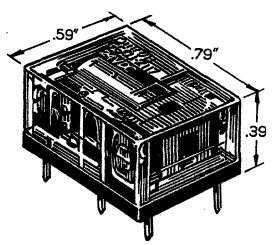
G6B Series

Sealed Power PCB Relay Available: SPST-NO and DPST-NO. **Contact Resistance:** 30 mΩ max. **Operate Time:** 10 mS max. **Release Time:** 10 mS max. **Insulation Resistance:** 1000 MΩ @ 500 VDC. **Contacts:** 5 Amps @ 250 VAC Resistive, 5 Amps @ 30 VDC Resistive.

Stock No.	Mfr.'s Type	Contact Form	Related Current mA	Rated Voltage	Coil Resistance	Power Consumption mW	EACH 1-9	EACH 10-99	EACH 100-Up
821-4200	G6B-1114P-US-DC12	1A	16.7	12 VDC	720	200	3.90	3.12	2.65
821-4205	G6B-1114P-US-DC24	1A	8.3	24 VDC	2880	200	4.00	3.20	2.72
821-4210	G6B-2214P-US-DC12	2A	25.0	12 VDC	480	300	5.35	4.28	3.64
821-4215	G6B-2214P-US-DC24	2A	12.5	24 VDC	1920	300	5.45	4.36	3.71

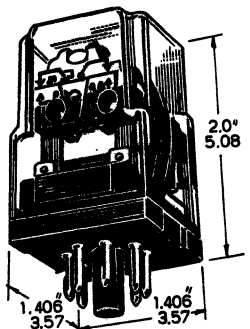
G6C Series

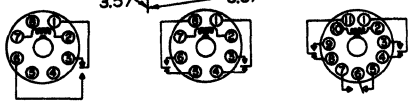
Sealed Power PCB Relay Available: SPST-NO and SPST-NO + SPST-NC. **Contact Resistance:** 30 mΩ max. **Operate Time:** 10 mS max. **Release Time:** 10 mS max. **Insulation Resistance:** 1000 MΩ min. @ 500 VDC. **Contacts:** SPST-NO 10 Amps @ 250 VAC Resistive, 10 Amps @ 30 VDC Resistive. SPST-NO + SPST-NC 7 Amps @ 250 VAC Resistive. 7 Amps @ 30 VDC Resistive.



Stock No.	Mfr.'s Type	Contact Form	Related Current mA	Rated Voltage	Coil Resistance	Power Consumption mW	EACH 1-9	EACH 10-99	EACH 100-Up
821-4220	G6C-1114P-US-DC12	1A	16.7	12 VDC	720	200	4.70	3.76	3.20
821-4225	G6C-1114P-US-DC24	1A	8.3	24 VDC	2880	200	4.80	3.84	3.26
821-4230	G6C-2114P-US-DC12	1A + 1B	16.7	12 VDC	720	200	5.00	4.00	3.40
821-4235	G6C-2114P-US-DC24	1A + 1B	8.3	24 VDC	2880	200	5.65	4.52	3.84

Series KRPA General Purpose Relays





KRPA5 KRPA11 KRPA14

- **Multi-Contact Arrangement**
- **Octal Plug Termination**
- **Clear Dust Cover**
- **Hold-down spring for KRPA and KRPA-N will accommodate machine screws or rivets. For use with flush mount chassis sockets.**

U.L. Contact Ratings for KRPA

Material	Silver	Silver-Cadmium Oxide	
Code	Y	G & N	
Models	SPDT, DPDT & 3PDT	SPDT & DPDT	3PDT
Ratings	5 amps@120VAC 1/10 HP@120VAC 3 amps@240VAC 1/6 HP@240VAC	10 amps@250VAC 1/3 HP@250VAC 1/6 HP@120VAC	10 amps@120VAC 1/6 HP@120VAC 6 amps@250VAC 1/3 HP@250VAC

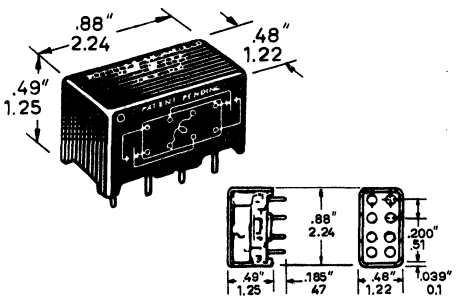
Ruggedly constructed relay offered with silver contacts, code "Y", rated 5 Amps; and silver-cadmium oxide contacts, code "G" rated 10 Amps. Contact arrangements are available up through 3 form C(3PDT). Expected life exceeds 100,000 operations at rated load. Mechanical life is 10 million operations, minimum. Enclosed in a clear dust cover. U.L. recognized under file E22575. Low cost version of the KRP relay.

KRPA-N Series has an indicator lamp wired in parallel with its coil, making this model ideal for voltage or current monitoring applications. Silver-cadmium oxide contacts are rated 10 Amps. KRPA-N specifications are identical to those of other models in the KRPA series.

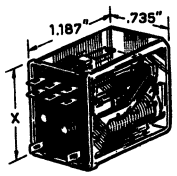
Stock No.	Mfr.'s Type	EACH		
		1-24	25-49	50-99
886-0602	KRPA5AY-24V	11.75	11.16	10.58
886-0603	KRPA-5AY-120V	11.75	11.16	10.58
886-0606	KRPA-5AG-120V	12.20	11.59	10.98
886-0607	KRPA-5DY-6V	11.70	11.12	10.53
886-0608	KRPA-5DY-12V	11.70	11.12	10.53
886-0609	KRPA-5DY-24V	11.70	11.12	10.53
886-0615	KRPA-11AY-6V	13.30	12.64	11.97
886-0616	KRPA-11AY-12V	13.30	12.64	11.97
886-0617	KRPA-11AY-24V	13.30	12.64	11.97
886-0618	KRPA-11AY-120V	13.30	12.64	11.97
886-0620	KRPA-11AG-6V	13.60	12.92	12.24
886-0621	KRPA-11AG-12V	13.60	12.92	12.24
886-0622	KRPA-11AG-24V	13.60	12.92	12.24
886-0623	KRPA-11AG-120V	13.60	12.92	12.24
886-0626	KRPA-11DY-12V	13.10	12.45	11.79
886-0627	KRPA-11DY-24V	13.10	12.45	11.79
886-0629	KRPA-11DY-110V	14.40	13.68	12.96
886-0631	KRPA-11DG-12V	13.60	12.92	12.24
886-0632	KRPA-11DG-24V	13.60	12.92	12.24
886-0634	KRPA-11DG-110V	14.80	14.06	13.32
886-0636	KRPA-14AY-12V	16.35	15.53	14.72
886-0637	KRPA-14AY-24V	16.35	15.53	14.72
886-0638	KRPA-14AY-120V	16.35	15.53	14.72
886-0641	KRPA-14AG-12V	16.70	15.87	15.03
886-0642	KRPA-14AG-24V	16.70	15.87	15.03
886-0643	KRPA-14AG-120V	16.70	15.87	15.03
886-0646	KRPA-14DY-12V	16.25	15.44	14.63
886-0647	KRPA-14DY-24V	16.25	15.44	14.63
886-0651	KRPA-14DG-12V	16.65	15.82	14.99
886-0652	KRPA-14DG-24V	16.65	15.82	14.99
886-0654	KRPA-14DG-110V	18.00	17.10	16.20
886-0656	KRPA-11AN-12V	15.50	14.73	13.95
886-0657	KRPA-11AN-24V	15.50	14.73	13.95
886-0658	KRPA-11AN-120V	15.50	14.73	13.95
886-0661	KRPA-11DN-12V	15.40	14.63	13.86
886-0662	KRPA-11DN-24V	15.40	14.63	13.86
886-0663	KRPA-11DN-110V	16.65	15.82	14.99
886-0667	KRPA-14AN-120V	18.90	17.96	17.01

Micro Miniature Type HP Relays

Recommended for applications such as TV cameras, dictating machines, desk top computers, copiers, etc. For PC circuit board or socket mounting. Encased in black, high impact dust covers. Non-polarized, non-latching, half-size relay has terminals on .200" grid; for plug-in or soldering. Long-life DPDT gold-plated silver contacts rated low level to 2 amps at 28VDC resist.; 0.5 amp max. at 120VAC. **Insulation resist.:** 1000 megohms min. at 500VDC; breakdown volt; 500V rms. **Size:** .49 × .88 × .48". **Shpg. wt.:** 1 oz.



Stock No.	Mfr.'s Type	DC Volt	Coil Ohms	EACH		
				1-49	50-99	100-Up
886-0255	HP-11D	6	55	40.00	38.00	36.00
886-0256	HP-11D	12	218	40.00	38.00	36.00
886-0257	HP-11D	24	870	40.00	38.00	36.00
886-0258	HP-11D	48	3480	41.65	39.57	37.49



WITH BIFURCATED LOW LEVEL CONTACTS
X — 2 Contacts
4 Contacts

R10 Series DC Industrial Relays

Transparent enclosures. Solder terminals, for stud or plug-in mounting. **Mechanical Life:** 100 million operations. Y series contacts are fine silver. X series contacts are silver-cadmium oxide. **Operating Temperature:** – 55° to + 72°C. **Size:** 1.187 × .950 (double pole models only) × .735" (3.02 × 2.41 × 1.86cm) max. **Wt.:** 1½ oz. (42.5gm). **Contact Rating:** Y Series 3A; X Series 5A.

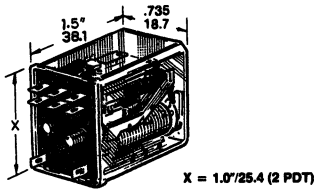
Stock No.	Mfr.'s Type	Coil Volts DC	EACH		
			1-24	25-49	50-99
886-1075	R10E1Y2V185*	12V	8.35	7.93	7.52
886-1076	R10E1Y2V700*	24V	8.35	7.93	7.52
886-1070	R10E1Y2J2.5K*	48V	11.60	11.02	10.44
886-1091	R10E1X2115VAC*	115VAC	17.50	16.63	15.75
886-1092	R10E1X4115VAC†	115VAC	20.55	19.52	18.50

*2 contacts. †4 contacts.

Stock No.	Mfr.'s Type	Coil Volts DC	EACH		
			1-24	25-49	50-99
886-1050	R10E1X2V185*	12V	9.05	8.60	8.15
886-1051	R10E1X2V700*	24V	9.05	8.60	8.15
886-1052	R10E1X4V52†	6V	11.30	10.74	10.17
886-1053	R10E1X4V185†	12V	11.30	10.74	10.17
886-1054	R10E1X4V700†	24V	11.30	10.74	10.17

R10 Series CMOS-TTL Compatible Relays

Will accept drive directly from many CMOS and TTL ICs—no interface needed. Contacts are .078" in dia. made of fine silver. **Resistive Load Rating:** 28VDC or 115VAC form .01 to 3A max. **Insulation Resistance:** 10,000 meg. at 25°C and 50% R.H. **Typical Capacitance:** Contact-contact, 2 picofarads; coil-frame, 30 picofarads; Coil-contacts, 2 picofarads. **Temperature Range:** – 55°C to 75°C. Has pierced solder terminals. **Weight:** 0.8 to 1.4 oz. **Rated:** 2 Amps Typ. (3 Amps max.).



Stock No.	Mfr.'s Type	Coils			EACH		
		Input	Res. In Ohms	Nom. Power	1-24	25-49	50-Up
886-1160	R10SE1Y1-J1.0K	3.2mA	1000	10mW	12.35	11.73	11.12
886-1162	R10SE1Y1-J2.5K	2.0mA	2500	10mW	12.35	11.73	11.12
886-1164	R10SE1Y1-J5.0K	1.4mA	5000	10mW	14.90	14.16	13.41
886-1166	R10SE1Y2-J1.0K	4.5mA	1000	20mW	13.40	12.73	12.06
886-1168	R10SE1Y2-J2.5K	2.9mA	2500	20mW	13.40	12.73	12.06
886-1170	R10SE1Y2-J5.0K	2.0mA	5000	20mW	15.95	15.15	14.36

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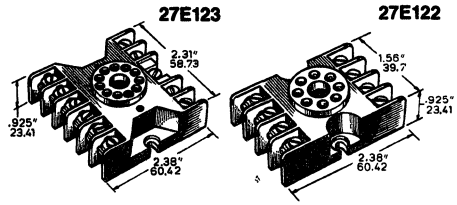
Octal-Style Sockets

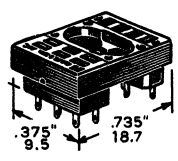
For **KRP, KRPA, KRP3-H, KAP, KBP, KCP,** and **EBT** relays; **CD-21, CD-38, CH, CK,** and **CR** time delays; and **CS** sensor. **Type 27E122** is molded polycarbonate, 8-pin screw terminal socket, rated 10 amperes. **Type 27E123** is molded polycarbonate, 11-pin screw terminal socket, rated 10 amperes.



Stock No.	Mfr.'s Type	Socket Type	EACH			
			1-24	25-49	50-99	100-Up
886-1426	27E122	Screw Term.	3.75	3.56	3.38	2.81
886-1427	27E123	Screw Term.	5.55	5.27	5.00	4.16

Sockets For Series R10 Relays

Types 27E125 and 27E128 are 2PDT sockets, spring ground; Type 27E126 and 27E129, 4PDT socket, spring ground; Type 27E127 is 6PDT socket spring ground. **Contact your nearest Allied facility for larger quantity pricing.**



Stock No.	Mfr.'s Type	Terminal Type	EACH		
			1-24	25-49	50-99
886-1430	27E125	Solder	1.05	1.00	.95
886-1431	27E126	Solder	1.30	1.24	1.17
886-1432	27E127	Solder	1.65	1.57	1.49
886-1433	27E128	PC Term.	1.05	1.00	.95
886-1434	27E129	PC Term.	1.30	1.24	1.17

Hold Down Springs

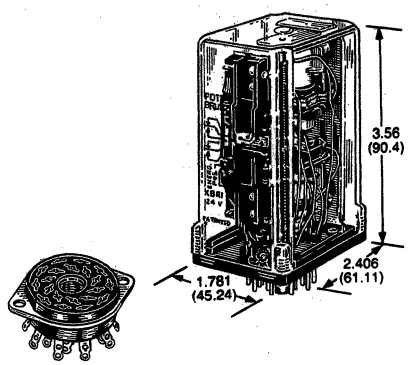
Stock No.	Mfr.'s Type	Poles	EACH		
			1-24	25-99	100-249
886-1440	20C249	2	.17	.16	.13
886-1441	20C250	4	.17	.16	.13
886-1442	20C251	6	.17	.16	.13

10 Amp Dual Coil Mechanical Latching Relay

KBP Series latching relay enclosed in a clear polycarbonate dust cover, the KBP is furnished with 11-pin or 20-pin octal-type plugs for socket mounting. Contact arrangements of DPDT, 4PDT and 5PDT are available. Factory rating for contacts: "G" suffix indicates silver-cadmium oxide contacts on movables rated 10 amps @ 120V AC 80% P.F. Coils are rated for intermittent duty operation. Both release and trip coils are the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. **Temperature Range:** – 45°C min. + 85°C max. (intermittent duty). **Weight:** 10.8 ozs. (306 gm).

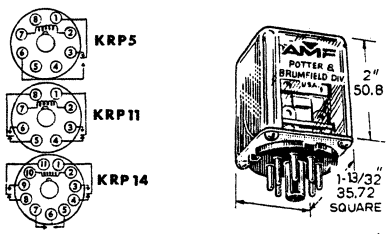
Stock No.	Mfr.'s Type	Input	Coil		Contacts		EACH		
			Res. Ohms	Nom. Power	Arrang.	Rating Amps	1-24	25-49	50-99
886-1600	KBP11AG	120VAC	1,030	5.3VA	DPDT	10	**53.75**	**51.06**	**48.38**
886-1601	KBP11DG	24VDC	230	2.7W	DPDT	10	**54.55**	**51.82**	**49.10**
886-0506	KBP17AG	120VAC	1,030	5.0VA	4PDT	10	**74.45**	**70.73**	**67.01**
886-1604	KBP17DG	24VDC	230	2.7W	4PDT	10	**73.90**	**70.21**	**66.51**

Note: KBP11 fits 11 pin sockets, 27E123 and 27E892. KBP17 and KBP20 fit 20 pin socket shown below.



Socket
20 pin octal, solder terminal socket, 27E928, for KBP17 and KBP20 relays.
886-1605. 27E928 ..... **EACH 2.90**

Transparent Plug-in Case — Strong and Dustproof



Enclosed Relays Series KRP and KRP-N

General-purpose relays are enclosed in high-impact transparent, dustproof Polycarbonate case. Coil power at 25°C. DC—1.2 watts; AC—2 voltamperes. **Temperature range:** – 45°C minimum; AC types to + 55°C maximum; DC to + 70°C maximum. **Operate time (approx.):** 15 msec. **Release time:** 10 msec. **Life:** 10 million cycles, mechanical. **Insulation resistance:** 1000 meg-ohms. **Breakdown:** 500 V rms, 60 Hz.

5 Amperes

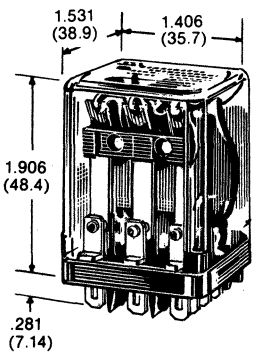
Stock No.	Mfr.'s Type KRP-	Coil Volts	Action	EACH			
				1-24	25-49	50-99	100-249
886-0672	5AY	24AC	SPDT	**20.10**	**19.10**	**18.09**	**15.08**
886-0673	5AY	120AC	SPDT	**20.10**	**19.10**	**18.09**	**15.08**
886-0680	5DY	12DC	SPDT	**20.00**	**19.00**	**18.00**	**15.00**
886-0681	5DY	24DC	SPDT	**20.00**	**19.00**	**18.00**	**15.00**
886-0691	11AY	12AC	DPDT	**22.70**	**21.57**	**20.43**	**17.03**
886-0692	11AY	24AC	DPDT	**22.70**	**21.57**	**20.43**	**17.03**
886-0693	11AY	120AC	DPDT	**22.70**	**21.57**	**20.43**	**17.03**
886-0706	11DY	12DC	DPDT	**22.45**	**21.33**	**20.21**	**16.84**
886-0707	11DY	24DC	DPDT	**22.45**	**21.33**	**20.21**	**16.84**
886-0708	11DY	110DC	DPDT	**24.65**	**23.42**	**22.19**	**18.49**
886-0718	14AY	24AC	3PDT	**27.95**	**26.55**	**25.16**	**20.96**
886-0719	14AY	120AC	3PDT	**27.95**	**26.55**	**25.16**	**20.96**
886-0729	14DY	12DC	3PDT	**27.80**	**26.41**	**25.02**	**20.85**
886-0730	14DY	24DC	3PDT	**27.80**	**26.41**	**25.02**	**20.85**

10 Amperes

Stock No.	Mfr.'s Type KRP-	Coil Volts	Action	EACH			
				1-24	25-49	50-99	100-249
886-0677	5AG	120VAC	SPDT	**20.95**	**19.60**	**18.86**	**15.71**
886-0696	11AG	12AC	DPDT	**23.30**	**22.14**	**20.97**	**17.48**
886-0701	11AN*	12AC	DPDT	**26.50**	**25.18**	**23.85**	**19.88**
886-0697	11AG	24AC	DPDT	**23.30**	**22.14**	**20.97**	**17.48**
886-0702	11AN*	24AC	DPDT	**26.50**	**25.18**	**23.85**	**19.88**
886-0698	11AG	120AC	DPDT	**23.30**	**22.14**	**20.97**	**17.48**
886-0703	11AN*	120AC	DPDT	**26.50**	**25.18**	**23.85**	**19.88**
886-0699	11AG	240AC	DPDT	**24.65**	**23.42**	**22.19**	**18.49**
886-0710	11DG	12DC	DPDT	**23.25**	**22.09**	**20.93**	**17.44**
886-0713	11DN*	12DC	DPDT	**26.35**	**25.03**	**23.72**	**19.76**
886-0711	11DG	24DC	DPDT	**23.25**	**22.09**	**20.93**	**17.44**
886-0714	11DN*	24DC	DPDT	**26.35**	**25.03**	**23.72**	**19.76**
886-0712	11DG	110DC	DPDT	**25.35**	**24.08**	**22.82**	**19.01**
886-0715	11DN*	110DC	DPDT	**28.45**	**27.03**	**25.61**	**21.34**
886-0722	14AG	12AC	3PDT	**28.65**	**27.22**	**25.79**	**21.49**
886-0723	14AG	24AC	3PDT	**28.65**	**27.22**	**25.79**	**21.49**
886-0724	14AG	120AC	3PDT	**28.65**	**27.22**	**25.79**	**21.49**
886-0726	14AN*	120AC	3PDT	**32.25**	**30.64**	**29.03**	**24.19**
886-0736	14DG	12DC	3PDT	**28.45**	**27.03**	**25.61**	**21.34**
886-0737	14DG	24DC	3PDT	**28.45**	**27.03**	**25.61**	**21.34**
886-0738	14DG	110DC	3PDT	**30.75**	**29.21**	**27.68**	**23.06**

*KRP-N Series includes a lamp to indicate current or voltage availability in power circuits. Lamps lights when coil is energized. Types KRP5 and KRP11 plug into standard octal socket; KRP14 plugs into 11-pin.

KUP Series Enclosed Relays



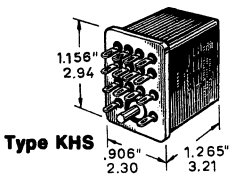
KUP Series relays are U.L. recognized under File E22575 and CSA certified under File LR15734. They are ideally suited for many diverse applications. "A" in the manufacturer's type number denotes 50/60 Hz coil; "D" denotes DC coil. Relays are socket mountable with these exceptions: types KUP11A25, KUP14A25 and KUP14D25 are socket mountable with push-to-test button for manually actuating contacts. KUP14A35, KUP14D35, KUP11A35 and KUP11D35 types are socket mountable with highly visible neon lamps which indicate the presence of coil power. KUP14A45 is socket mountable with neon indicator and push-to-test button. KUP5A55, KUP5D55, KUP11A55, and KUP11D55 have flange mount cases. Relays have silver-cadmium oxide, 10 amp contacts with .187" (4.8mm) by .020" (0.5mm) quick connect/solder terminals except for types KUP11A11, KUP11D11, KUP14A11, and KUP14D11, which have fine silver, 5 amp contacts with .187" (4.8mm) by .020" (0.5mm) quick connect/solder terminals.

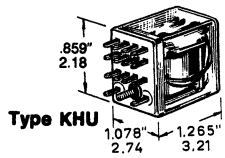
Stock No.	Mfr.'s Type	Coil			Contacts		EACH		
		Input	Res. Ohms	Nom. Power	Arrang.	Rating Amps	1-24	25-49	50-99
886-0837	KUP5A15-12*	12V	24	2.00VA	SPDT	10	**8.20**	**7.79**	**7.38**
886-0889	KUP5A15-24*	24V	85	2.00VA	SPDT	10	**8.20**	**7.79**	**7.38**
886-0838	KUP5A15-120*	120V	2,250	2.00VA	SPDT	10	**8.20**	**7.79**	**7.38**
886-0839	KUP5A15-240*	240V	9,110	2.00VA	SPDT	10	**10.25**	**9.74**	**9.23**
886-0842	KUP5D15-12*	12V	120	1.20W	SPDT	10	**7.55**	**7.17**	**6.80**
886-0843	KUP5D15-24*	24V	472	1.20W	SPDT	10	**7.55**	**7.17**	**6.80**
886-0844	KUP5D15-110*	110V	10,000	1.20W	SPDT	10	**10.85**	**10.31**	**9.77**
886-0845	KUP5A55-120	120V	2,250	2.00VA	SPDT	10	**8.60**	**8.17**	**7.74**
886-0846	KUP5D55-24	24V	472	1.20W	SPDT	10	**7.90**	**7.51**	**7.11**
886-0847	KUP11A11-120*	120V	2,250	2.00VA	DPDT	5	**9.80**	**9.31**	**8.82**
886-0848	KUP11D11-24*	24V	472	1.20W	DPDT	5	**9.25**	**8.79**	**8.33**
886-0849	KUP11A15-6*	6V	6	2.00VA	DPDT	10	**9.65**	**9.17**	**8.69**
886-0850	KUP11A15-12*	12V	24	2.00VA	DPDT	10	**9.65**	**9.17**	**8.69**
886-0851	KUP11A15-24*	24V	85	2.00VA	DPDT	10	**9.65**	**9.17**	**8.69**
886-0781	KUP11A15-120*	120V	2,250	2.00VA	DPDT	10	**9.65**	**9.17**	**8.69**
886-0853	KUP11D15-5*	5V	21	1.20W	DPDT	10	**9.15**	**8.69**	**8.24**
886-0784	KUP11D15-12*	12V	120	1.20W	DPDT	10	**9.15**	**8.69**	**8.24**
886-0785	KUP11D15-24*	24V	472	1.20W	DPDT	10	**9.15**	**8.69**	**8.24**
886-0855	KUP11D15-110*	110V	10,000	1.20W	DPDT	10	**12.45**	**11.83**	**11.21**
886-0856	KUP11A25-120*	120V	2,250	1.20W	DPDT	10	**11.30**	**10.74**	**10.17**
886-0857	KUP11A35-24*	24V	85	2.00VA	DPDT	10	**14.85**	**14.11**	**13.37**
886-0890	KUP11A35-120*	120V	2,250	2.00VA	DPDT	10	**11.85**	**11.26**	**10.67**
886-0859	KUP11D35-24*	24V	472	1.20W	DPDT	10	**14.30**	**13.59**	**12.87**
886-0861	KUP11A55-24	24V	85	2.00VA	DPDT	10	**10.05**	**9.55**	**9.05**
886-0862	KUP11A55-120	120V	2,250	2.00VA	DPDT	10	**10.05**	**9.55**	**9.05**
886-0864	KUP11D55-12	12V	120	1.20W	DPDT	10	**9.45**	**8.98**	**8.51**
886-0865	KUP11D55-24	24V	472	1.20W	DPDT	10	**9.45**	**8.98**	**8.51**
886-0867	KUP11D55-110	110V	10,000	1.20W	DPDT	10	**12.80**	**12.16**	**11.52**
886-0868	KUP14A11-120*	120V	1,700	2.75VA	3PDT	5	**10.90**	**10.36**	**9.81**
886-0869	KUP14D11-24*	24V	472	1.20W	3PDT	10	**10.70**	**10.17**	**9.63**
886-0871	KUP14A15-12*	12V	18	2.75VA	3PDT	10	**10.75**	**10.21**	**9.68**
886-0872	KUP14A15-24*	24V	72	2.75VA	3PDT	10	**10.75**	**10.21**	**9.68**
886-0788	KUP14A15-120*	120V	1,700	2.75VA	3PDT	10	**10.75**	**10.21**	**9.68**
886-0874	KUP14D15-6*	6V	32.1	1.20W	3PDT	10	**10.50**	**9.98**	**9.45**
886-0791	KUP14D15-12*	12V	120	1.20W	3PDT	10	**10.50**	**9.98**	**9.45**
886-0792	KUP14D15-24*	24V	472	1.20W	3PDT	10	**10.50**	**9.98**	**9.45**
886-0875	KUP14D15-48*	48V	1,800	1.20W	3PDT	10	**12.25**	**11.64**	**11.03**
886-0793	KUP14D15-110*	110V	10,000	1.20W	3PDT	10	**13.80**	**13.11**	**12.42**
886-0876	KUP14A25-120*	120V	1,700	2.75VA	3PDT	10	**12.35**	**11.73**	**11.12**
886-0877	KUP14D25-24*	24V	472	1.20W	3PDT	10	**12.15**	**11.54**	**10.94**
886-0879	KUP14A35-120*	120V	1,700	2.75VA	3PDT	10	**12.95**	**12.30**	**11.66**
886-0880	KUP14D35-24*	24V	472	1.20W	3PDT	10	**15.70**	**14.92**	**14.13**
886-0881	KUP14A45-120*	120V	1,700	2.75VA	3PDT	10	**14.40**	**13.68**	**12.96**

*Socket mountable in 27E121 screw terminal socket.

Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

KH Series Miniature 4PDT Relays





Coil Data for Series KH Relays

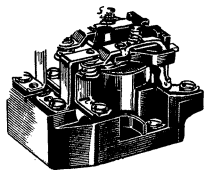
DC Coils (0.5-2 Watts)			AC Coils (1.20 VA)		
V	Resistance in Ohms ±10% @ 25°C	Induct in H (approx.)	V	Resistance in Ohms ±10% @ 25°C	Average Current mA
6	40	0.08	6	10.5	200
12	160	0.28	24	160.0	52
24	650	1.00	120	3900.0	11
48	2600	4.50	—	—	—
110	11k	17.00	—	—	—

Small, Rugged Relays for AC and DC Operations.

KHU has polycarbonate dust cover; **KHS**, hermetically sealed with metal cover. All models U.L. Recognized. KHS is recognized for class 1 division 2 hazardous environments. Silver contacts, rated 3 amps at 30VDC, or 120VAC res. Solder term, 3-48 mtg. stud. 2 oz. (57gm) KHU type replaces KHP. All fit KH Series sockets.

Stock No.	Mfr.'s Type	Coil Volts	EACH			
			1-24	25-49	50-99	100-249
886-0561	KHS17A11	6AC	**30.75**	**29.21**	**27.68**	**23.06**
886-0566	KHS17D11	6DC	**28.05**	**26.65**	**25.25**	**21.04**
886-0562	KHS17A11	12AC	**30.75**	**29.21**	**27.68**	**23.06**
886-0567	KHS17D11	12DC	**28.05**	**26.65**	**25.25**	**21.04**
886-0563	KHS17A11	24AC	**30.75**	**29.21**	**27.68**	**23.06**
886-0568	KHS17D11	24DC	**28.05**	**26.65**	**25.25**	**21.04**
886-0564	KHS17A11	120AC	**30.75**	**29.21**	**27.68**	**23.06**
886-0569	KHS17D11	110DC	**31.60**	**30.02**	**28.44**	**23.70**
886-0575	KHU17A11	6AC	**15.25**	**14.49**	**13.73**	**11.44**
886-0580	KHU17D11	6DC	**13.00**	**12.35**	**11.70**	**9.75**
886-0576	KHU17A11	12AC	**15.25**	**14.49**	**13.73**	**11.44**
886-0581	KHU17D11	12DC	**13.00**	**12.35**	**11.70**	**9.75**
886-0577	KHU17A11	24AC	**15.25**	**14.49**	**13.73**	**11.44**
886-0582	KHU17D11	24DC	**13.00**	**12.35**	**11.70**	**9.75**
886-0578	KHU17A11	120AC	**15.25**	**14.49**	**13.73**	**11.44**
886-0585	KHU17D11	110DC	**15.95**	**15.15**	**14.36**	**11.96**

PRD Type Heavy Duty Power Relays

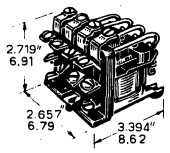


PRD relays are interchargeable with PR relays; same size and mounting holes. Improved design allows use of power screwdrivers on terminals. All models are U.L. and CSA listed and have silver contacts. Model PRD-3AY0 is rated 40 amps, all other rated 25 amps. **Mounting:** two .188″ dia. holes on 1.875″ centers. **Weight:** 11 oz.

Stock No.	Mfr.'s Type	Coil		Contacts	EACH			
		Volts	Resistance in Ohms		1-24	25-49	50-99	100-249
886-0973	PRD-3AYO	120AC	290.0	SPST	**11.80**	**11.21**	**10.62**	**8.85**
886-0982	PRD-5AYO	120AC	290.0	SPDT	**13.55**	**12.87**	**12.20**	**10.16**
886-0985	PRD-5DYO	12DC	71.0	SPDT	**13.10**	**12.45**	**11.79**	**9.83**
886-0986	PRD-5DYO	24DC	288.0	SPDT	**13.10**	**12.45**	**11.79**	**9.83**
886-0990	PRD-7AYO	24AC	12.0	DPST	**14.70**	**13.97**	**13.23**	**11.03**
886-0991	PRD-7AYO	120AC	290.0	DPST	**14.70**	**13.97**	**13.23**	**11.03**
886-0992	PRD-7AYO	240AC	1.2K	DPST	**14.95**	**14.20**	**13.46**	**11.21**
886-0994	PRD-7DYO	12DC	71.0	DPST	**14.20**	**13.49**	**12.78**	**10.65**
886-0995	PRD-7DYO	24DC	288.0	DPST	**14.20**	**13.49**	**12.78**	**10.65**
886-1004	PRD-11AYO	24AC	12.0	DPDT	**18.25**	**17.34**	**16.43**	**13.69**
886-1005	PRD-11AYO	120AC	290.0	DPDT	**18.25**	**17.34**	**16.43**	**13.69**
886-1006	PRD-11AYO	240AC	1.2K	DPDT	**18.50**	**17.58**	**16.65**	**13.88**
886-1000	PRD-A11AYA*	120AC	290.0	DPDT	**28.50**	**27.08**	**25.65**	**21.38**
886-1009	PRD-11DYO	12DC	71.0	DPDT	**17.75**	**16.86**	**15.98**	**13.31**
886-1010	PRD-11DYO	24DC	288.0	DPDT	**17.75**	**16.86**	**15.98**	**13.31**
886-1011	PRD-11DYO	110DC	6050.0	DPDT	**19.55**	**18.57**	**17.60**	**14.66**

* Auxillary switch with 5 amp contacts.

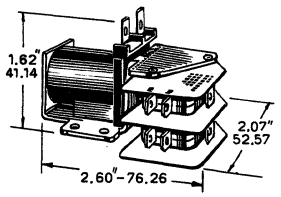
PM17 4DPT 25-Amp Power Relays



4PDT for polyphase and heavy-duty switching. Contacts are silver-cadmium-oxide. Rated at 25 amps, 240V, 50-60 Hz, non-inductive. 1 HP per moveable arm at 120 or 240V single-phase. Mount by keyhole and 2 channels for 8-32 screws on 2 × 2 1/2″ triangular centers. Screw term. 2 45/64 × 2 31/32 × 3 23/64″. **Weight:** 1 lb. UL, CSA listed.

Stock No.	Mfr.'s Type	Coil Volts	EACH			
			1-24	25-49	50-99	100-249
886-0949	PM17AY	6AC	**47.75**	**45.36**	**42.98**	**35.81**
886-0950	PM17AY	12AC	**47.75**	**45.36**	**42.98**	**35.81**
886-0951	PM17AY	24AC	**47.75**	**45.36**	**42.98**	**35.81**
886-0952	PM17AY	120AC	**47.75**	**45.36**	**42.98**	**35.81**
886-0953	PM17AY	240AC	**47.95**	**45.55**	**43.16**	**35.96**
886-0955	PM17DY	6DC	**43.85**	**41.66**	**39.47**	**32.89**
886-0956	PM17DY	12DC	**43.85**	**41.66**	**39.47**	**32.89**
886-0957	PM17DY	24DC	**43.85**	**41.66**	**39.47**	**32.89**
886-0958	PM17DY	110DC	**46.50**	**44.18**	**41.85**	**34.88**

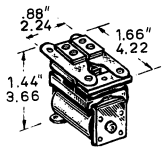
20-Amp Power Relays



Contact Rating: 20 amps, 277VAC; 60 LRA, 12 FLA, 1 HP at 125VAC; 48 LRA, 8 FLA, 2 HP at 250VAC; pilot duty, 360VA, 125-250VAC. **Life Expectancy:** 50,000 operations at full load; 1 million operations, mechanical. **Operating Temperature Range:** −45° to +65°C. **Mounting:** One .166″ (4.21mm) diameter mounting hole and .160″(4.06mm) diameter boss. **Termination:** .250″ (6.35mm) quick-connect. UL Recognized.

Stock No.	Mfr.'s Type	Coil Volts	Contacts	EACH			
				1-24	25-49	50-99	100-249
886-1290	S87R5A2B1D1	24AC	SPDT	**8.55**	**8.12**	**7.70**	**6.41**
886-1291	S87R5A2B1D1	120AC	SPDT	**8.55**	**8.12**	**7.70**	**6.41**
886-1292	S87R5D2B1D1	12DC	SPDT	**7.95**	**7.55**	**7.16**	**5.96**
886-1293	S87R5D2B1D1	24DC	SPDT	**7.95**	**7.55**	**7.16**	**5.96**
886-1295	S87R11A2B1D1	24AC	DPDT	**11.60**	**11.02**	**10.44**	**8.70**
886-1294	S87R11A2B1D1	120AC	DPDT	**11.60**	**11.02**	**10.44**	**8.70**

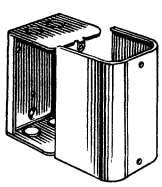
MB3D 60-Amp Miniature DC Relays



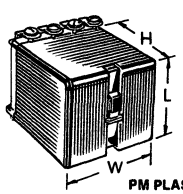
Designed for very high current applications. Heavy brass contact arms with large silver contacts. Solder terminals. Rated 60 amps at 28VDC, resistive. SPST, double break, normally open. **Dimensions:** 1 5/8 × 27/32 × 1 3/8″. **Mounting:** Four 3-48 holes on 4/8 × 3/8″ centers. **Weight:** 6 oz.

Stock No.	Mfr.'s Type	Coil Volts	Ohms	EACH			
				1-24	25-49	50-99	100-249
886-0835	MB3D	12DC	62.3	**37.55**	**35.67**	**33.80**	**28.16**
886-0834	MB3D	24DC	245.0	**37.55**	**35.67**	**33.80**	**28.16**

Dust Covers for PM and PRD Relays



PM METAL COVER 35D227



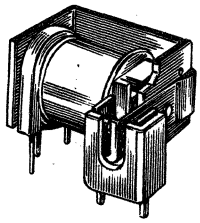
35D013

PM PLASTIC DUST COVER 35D203

Heavy steel cover screws in place on sheet metal base. Knockouts accept 0.5″ diameter conduit. Pre-drilled mounting holes. Type 35D013 has holes to accept PRD mounting. Type 35D277 accepts PM mounting. Plastic dust cover for PM Series only.

Stock No.	Mfr.'s Type	Dimensions			EACH			
		Length	Width	Height	1-24	25-49	50-99	100-249
886-1455	35D013	5.312″	3.375″	3.125″	**13.10**	**12.45**	**11.79**	**9.83**
886-1456	35D203	3.394″	2.657″	2.719″	**3.10**	**2.95**	**2.79**	**2.33**
886-1457	36D227	5.313″	3.812″	3.812″	**15.85**	**15.06**	**14.27**	**11.89**

T90 Series Low Cost, 30 AMP, DC Coil PC Board Relay

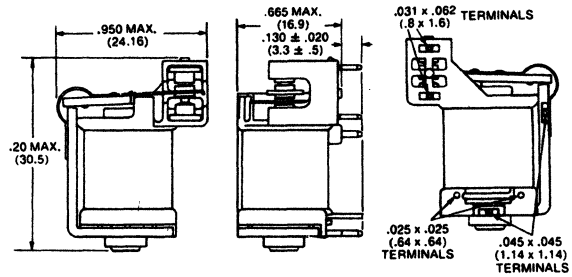


UL File E22575
CSA File LR15734

T90 printed circuit board relays provide an inexpensive means of switching loads up to 30 amps. While these small, low-cost relays are designed primarily for the appliance industry and heating, ventilating and air conditioning markets, they are also well suited for load management automotive and other applications. The T90 is available with either silver or silver-cadmium oxide contacts in 1 Form A, or C arrangements. A plastic, snap-on dust cover is available for the open-style T90, but must be ordered separately. See below. Mechanical life expectancy of T90 relays is 10 million operations. Electrical life expectancy is 100,000 operations at rated loads.

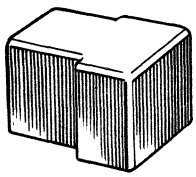
Coil Data. Temperature, Max.: 130°C. **Insulation Class:** B. **Insulation Resistance, Initial:** 10 megohms, minimum, at 25°C, 500 VDC and 50% relative humidity. **Breakdown Voltage, Initial:** 1500 V rms, contact to coil. **Operate Data. Must-Operate Voltage:** Less than 75% of nominal voltage @ 25°C. **Must-Release Voltage:** More than 10% of nominal voltage @ 25°C. **Operate Time (Including Bounce):** 15 milliseconds, maximum; 9 milliseconds, typical. **Release Time (Including Bounce):** 10 milliseconds, maximum; 7 milliseconds, typical. **Environmental Data. Ambient Temperature Range:** Storage— – 55°C to + 105°C; Operating— – 55°C to + 85°C. **Vibration:** .065″ maximum excursions from 10 to 55 Hz. **Resistance, Initial:** 50 milliohms, maximum. **Breakdown Voltage, Initial:** 1500 V rms, contact to contact. **Expected Life:** 10 million operations, mechanical; 100,000 operations at rated load.

OUTLINE DIMENSIONS
T90N



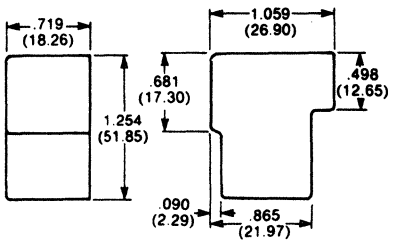
Stock No.	Mfr.'s Type	Coils				Contacts		EACH			
		Input VDC	Res. in Ohms	Nom. Power	Inductance in Henrys	Arrangement	Amps Rating	1-24	25-49	50-99	100-249
886-1525	T90N1D12-5†	5	27	.93W	.022	SPST NO	30	**3.35**	**3.18**	**3.02**	**2.51**
886-1526	T90N1D12-12†	12	155	.93W	.128	SPST NO	30	**3.35**	**3.18**	**3.02**	**2.51**
886-1527	T90N1D12-24†	24	660	.87W	.545	SPST NO	30	**3.35**	**3.18**	**3.02**	**2.51**
886-1528	T90N5D12-5†	5	27	.93W	.022	SPDT	20	**3.55**	**3.37**	**3.20**	**2.66**
886-1529	T90N5D12-12†	12	155	.93W	.128	SPDT	20	**3.55**	**3.37**	**3.20**	**2.66**

†Silver cadmium oxide contacts.



35C620
Snap-on dust cover

OUTLINE DIMENSIONS



Dust Cover For T90N Relay

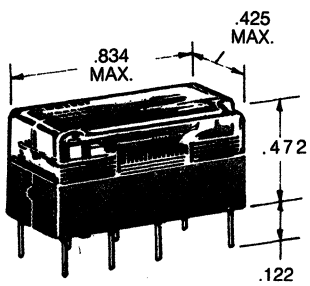
A plastic dust cover for use with Potter & Brumfield's T90N, open-style, miniature, power relay. The cover is a snap-on unit, open on the printed circuit board side of the relay. the dust cover is designed to be snapped into place by the customer after the relay has been assembled to the printed circuit board.

886-1532. Model 35C620. **1-24** ..... **EACH .41**
25-49 ..... **EACH .39**
50-99 ..... **EACH .37**
100-249 ..... **EACH .36**

T82N Series Miniature DIP PC Board Relay

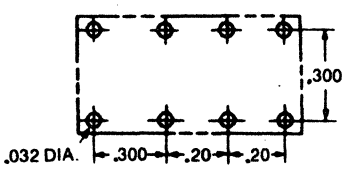
T82N series low profile, ultra-miniature relays are designed for printed circuit board mounting. These 2 Form C (DPDT) relays feature dual in-line packaging (DIP) with terminals on a .100″ × .300″ (2.54 mm) grid layout. This configuration permits terminal mating with a 16-pin-DIP socket. The T82N is enclosed in a sealed PBT cover. Choose from single or bifurcated contacts rated up to 2 amps.

T82N is specifically designed for immersion cleaning applications using freon, alcohol or water. Although the plastic case is bonded to relay base, it is not hermetically sealed. Therefore, if the PC board on which the relay is soldered is to be cleaned by immersion, cleaning time must not exceed two minutes. Type D113 denotes single, gold overlay silver-palladium alloy contacts. Type D114 denotes bifurcated, gold overlay silver-palladium alloy contacts. **Weight:** 0.18 oz.

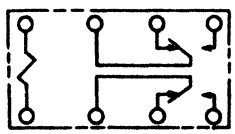


T82N

P.C. BOARD LAYOUT



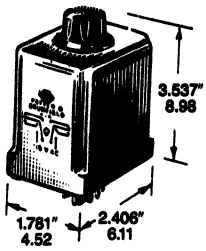
WIRING DIAGRAM (Bottom View)



Stock No.	Mfr.'s Type	Input VDC	Res. Ohms	EACH			
				1-24	25-49	50-99	100-249
886-1390	T82N11D113-05	5	45	**3.90**	**3.71**	**3.51**	**2.93**
886-1391	T82N11D113-12	12	280	**3.90**	**3.71**	**3.51**	**2.93**
886-1392	T82N11D113-24	24	1070	**4.15**	**3.94**	**3.74**	**2.91**
886-1393	T82N11D114-05	5	45	**4.00**	**3.80**	**3.60**	**2.80**
886-1394	T82N11D114-12	12	280	**4.00**	**3.80**	**3.60**	**2.80**
886-1395	T82N11D114-24	24	1070	**4.25**	**4.04**	**3.83**	**2.98**

Series CH and CD Time-Delay Devices and Relays

Solid-state devices. reset within milli-seconds. Adjustable over entire time range. Plastic enclosures. **Series CH. Temperature:** – 10°C to + 55°C. **Tol:** – 0, + 20% of max. specified @ high end; min. specified or less @ low end. **Reset:** 125 msec. **Repeatability:** ± 2%. **Series CD. Temperature:** – 40°C to + 55°C. **Tol:** ± 5%. **Reset:** 60 msec. **Repeatability:** ± 1%. CHB/CDB38 time delays have internal DPDT 10-amp relay. CHB38-70011 and CHB38-70013 provide delay on release, others delay on operate. **Wts.:** CD38—9 oz. (255gm); CH38—6 oz. (168gm).



Delay On Operate (Use 8-Pin Octal Sockets)

Stock No.	Mfr.'s Type	Input Volts	Delay Sec.	EACH 1-24	25-49	50-99
886-0090	CHB38-70001	120AC	1.0-10	60.90	57.86	54.81
886-0091	CHB38-70003	120AC	1.0-180	60.90	57.86	54.81
886-0085	CHD38-30001	24DC	1.0-10	60.90	57.86	54.81
886-0086	CHD38-30003	24DC	1.0-180	60.90	57.86	54.81
886-0053	CDB38-70003	120Ac	0.1-10	94.50	89.78	85.05
886-0054	CDB38-70004	120AC	0.6-60	94.50	89.78	85.05
886-0055	CDB38-70005	120Ac	1.8-180	94.50	89.78	85.05

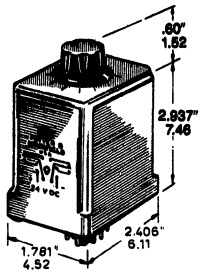
Delay On Release (Use 11-Pin Sockets)

Stock No.	Mfr.'s Type	Input Volts	Delay Sec.	EACH 1-24	25-49	50-99
886-0082	CHB38-70011	120AC	1.0-10	60.90	57.86	54.81
886-0083	CHB38-70013	120AC	1.0-180	60.90	57.86	54.81

CG Series Time Delay Relays

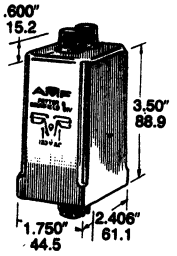
- **All are Knob Control Types**
- **Delay On Operate**
- **All use 8-pin octal sockets**

CMOS integrated circuit controls an internal DPDT relay having contacts rated 10 amps @ 240VAC resistive. Repeatability, including first cycle of operation, is typically 0.1% for AC units. The relay contacts will not transfer if timing cycle is momentarily interrupted. Weight is approximately 8 ozs. (227gm).



Stock No.	Mfr.'s Type	Time Delay	Input Volt	EACH 1-24	25-49
886-0059	CGB38-70010M	1.0-10 Min.	120VAC	105.00	99.75
886-0060	CGB38-70100M	10-100 Min.	120VAC	105.00	99.75

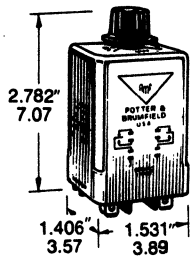
CR Series Recycle Timers



Two independent control knobs for adjusting ON and OFF delays from 1.8 to 180 seconds. The recycling sequence is initiated by applying power. When the first pre-set delay is complete, the contacts transfer from normally OFF to energize ON, at which time the ON delay begins. If power is removed during any part of the operate cycle, the CR will revert to its OFF state (Contacts open). **Repeatability:** ± 2%. **Delay on Operate and On Release.**

Stock No.	Mfr.'s Type	Time Delay (Sec.)	Input Voltage	EACH 1-24	25-49
886-0097	CRB48-70180	1.8-180	120VAC	110.25	104.74

CUB51 Time-Delay Relays

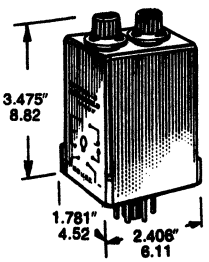


Knob-adjustable delay-on-operate time delay relays. DPDT contacts 10A at 28VDC resis., or 120V, 60 Hz AC. 80% power factor. Cal. dial. **Tol.:** adjust., – 0, + 20% of max. specified at high end; min. specified or less at low end. **Release:** 150 msec. **Recycle:** 150 msec. **Transient Protection:** 1000V. Polarity protected. Operate room temp. Timing intervals adjust, over timing ranges *1 to 10 secs. or †1 to 120 secs. 1.53 × 1.406 × 2.78″ (3.87 × 3.57 × 7.07mm) (including knob). 120VAC. 3½ oz.

Stock No.	Mfr.'s Type	EACH 1-24	25-49	50-Up
886-0131	CUB51-70010*	52.50	49.88	47.25
886-0132	CUB51-70120†	52.50	49.88	47.25

CS Series Solid-State Voltage Sensors

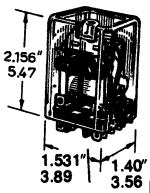
Adjustable pick-up, drop-out voltages. **Drain:** 3mA (max.); after sensing. 30mA. DC polarity protection. **2 Form C(DPDT) contacts:** 10A at 28VDC resistive: 120VAC resistive. **Ambient:** – 40° to + 55°C. AC types—50-60 Hz. Octal plug. Cover. Uses 8-pin octal sockets. **Wt.:** 10 oz. (284gm).



Stock No.	Mfr.'s Type	Pick-Up Range	Drop-Out Range	V	EACH 1-24	25-49	50-99
886-0118	J38-70010	92-140V	90-138V	AC	73.50	69.83	66.15

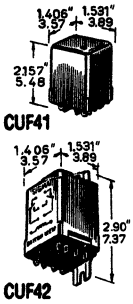
KUL Magnetic Latching Relays

Continuous duty single coil types. Uses a permanent magnet in parallel with normal magnetic circuit, requires only half the space of mechanical interlock types. Continuous latch condition even during loss of power. Contacts rated 10 amps at 28VDC or 120VAC, 80% power factor. **Temp. range:** – 45° to 75°. All are DPDT. **Av. wt.:** 3½ oz.



Stock No.	Mfr.'s Type	Coil V	Coil Ohms	EACH 1-24	25-49	50-99	100-Up
886-0763	KUL-11A15S	120AC	3700	19.80	18.81	17.82	14.85
886-0766	KUL-11D15S	24DC	472	15.75	14.96	14.18	11.81

CU Series Adjustable Time Delay Relays



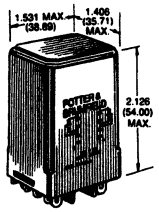
Delay-on-operate, resistor adjustable tolerance of ± 10%. For vending equipment, machine tool control or process controls. Internally-mounted 10-amp DPDT relay. Type CU-41 uses KUP series socket. Type CU-42 enclosures have flanged cases for chassis mounting. Units with adjustable time delay require external resistor for operation. Yellow Polycarbonate case. 120VAC.

Resistor-Adjustable Delay Types (Less Resistor)

Stock No.	Mfr.'s Type	Delay (Sec.)	Res.* (Ohms)	EACH 1-24	25-49	50-99
886-0149	CUF41-70120	1-120	2.4 meg	47.25	44.89	42.53
886-0153	CUF42-70010	1-10	200.0 k	47.25	44.89	42.53
886-0154	CUF42-70120	1-120	2.4 meg	47.25	44.89	42.53

*Resistance indicated in table below are for maximum delay time.

KUR Series Hybrid Impulse Relay

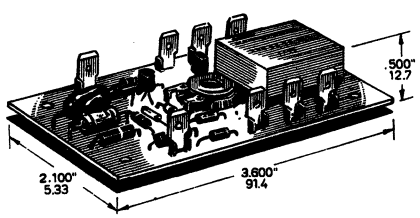


Alternate direction-action, impulse employs permanent magnet latching relay plus flip-flop circuit that switches on leading edge of applied pulse. Recommended for pulse operation or alternate energizing of two loads, has permanent memory, alternate action features. Transfers DPDT contacts when specified input pulse (25 msec. min. duration and 1200 PPM max.) 100 msec. min. and 600 pulses per min. for AC coil units is recieved. Holds mode with or without power. Controlled from single source. **Contacts:** fine silver rated 5 A @ 28 V DC, or 240 V AC, 80% P.F. **Expected Life:** 100,000 operations at rated load, 10 million operation mechanical. **Terminals:** .187″ (4.75 mm) Q.C./solder, fit standard KU sockets. Has yellow plastic dust cover. **Weight:** 3.5 oz. (99 gm) approx.

Stock No.	Mfr.'s Type	Input Voltage	Amps	EACH 1-24	25-49	50-99
885-1551	KUR-11D11-12	12VDC	5	78.75	74.81	70.88
886-1552	KUR-11D11-24	24VDC	5	78.75	74.81	70.88
886-1553	KUR-11A11-120	120VAC	5	85.05	80.80	76.55

Time Delay Relays

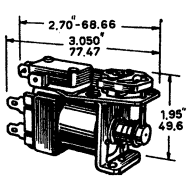
R16 time dealy on operate is available in the timing range of 2.0 to 30 seconds. A potentiometer is used to set the timing values. All components are mounted on a .062″ printed circuit board with .250″ quick connect termination. Contacts have a life expectancy in excess of 10 million operations, mechanical, and at least 100,000 operations at full load @ 28VDC. Board mounts with #8 screws. **Repeatability:** ± 3%. **Contact Arrangement:** DPDT.



Stock No.	Mfr.'s Type	Input Voltage	Amp. Rating	EACH 1-24	25-49
886-1062	R16-30A24AY2	24VAC	2	59.85	56.86
886-1064	R16-30A120AY2	120VAC	2	59.85	56.86

Latching Relays

The S89R is a bistable, impulse relay that can effect a savings of power in applications where the load is on for long periods of time. Contact rating is 15 amps, ½HP, 125/250VAC 5 amps, 125VAC inductive load; ½ amp, 125VDC; and ¼ amp, 250VDC. Life expectancy at full load is 100,000 operations minimum; 250,000 operations, mechanical. Operating temperature range is – 40°C to + 60°C. Mounting is by two #8-32 tapped holes on 1.844″(46.83mm) centers. Termination is .250″ (6.35mm) quick connect.



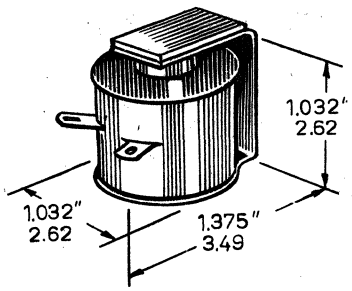
Stock No.	Mfr.'s Type	Coil Voltage	Contacts	EACH 1-24	25-49	50-99	100-249
886-1283	S89R11ABD1	24AC	DEPDT	15.85	15.06	14.27	11.89
886-1284	S89R11ABD1	120AC	DPDT	15.85	15.06	14.27	11.89
886-1287	S89R11DBD1	12DC	DPDT	15.10	14.35	13.59	11.33

12

BU AC-Operated Buzzers

The BU is an AC operated coil with a spring steel armature which buzzes when the coil is energized. Used extensively in test equipment, laboratories and a host of other applications where a small lightweight, dependable buzzer is required. The BU meets U.L. component requirements as an audible signal appliance U.L. file number S1154, and has CSA certification, File 26606. **Mounting:** #6-32 tapped core. **Model BU-24AC** rated 50 ohms, **BU-120AC** rated 1250.

Specifications. Breakdown Voltage: 1,500 volts rms 60 Hz coil to armature. **Ambient Temperature Range:** –45° to +55°C. **Weight:** 1.625 ozs. **Operate:** 85% or less of nominal voltage @ 25°C. **Duty:** Continuous or intermittent. **Terminals:** Two pierced solder terminals that accept two 18 AWG wires each.

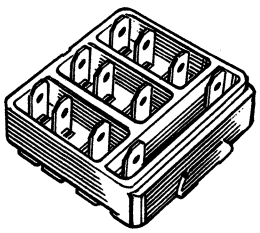


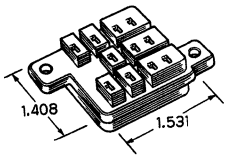
Coil Data for Standard BU Buzzers

Nominal AC Voltage 50/60 Hz	DC Resistance In Ohms ±15% @ 25°C	Nominal Current in mA	Nominal Power In Voltamperes
24	50	192	4.6
120	1250	38	4.6

Stock No.	Mfr.'s Type	Volts AC	EACH 1-24	EACH 25-49	EACH 50-99
886-0042	BU-24AC	24	**7.45**	**7.08**	**6.71**
886-0043	BU-120AC	120	**7.45**	**7.08**	**6.71**

KUP Sockets and KU Mounting Strip





SPDT/DPDT/3PDT sockets rated 15 amps snap into a chassis without additional hardware for support. Socket **27E396** has .187" quick connect terminals. **27E400** has solder terminals. KU mounting strip **37D632** will mount six KU sockets (except 27E121) in aluminum strip 11.9 × 3.00 × .062".

Stock No.	Mfr.'s Type	Term. Type	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
886-1436	27E396	Q.C.	**2.45**	**2.35**	**2.21**	**1.84**
886-1437	27E400	Solder	**1.55**	**1.47**	**1.40**	**1.16**
886-1490	37D632	Mtg. Strip	**4.70**	**4.47**	**4.23**	**3.53**

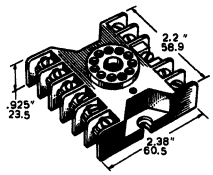
Hard mount sockets are rated 5 amperes. Will accept .187-in. terminals of all Series KU and plain case series KUP relays. **For Allied Type ASO Relays.**

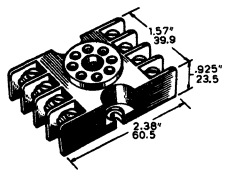
886-1420	27E043	Solder	**1.55**	**1.47**	**1.40**	**1.16**
886-1421	27E046	P.C.	**1.85**	**1.76**	**1.67**	**1.39**
886-1425	27E121	Screw	**5.90**	**5.61**	**5.31**	**4.43**
886-1422	20C228*	Spring	**.44**	**.42**	**.40**	**.33**

*Type 20C228 hold-down spring.

Octal-Style Sockets

For **KRP, KRPA, KRP3-H, KAP, KBP, KCP,** and **EBT** relays; **CD-21, CD-38, CH, CK,** and **CR** time delays; and **CS** sensor. **Type 27E122** is molded polycarbonate, 8-pin screw terminal socket, rated 10 amperes. **Type 27E123** is molded polycarbonate, 11-pin screw terminal socket, rated 10 amperes.





Stock No.	Mfr.'s Type	Socket Type	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
886-1426	27E122	Screw Term.	**3.75**	**3.56**	**3.38**	**2.81**
886-1427	27E123	Screw Term.	**5.55**	**5.27**	**5.00**	**4.16**

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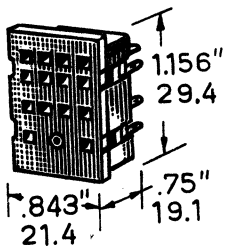
Sockets for KH Series



► **Fit Allied Type KN5 Relays**

For **KHS** and **KHU** Series relays. **27E006,** 4PDT solder terminal socket; **27E007,** 4PDT printed circuit socket; **27E166,** 4PDT screw terminal socket. 1 oz.

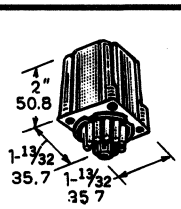
Stock No.	Mfr.'s Type	Socket Term.	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
886-1410	27E006	Solder	**1.25**	**1.19**	**1.13**	**.94**
886-1411	27E007	P.C.	**1.30**	**1.24**	**1.17**	**.98**
886-1404	27E166	Screw	**9.00**	**8.55**	**8.10**	**6.75**
886-1412	20C217	*	**.34**	**.31**	**.30**	**.27**
886-1409	24A032	**	**.14**	**.12**	**.11**	**.10**

*Hold-down spring. **Retainer for 27E006.

Mounting Strip for KH Series
Type 37D633 will mount 8KH sockets (except 27E166) in one length of aluminum strip, measuring 10.9 × 2.5 × .062".
886-1495. 1-24 ..... **EACH 3.65** **25-49** ..... **EACH 3.47**
50-99 ..... **EACH 3.29** **100-249** ..... **EACH 2.74**

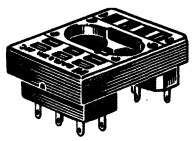
Relay Accessories

8-Pin "P" Case. Type 35D070. Clear plastic; octal base. For mounting rectifiers, capacitors. 4 screws. 2 × $1^{13}/_{32}$ × $1^{19}/_{32}$" (5.08 × 3.57 × 3.57 cm). **Wt.:** 1 oz. (28 gm).
886-1460. 1-24 ..... **EACH 2.15**
25-49 ..... **EACH 2.04**
50-99 ..... **EACH 1.94**
100-249 ..... **EACH 1.61**



KCP-KRP. Hold down Spring. Type 20C176. Wt.: 3 oz. (85 gm).
886-1416. 1-24 ..... **EACH .46** **25-49** ..... **EACH .44**
50-99 ..... **EACH .43** **100-249** ..... **EACH .41**

Strip Ground Sockets for Series R10 Relays



Types 27E125 and **27E128 are 2PDT sockets, spring ground; Type 27E126,** 4PDT socket, spring ground; **Type 27E127** is 6PDT socket spring ground. **Contact your nearest Allied facility for larger quantity pricing.**

Stock No.	Mfr.'s Type	Terminal Type	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
886-1430	27E125	Solder	**1.05**	**1.00**	**.95**	**.79**
886-1431	27E126	Solder	**1.30**	**1.24**	**1.17**	**.98**
886-1432	27E127	Solder	**1.65**	**1.57**	**1.49**	**1.24**
886-1433	27E128	PC Term.	**1.05**	**1.00**	**.95**	**.79**

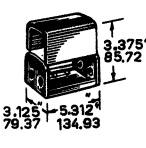
Hold Down Springs

Stock No.	Mfr.'s Type	Poles	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
886-1440	20C249	2	**.17**	**.16**	**.15**	**.13**
886-1441	20C250	4	**.17**	**.16**	**.15**	**.13**
886-1442	20C251	6	**.17**	**.16**	**.15**	**.13**

Relay Cover

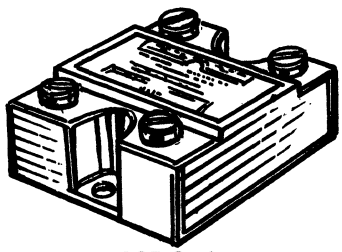
For Type PRD. Grey enameled heavy steel. Has predrilled mounting holes in base and knockouts for 1/2" (1.27 cm) dia. conduit.

PRD Cover #35D013. Size: 3.125 × 3.375 × 5.312" (13.49 × 8.57 × 7.94 cm). **Wt.:** 1 lb. (454 gm).

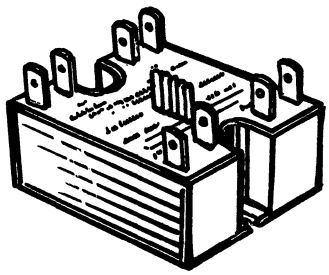


Stock No.	Mfr.'s Type	EACH 1-24	EACH 25-49	EACH 50-99	EACH 100-249
886-1455	35D013	**13.10**	**12.45**	**11.79**	**9.83**

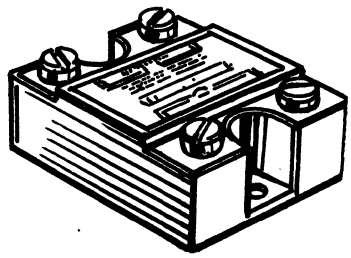
Solid State Relays



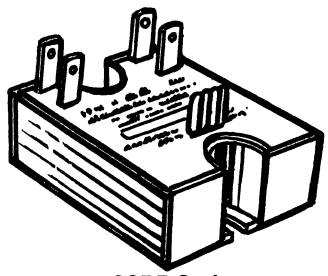
SSR Series



SSRQ Series



SSRT Series



SSRD Series

SSR Series

SSR Series is a medium/high power, 120/240 VAC, 47-70Hz inverse parallel SCR output solid state relay that is controlled by an opto-electronic coupler intended for use as On/Off switch for loads through 110 amps. Ideal for interfacing between logic output of TTL, HTL, or MOS and AC loads such as solenoids, motors and transformers.

Stock No.	Mfr.'s Type	Input Voltage	Max. Switching Rating/Output	EACH		
				1-24	25-49	50-99
886-7010	SSR-240A25	90-280 VAC	.05-25A rms	**27.30**	**25.94**	**24.57**
886-7011	SSR-240A50	90-280 VAC	.05-50 A rms	**37.80**	**35.91**	**34.02**
886-7012	SSR-240D110	3-32 VDC	.05-110 A rms	**70.35**	**66.83**	**63.32**
886-7013	SSR-240D25	3-32 VDC	.05-25 A rms	**23.10**	**21.95**	**20.79**
886-7014	SSR-240D25R*	3-32 VDC	.05-25 A rms	**25.20**	**23.94**	**22.68**
886-7015	SSR-240D50	3-32 VDC	.05-50 A rms	**33.60**	**31.92**	**30.24**
886-7016	SSR-240D80	3-32 VDC	.08-80 A rms	**49.35**	**46.88**	**44.42**

*R = Random Voltage Turn-on

SSRQ Series

SSRQ series relay comprises four totally independent, optically isolated, triac output solid state relays in one standard package. Designed to be used as four On/Off switches for loads through 20 amps.

Stock No.	Mfr.'s Type	Line Voltage	Input Voltage	Max. Switching Rating/Output	EACH	
					1-24	25-49
886-7024	SSRQ-240D20	24-280 VAC	4-15 VDC	20A rms	**67.20**	**63.84**

SSRT Series

SSRT series relay is a triac output solid state relay that is controlled by an opto-electronic coupler. Intended for use as an On/Off switch for loads through 25 amps. EMI and RFI are greatly reduced due to zero voltage turn-on and zero current turn-off of the load. 1 Form A (SPST-NO). Plastic case is UL rated self-extinguishing.

Stock No.	Mfr.'s Type	Line Voltage	Input Voltage	Max. Switching Rating	EACH	
					1-24	25-49
886-7017	SSRT-120A25	24-140 VAC	90-280 VAC	.05-25A rms	**23.10**	**21.95**
886-7018	SSRT-120D10	24-140 VAC	3-32 VDC	.05-10A rms	**15.75**	**14.96**
886-7019	SSRT-120D25	24-140 VAC	3-32 VDC	.05-25A rms	**18.90**	**17.96**
886-7020	SSRT-240A10	24-280 VAC	90-280 VAC	.05-10A rms	**19.95**	**18.95**
886-7021	SSRT-240A25	24-280 VAC	80-280 VAC	.05-25A rms	**25.20**	**23.94**
886-7022	SSRT-240D10	24-280 VAC	3-32 VDC	.05-10A rms	**17.85**	**16.96**
886-7023	SSRT-240D25	24-280 VAC	3-32 VDC	.05-25A rms	**21.00**	**19.95**

SSRD Series

SSRD series relays comprise two totally independent, optically isolated, inverse parallel SCR output solid state relays in one standard package. Intended to be used as two On/Off switches for loads through 40 amps. UL recognized and CSA certified for industrial applications.

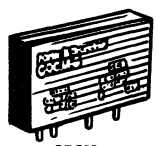
Stock No.	Mfr.'s Type	Line Voltage	Input Voltage	Max. Switching Rating/Output	EACH	
					1-24	25-49
886-7025	SSRD-240D25	24-280 VAC	4-15 VDC	25A rms @ 25°C	**42.00**	**39.90**
886-7026	SSRD-240D40	24-280 VAC	4-15 VDC	25A rms @ 25°C	**52.50**	**49.88**

Input/Output Modules

Slim Line Input/Output Modules

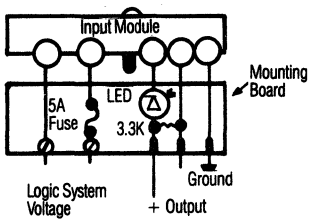
Slim line input/output modules provide interfacing between microprocessor- or computer-based control systems and external input devices and loads such as switches, sensors, valves and motor starters. Offered in four photo-isolated versions: AC input, AC output, DC input, DC output. Units are color coded and have high isolation and noise immunity. Packaged in a 0.4" enclosure for replacement without disturbing wiring. On modules of the same voltage, output is compatible with input of the input module. Ideal for series operation. 1 Form A (SPST-NO).

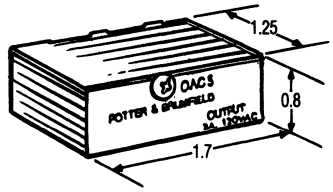
Stock No.	Mfr.'s Type	Line Voltage	Input		Output		EACH	
			Max V	Max mA	Max V	Max mA	1-24	25-49
886-7027	IACM-5	5VDC	140VAC	9	30VDC	100	**8.40**	**7.98**
886-7028	IACM-5A	5VDC	280VAC	8	30VDC	100	**8.40**	**7.98**
886-7029	IDCM-5	5VDC	6VDC	21	60VDC	3	**8.40**	**7.98**
886-7030	OACM-5	5VDC	6VDC	28	280VAC	3	**8.40**	**7.98**
886-7031	OACM-5L	5VDC	6VDC	28	280VAC	1	**7.35**	**6.98**
886-7032	OACM-U	3-15VDC	15VDC	40	280VAC	3	**8.40**	**7.98**
886-7033	ODCM-5	5VDC	6VDC	21	60VDC	3	**8.40**	**7.98**



ODCM

IDC

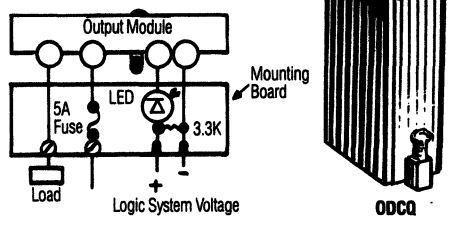




Solid State Input/Output Modules

A reliable interface between microprocessor- or computer-based control systems and external input devices and loads, these photo-isolated modules feature excellent isolation and transient immunity. On modules of the same voltage type, AC or DC, the output of the output modules is compatible with the input of the input modules, making them ideal for series operation. Modules are color-coded and packaged in industry standard plug-in enclosure. Units interchange easily without disturbing wiring. Maximum load current derating for output modules is linear from 3 amps to 0.8 amps between + 25°C and + 80°C except for the OAC-A which is linear from 1.0 amp to 0.28 amps between + 25°C and + 80°C. UL recognized, CSA certified. Order mounting boards separately below.

Stock No.	Mfr.'s Type	Usage	Logic Voltage VDC	Typ. Input Curr. @ Nom. Input Voltage	Max. Load Curr. @ Max. Load Voltage	EACH	
						1-24	25-49
886-7034	IAC5	AC Input	5VDC	8mA @ 120 VAC	100mA @ 30VDC	**9.45**	**8.98**
886-8008	OAC5	AC Output	5VDC	14mA @ 5VDC	3A @ 140VAC	**9.45**	**8.98**
886-7035	IDC5	DC Input	5VDC	12mA @ 32VDC	100mA @ 30VDC	**9.45**	**8.98**
886-7036	ODC5	DC Output	5VDC	9mA @ 5VDC	3A @ 60VDC	**9.45**	**8.98**
886-7037	OAC5A	AC Output	5VDC	14mA @ 5VDC	3A @ 280VAC	**9.45**	**8.98**
886-8002	OAC15	AC Output	15VDC	18mA @ 15VDC	3A @ 140VAC	**10.00**	**9.50**
886-7038	IAC5A	AC Input	5VDC	6mA @ 240VAC	100mA @ 30VDC	**9.45**	**8.98**
886-7039	IAC15	AC Input	15VDC	8mA @ 120VAC	100mA @ 30VDC	**10.00**	**9.50**



ODCQ

UL Recognized Mounting Boards for I/O Modules

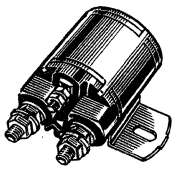
Stock No.	Mfr.'s Type	No. of Module Positions	Approx. Dimensions L x W x H	EACH	
				1-24	25-49
886-7040	2IO-4A	4	4.5 x 3.5 x 2.2"	**22.05**	**20.95**
886-7041	2IO-8	8	8.4 x 3.5 x 2.2"	**36.75**	**34.91**
886-7042	2IO-16	16	14.4 x 3.5 x 2.2"	**65.10**	**61.85**
886-7043	2IO-24	24	18.75 x 4.5 x 2.2"	**105.00**	**99.75**

Solid State Input/Output Quad Modules

Stock No.	Mfr.'s Type	Usage	Logic Voltage VDC	Typ. Input Curr. @ Nom. Input Voltage	Max. Load Curr. @ Max. Load Voltage	EACH	
						1-24	25-49
886-7044	IACQ-5*	AC Input	5	8mA @ 90VAC	100mA @ 30VDC	**44.10**	**41.90**
886-7045	IACQ-5A*	AC Input	5	4mA @ 180VAC	100mA @ 30VDC	**49.35**	**46.88**
886-7046	IACQ-5E*	AC Input	5	4mA @ 10VAC	100mA @ 30VDC	**49.35**	**46.88**
886-7047	OACQ-5	AC Output	5	6mA @ 4 VDC	3A @ 140VAC	**44.10**	**41.90**
886-7048	IDCQ-5*	DC Input	5	5mA @ 10VDC	100mA @ 30VDC	**44.10**	**41.90**
886-7049	IDCQ-5F	DC Input	5	5mA @ 4VDC	100mA @ 30VDC	**49.35**	**46.88**
886-7050	ODCQ-5	DC Output	5	7mA @ 5VDC	3A @ 60VDC	**44.10**	**41.90**
886-7051	ODCQ-5A	DC Output	5	7mA @ 5VDC	1A @ 200VDC	**49.35**	**46.88**

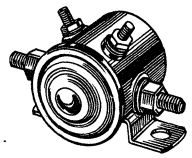
*Input will operate on AC or DC voltage.

Heavy Duty DC Power Contactors



Design meets UL 583 industrial truck standard. Dust and splash proof cover silver alloy contacts rated at 100 amps (400 amps inrush) at 6 to 36VDC. **Temperature Range:** −40°C to +65°C. **Max. Continuous Coil Watts:** 12 at rated voltage. **Sizes:** 3 1/8 × 3 9/16 × 2 1/4″ except (*) 3 1/8 × 4 3/4 × 2 1/4″.

Stock No.	Mfr.'s Type	DC Volts	Action	EACH			
				1-9	10-24	25-49	50-Up
576-1060	124-902	12	SPNO/4-TER	26.02	23.57	21.75	20.20
576-1061	124-903	24	SPNO/4-TER	26.85	27.97	25.82	23.97
576-1062	124-904	36	SPNO/4-TER	26.85	27.97	25.82	23.97
576-1063	124-906	12	SPNO/3-TER	25.89	26.97	24.89	23.11
576-1064	124-910*	12	SPDT/6-TER	41.64	37.72	34.82	32.33
576-1065	124-911*	24	SPDT/6-TER	41.64	37.72	34.82	32.33

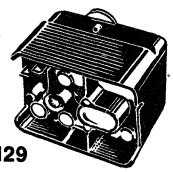


Type 70 DC Power Contactors

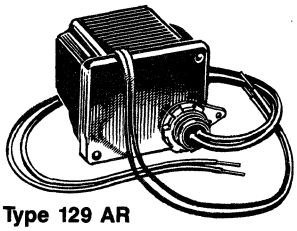
Solenoid actuated DC power contactors feature drawn steel dust-proof enclosure, copper stud power and coil terminals, double break rotating disc movable contact, isolated coil terminals. **Magnet Coil Rating:** 9 watts. **Breakdown Voltage:** 500V rms, 60 Hz. Copper contacts except * which are silver. **Size:** SPDT—2 1/2 × 3 1/2 × 2 1/2″; SPNO—3 3/8 × 3 9/10 × 2 1/2″. Mounting holes on 2.109″ centers. Hardware included.

Stock No.	Mfr.'s Type	Volts DC	Action	Term. No.	EACH			
					1-9	10-24	25-49	50-Up
576-1012	70-901	6	SPNO	4	17.35	16.02	14.87	13.88
576-1013	70-902	12	SPNO	4	15.15	13.98	12.99	12.12
576-1014	70-903	24	SPNO	4	15.35	14.17	13.16	12.28
576-1015	70-904	36	SPNO	4	16.62	15.34	14.24	13.29
576-1016	70-906*	12	SPNO	4	40.37	37.26	34.60	32.29
576-1017	70-907*	24	SPNO	4	40.45	37.34	34.67	32.36
576-1018	70-910*	12	SPDT	6	70.78	65.34	60.67	56.63
576-1019	70-911*	24	SPDT	6	70.78	65.34	60.67	56.63
576-1020	70-914	12	SPNO	3	16.00	14.77	13.71	12.80
576-1021	70-915	24	SPNO	3	17.03	15.72	14.60	13.63
576-1022	70-918	12	SPNO	3	16.83	15.54	14.43	13.47
576-1023	70-922*	12	SPDT	6	35.72	32.97	30.61	28.57

Type 129 AC Power Relays



Type 129

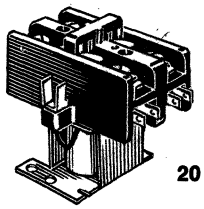


Type 129 AR

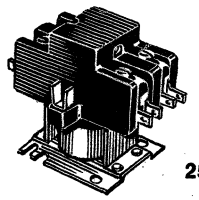
Totally enclosed; silver alloy contacts rated 18 amps resistive or 18 amps inductive at 250VAC max., 1 hp at 125V or 2 hp at 250V. Screw terminals except (*) 1/4″ quick-connect. **Size:** 2 3/8 × 1 7/8 × 1 7/8″.

Stock No.	Mfr.'s Type	AC Volts	Action	EACH			
				1-9	10-24	25-49	50-Up
576-1074	129-903	120	SPNO	22.60	20.55	18.83	17.38
576-1075	129-911*	6	SPNO	23.24	21.13	19.37	17.88

Type 143 AC Power Contactors



20 AMP

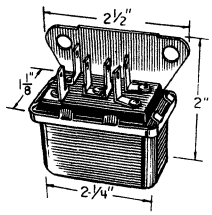


25/30 AMP

Double make contacts 2PNO, rated at 277V cont., 150 amps inrush except (*) rated at 100 amps inrush. Screw power terminals with dual quick-connect auxiliary terminals. Straight through wiring. UL and CSA listed. **Size:** 3 1/4 × 2 3/8 × 2 1/2″.

Stock No.	Mfr.'s Type	AC Volts	Amps	EACH			
				1-9	10-24	25-49	50-Up
576-1046	143-901*	24	20	30.24	27.72	25.58	23.76
576-1047	143-902*	120	20	30.44	27.90	25.75	23.91
576-1049	143-907	120	30	32.56	29.85	27.55	25.59
576-1051	143-915	120	25	32.33	29.63	27.35	25.40

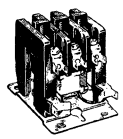
Type 150 DC Power Relays



Totally enclosed. Side bracket. 1/4″ quick-connect termination. Hardware included in boxed units.

Stock No.	Mfr.'s Type	Contacts		Action	EACH			
		Volts	Amps		1-9	10-24	25-49	50-Up
576-1030	150-902	12	25.0	SPNO	9.76	8.95	8.26	7.67
576-1031	150-903	24	12.0	SPNO	9.76	8.95	8.26	7.67
576-1032	150-905	12	15.0	SPDT	13.15	12.05	11.12	10.33
576-1033	150-906	24	7.5	SPDT	14.60	13.38	12.35	11.47

Type 154 AC Power Contactors



3PNO contacts. Interchangeable mounting with low coil wattage and 1/4″ double quick-connect terminals. Non-positional, non-corroding structure. Low temperature rise. Hardware included in boxed units. 50/60 Hz. **Size:** 2 3/4 × 3 3/4 × 3 3/16″. U.L. Recognition File #E12139.

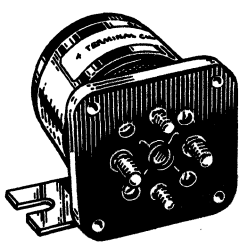
Stock No.	Mfr.'s Type	Coil		Contact Rating		EACH			
		Volts	Amps	Ind.*	Res.	1-9	10-24	25-49	50-Up
576-1035	154-902	120	20	1	30A @ 600V	37.76	34.62	31.95	29.67
576-1037	154-905	120	25	2	35A @ 600V	40.02	36.68	33.86	31.44
576-1038	154-907	24	30	3	40A @ 600V	63.09	57.83	53.38	49.57
576-1039	154-908	120	30	3	40A @ 600V	54.87	50.30	46.43	43.11
576-1040	154-909	208/240	30	3	40A @ 600V	63.09	57.83	53.38	49.57
576-1041	154-911	120	40	4	50A @ 600V	57.55	52.75	48.69	45.21
576-1042	154-912	208/240	40	4	50A @ 600V	66.18	60.67	56.00	52.00

*1 = 30A @ 600V Inrush: 120 @ 277V; 2 = 25A @ 600V Inrush: 150A @ 277V; 3 = 30A @ 600V Inrush: 150A @ 277V, 150 @ 277; 4 = Inrush: 240A @ 277V, 200A @ 480V.

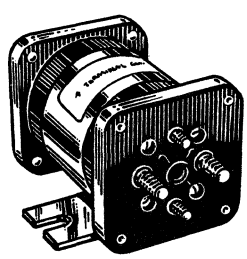
Type 586 Sealed Contactors

Sealed contacts designed for controlling DC starting motors on gasoline engine driven auxiliaries. Battery charging power circuits and low-voltage DC motor generator sets. Coil rated at 12 continuous duty. Silver contacts rated 200 amps. Dust and splash proof. 4 terminal.

Stock No.	Mfr.'s Type	Cast VDC	Pole Form	Ohms	EACH			
					1-9	10-24	25-49	50-Up
576-1078	586-902	12	SPNO	13.2	40.27	36.92	34.08	31.64
576-1079	586-905	24	SPNO	53.0	46.71	42.82	39.52	36.70
576-1080	586-911	12	SPDT	13.2	56.64	51.92	47.92	44.50
576-1081	586-914	24	SPDT	53.0	56.78	52.05	48.05	44.61

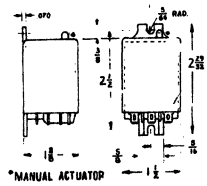


N.O. Type



D.T. Type

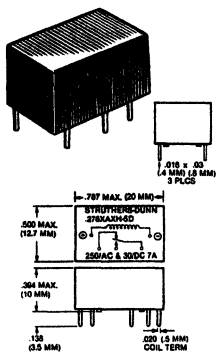
Type A238 General-Purpose Relays (10 Amp)



General purpose industrial relays. Long-life 10 A contacts. 0.187" flat male terminals for solder Quick-connect on socket termination. **Dielectric:** 1500/60 Hz between current carrying parts. 500 V/60 Hz across open contacts.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	25-49	50-Up
929-7242	A283XBXC	120AC	DPDT	8.36	7.94	7.52
929-7244	A283XCXC	24AC	3PDT	9.33	8.86	8.39
929-7245	A283XCXC	120AC	3PDT	9.33	8.86	8.39
929-7246	A283XCXC	24DC	3PDT	9.11	8.62	8.28

Type 276 Miniature Power Relays

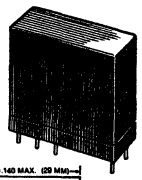


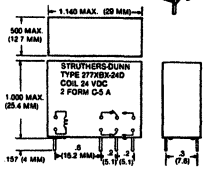
1 Form A contact @ 7 A; 1 Form C Contact @ 10 A. Low power coil-40 MA @ 5 VDC. Terminals on 0.1" grid. Silver alloy contacts. Permanent magnet polarized single-sided stable design. Sealed PBT case for wave soldering and immersion cleaning. 4 mm spacing coil to contacts. 5KV surge resistance. **Temperature Range:** – 40° to + 70°C. **Dielectric:** 1000 VAC between contact. **Operating Time:** 10 ms on loss. **Release Time:** 10 ms on loss. **Weight:** 0.2 oz.

Stock No.	Mfr.'s Type	Volts	Ohms +10%	EACH 1-24	25-49	50-Up
929-7405†	276AXXH	6DC	180	3.48	3.23	3.01
929-7410†	276AXXH	12DC	720	3.48	3.23	3.01
929-7415‡	276AXXH	24DC	2880	3.83	3.56	3.32
929-7420‡	276XAXH	6DC	180	3.72	3.45	3.22
929-7425‡	276XAXH	12DC	720	3.72	3.45	3.22
929-7430†	276XAXH	24DC	2880	4.03	3.74	3.49

‡ 1 Form A Contact @ 7 A. † 1 Form C Contact @ 10A

Type 277 Miniature Power Relays

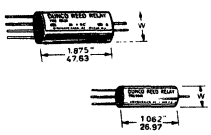




2 Form C Contacts. True AC/DC coils 0.1" grid, silver alloy contacts at 5 Amps. 8 mm spacing between coil and contacts with 10 KV surge resistance. Life rated 10 K operations load (20 × 10 no load). **Temperature Rating:** – 40° to + 70°C. **Dielectric:** 1000 VAC across contacts. **Operation Time:** 15 ms on loss. **Release Time:** 15 ms on loss. **Weight:** 0.6 oz. UL, CSA pending.

Stock No.	Mfr.'s Type	Volts	Ohms +10%	EACH 1-24	25-49	50-Up
929-7305	277XBX-6D	6DC	68	4.62	4.29	4.00
929-7310	277XBX-12D	12DC	275	4.62	4.29	4.00
929-7315	277XBX-24D	24DC	1100	4.62	4.29	4.00
929-7320	277XBX-6A	6AC	Approx.	5.09	4.73	4.41
929-7325	277XBX-12A	12AC	1.1VA @	5.09	4.73	4.41
929-7330	277XBX-24A	24AC	50 Hz	5.09	4.73	4.41

Type MRR and RR Relays with Axial Leads



Reed switches, coils, and axial leads are rigidly epoxy molded into one-piece units which provide max. mechanical protection. Leads may be soldered directly to terminal studs or supporting wiring or bent at right angles for PC use. Wrap-around metal cans provide magnetic shielding. MRR Types rated 10 Watts with 0.155" grid spacing. RR Types rated 15 Watts with 0.02" grid spacing. **Temp. Range:** – 20°C to + 55°C.

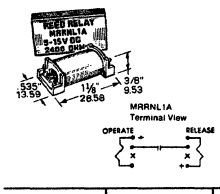
Type MRR (with mini reed switches)

Stock No.	Mfr.'s Type	Volts	Contacts	Ohms	EACH 1-24	25-49	50-Up
929-3796	MRR1A	6DC	1A	288	13.15	12.49	11.84
929-3797	MRR1A	12DC	1A	1152	13.15	12.49	11.84
929-3798	MRR1A	24DC	1A	4600	19.34	18.37	17.41

Type RR (with standard size reed switches)

929-4608	RR1A	12DC	1A	360	13.32	12.65	11.99
929-4610	RR1A	24DC	1A	1440	13.32	12.65	11.99

Type MRRNL, Magnetic Latching Relay



The MRRNL is a two-coil magnetic latching relay. The contacts remember which coil was last energized, with no power applied except for the short time pulses to change contact position. Coils are Bi-fiber wound and a steel cover provides magnetic shielding. **Dielectric:** 500 Volts RMS. **Operate Time:** 1 mS typical. **Release Time:** 1 mS typical. **Vibration Resistance:** 206, 0-2000 CPS.

Stock No.	Mfr.'s Type	Volts	Contacts	Ohms	EACH 1-24	25-49	50-Up
929-3657	MRRNL1A	12DC	1A	2400	11.24	10.49	9.84

Type 425, 25 and 30 AMP Power Relays

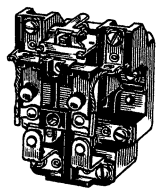


Fig. A

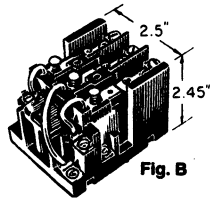


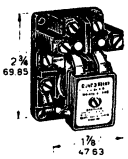
Fig. B

Modern low cost general purpose relays for all On/Off applications. **Dielectric:** 2500 VAC, 60 Hz. **Operations:** 30 mS. **Release Time:** 15mS. **Temp. Range:** (AC) – 55° to + 45°C, (DC) – 55°C to + 80°C. **Life Expectancy:** 10 million mechanical operations, U.L. and CSA listed, SCO contacts.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	25-49	50-Up
929-3024†	425BXX	24AC	DPST	13.53	12.85	12.18
929-3120†	425BXX	120AC	DPST	13.53	12.85	12.18
929-3122†	425BXX	24DC	DPST	13.17	12.51	11.85
929-5120†	425XAX	120AC	SPDT	12.35	11.73	11.11
929-3124†	425XBX	24AC	DPDT	16.75	15.91	15.08
929-7120†	425XBX	120AC	DPDT	16.75	15.91	15.08
929-7240†	425XBX	240AC	DPDT	16.98	16.13	15.28
929-3123†	425XBX	24DC	DPDT	16.41	15.59	14.77
929-7125‡	425XCX	120AC	3PDT	29.40	27.93	26.46
929-7130‡	425CXX	120AC	3PNO	25.78	24.49	23.20
929-7135‡	425CXX	24DC	3PNO	24.68	23.45	16.45

† Fig. A, 30 Amp. ‡ Fig. B, 25 Amp.

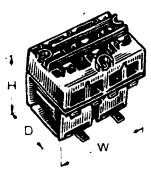
Type 415XBX, Small Power Relay (15 AMP)



For control of instruments, motors, values of, DPDT contacts at 15 Amp, 120 VAC. **Dielectric:** 1500 VAC for 1 minute, mount vertical with contacts up to 20 million mechanical operations. U.L. and CSA listed. Epoxy uncapsulated coils, SCO contacts.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	25-49	50-Up
929-2005	415XBX	24DC	DPDT	39.35	37.38	35.41
929-2010	415XBX	120AC	DPDT	39.35	37.38	35.41

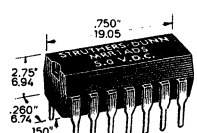
Type A275KXX, Reversing Control Relay (15 AMP)



Compact reversing contractors consisting of a pair of 3-pole contactors mounted on a common frame and mechanically interlocked to prevent simultaneous closure. Designed for continuous operation in heavy-duty service. Vertical operating condition. Over 10 million mechanical operations. U.L. and CSA listed. **Weight:** 1 lb.

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	25-49	50-Up
929-0550	A275KXX	24AC	3PNO/3PNC	35.21	33.86	32.20
929-0553	A275KXX	120AC	3PNO/3PNC	35.21	33.86	32.20

Dual In-Line Miniature Reed Relays



Dip day reed relays are specifically designed for the same mounting as standard 8 and 14 pin dual in-line. I.C. sockets. Standard contact configurations are one form, A(1 A = SPST-N.O.), Two Form A(2 A = DPST-N.C.) and One Form C(1 C = SPDT). **Operate Time:** 1 mS.

14 Pin Case

Stock No.	Mfr.'s Type	Volts	Contacts	Ohms	EACH 1-24	25-49	50-Up
929-3782	MRR1ADS	5DC	1A	360	4.55	4.32	4.09
929-3777	MRR1ADS	12DC	1A	1440	4.55	4.32	4.09
929-3773	MRR1CDL	5DC	1C	100	9.12	8.66	8.21
929-3775	MRR1CDL	12DC	1C	500	9.12	8.66	8.21
929-3778	MRR2ADLX	5DC	2A	125	7.62	7.24	6.86

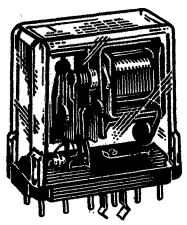
8 Pin Case

929-3770	MRR1ADS8	12DC	1A	1440	4.55	4.32	4.09
929-3771	MRR1CDL8	5DC	1C	100	9.12	8.66	8.21
929-3772	MRR1CDL8	12DC	1C	500	9.12	8.66	8.21

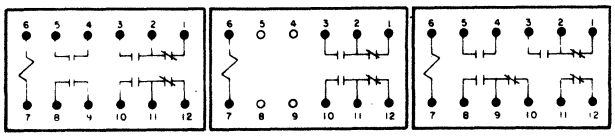
12

219 Series General-Purpose Relays

Type 219 relays provide long reliable contact life. They are designed for machine and process control applications requiring up to 20 million cycles of miss-face-operation. 12 pin models use socket #27390; 14 pin models use socket #33377.



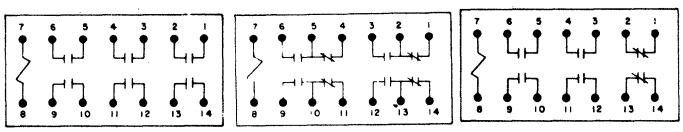
Specifications. Insulation: 1/4" surface, 1/8" air. **Dielectric:** 1500 Volt Test. **Operating Time:** 20 MS max. **Release Time:** 20 MS max. **Temperature Range:** −10°C to +60°C. **Cover:** Clear Polycarbonate. **Contacts:** Fold Diffused SCO. **Life:** 20 million Mech Operations. ► 10 Amp rating. ► U.L. amd CSA Listed



219BBXP 219XBXP 219ABAP

Type 219, 12 Pin ($1^{15}/_{32} \times 2^{19}/_{32} \times 2^{5}/_{8}$")

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	EACH 25-49	EACH 50-Up
929-2131	219XBXP	24DC	DPDT	39.43	37.46	35.48
929-2132	219XBXP	125DC	DPDT	39.43	37.46	35.48
929-2133	219XBXP	120AC	DPDT	39.43	37.46	35.48
929-2172	219BBXP	24DC	DPDT, 2 N.O.	47.13	44.77	42.42
929-2173	219BBXP	125DC	DPDT, 2 N.O.	47.13	44.77	42.42
929-2174	219BBXP	120AC	DPDT, 2 N.O.	51.10	47.69	44.72
929-2142	219ABAP	24DC	DPDT, 1 N.O./1 N.C.	47.13	44.77	42.42
929-2143	219ABAP	125DC	DPDT, 1 N.O./1 N.C.	47.13	44.77	42.42
929-2144	219ABAP	120AC	DPDT, 1 N.O./1 N.C.	47.13	44.77	42.42

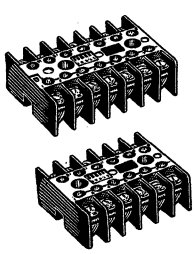


219FXXP 219XDXP 219DXBP

Type 219, 12 Pin with Indicating Light*

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	EACH 25-49	EACH 50-Up
929-2175	219BBXPL	120AC	DPDT, 2 N.O.	51.10	48.55	45.99
929-2176	219ABAPL	120AC	DPDT, 1 N.O./1 N.C.	51.10	48.55	45.99
929-2181	219XDXP	24DC	4PDT	53.51	50.83	48.16
929-2182	219XDXP	120AC	4PDT	53.51	50.83	48.16
929-2183	219FXXP	24DC	6PNO	53.51	50.83	48.16
929-2184	219FXXP	120AC	6PNO	53.51	50.83	48.16
929-2185	219DXBP	24DC	4 N.O./2 N.C.	53.51	50.83	48.16
929-2186	219DXBP	120AC	4 N.O./2 N.C.	53.51	50.83	48.16

* Available in 120VAC only.



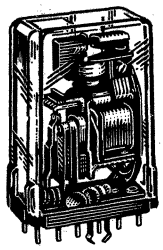
12 and 14 Pin Sockets

Type 27390. Twelve terminal socket accepts types 311,219,236,237,255,349, and RSX alarm relays. Overall dimensions $2^{21}/_{32} \times 2^{3}/_{16} \times {}^{27}/_{32}$". **929-2030** ..... **EACH 6.85**

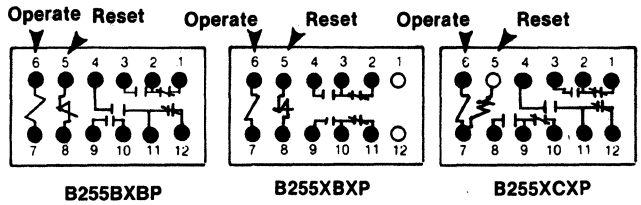
Type 33377. Fourteen terminal socket for 219 series 4 and 6 pole relays. **Dimension:** $2^{5}/_{64} \times 2^{3}/_{16} \times {}^{27}/_{32}$". **929-2035** ..... **EACH 9.09**

Type B255, 12 Pin Latching Relays

This is a two-coil latching version of the Type 219 relay. When the operate coil is momentarily energized the relay mechanically latches in the energized position even if power is interrupted. The second coil provides electrical reset. All contacts operate from a common armature to prevent contact overlapping, coils are rated for continuous duty. **Insulation:** 1/4" surface; 1/8" air. **Dielectric:** 1500 Volt test. **Oper. Time:** 25 ms max. **Release Time:** 20 ms max. **Temp. Range:** −10°C to +60°C. **Life Expectance:** 10 million mechanical operations. **Cover:** Clear Polycarbonate. Uses socket #27390. **Dimension:** $2^{5}/_{8} \times 1^{15}/_{32} \times 3^{3}/_{4}$".



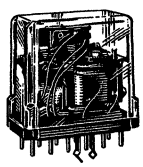
B255



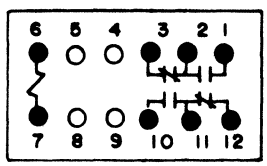
B255BXBP B255XBXP B255XCXP

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	EACH 25-49	EACH 50-Up
929-2520	B255BXBP	120AC	2 N.O./2 N.C.	76.09	72.28	68.48
929-2522	B255XBXP	120AC	DPDT	70.52	66.99	63.47
929-2524	B255XCXP	120AC	3PDT	76.09	72.28	68.48

Type A311, Sequencing Relay



A311XBXP
A311XBXPR

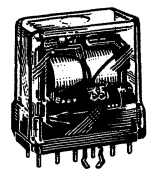


A sequencing version of the Type 219 relay. Contacts transfer on each impulse. XBXP type transfers contacts when coil is energized. XBXPR type transfers contacts when coil is de-energized. 5 amp coil. Gold diffused SCO contacts. Uses base #27390. **Insulation:** 1/4" surface; 1/8"air. **Dielectric:** 1500 Volt test. **Temp. Range:** −10°C to +60°C. **Dimension:** $2^{5}/_{8} \times 1^{15}/_{32} \times 2^{19}/_{32}$".

Stock No.	Mfr.'s Type	Volts	Contacts	EACH 1-24	EACH 25-49	EACH 50-Up
929-2122	A311XBXP	24DC	DPDT	77.07	73.22	69.36
929-2124	A311XBXP	120AC	DPDT	77.07	73.22	69.36
929-2126	A311XBXPR	24DC	DPDT	77.07	73.22	69.36
929-0001	A311XBXPR	120AC	DPDT	77.07	73.22	69.36

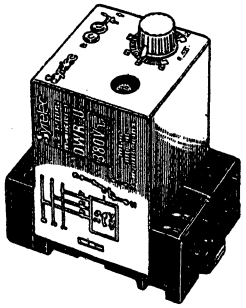
Type RSX1800, 12 Pin Alarm Relay

Relays consist of a pair, 2 pole relays under a transparent cover wired to a 12 pin industrial type plug. All external wiring is connected to the screw terminals of the #27390 socket. Either sustained or momentary alarm condition instituted by an external trouble switch energizes an alarm. The alarm can be manually silenced or will continue until the alarm condition has been corrected, at which time the relay will reset automatically. Gold diffused SCO contact 5 Amps. **Insulation:** 1/4" surface; 1/8" air. **Dielectric:** 1500 volt test. **Oper. Time:** 25 ms max. **Release Time:** 20 ms max. **Cover:** Clear Polycarbonate. **Temp. Range:** −10°C to +60°C. **Dimension:** $2^{5}/_{8} \times 1^{15}/_{32} \times 2^{19}/_{32}$.



Stock No.	Mfr.'s Type	Volts	Contracts	EACH 1-24	EACH 25-49	EACH 50-Up
929-1335	RSX1800S	120AC	DPDT N.C.	72.20	68.59	63.18
929-1340	RSX1800Z	120AC	DPDT N.O.	72.20	68.59	63.18

Phase Control Relay Model PWRU



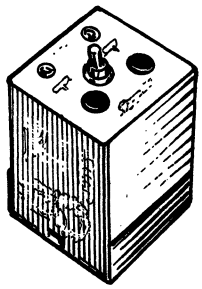
- ► Monitors:
- — Phase Sequence
- — Loss of any phase even if induced voltage reaches 95% of nominal voltage.
- — Under and over voltage
- ► LED Relays Status Indicator
- ► SPDT 10 Amp Relay Output

If the phase sequence and the symmetry of the three phase power supply is correct, the output relay is energized. The relay will also stay energized if the value of the three phase voltages remains within + 10% of the value displayed by the top mounted potentiometer. **Mounting:** P-8 pin Plug-in; D-DIN- Rail; L-11 pin Plug-in.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5009	PWRU	3 × 220 VAC	50.00
793-5010	DWRU	3 × 220 VAC	51.25
793-5011	LWRU	3 × 220 VAC	50.00

JR/JRS Series

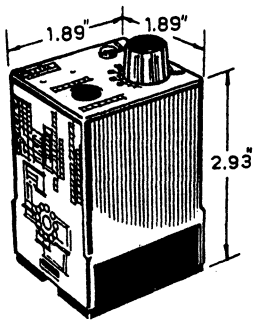
- ► Duplex Alternating Control
- ► SPDT or DPDT Control Relay
- ► 10 Amp Rated
- ► Externally Controlled



The electronic alternating relay is designed to replace mechanical style devices used in control applications requiring a duplexing or alternating action of the control circuit to operate pumps, compressors, etc. This is achieved by activating a control switch which is common to one side of the input control voltage. The output contact of the relay(s) change state when this switch is opened (on de-energization of the control circuit). When the control initiate switch is actuated and released or opened, the relay will change state. The next time the initiate switch is actuated, it will change back to its original state. Two red LEDs located on the top of the dust-resistant enclosure provide the status of the relay. The JRS Series offers a three position switch to select normal operation (alternating) or manual selection of lead or lag load.

Stock No.	Mfr.'s Type	Description	EACH
793-2008	LJR2	11 Pin Plug In, DPDT, 110 VAC	37.75
793-2009	PJR	8 Pin Plug In, SPDT, 110 VAC	37.75
793-5528	LJRS2	11 Pin Plug In, DPDT w/Switch, 110 VAC	42.75
793-5529	PJRS	8 Pin Plug In, SPDT w/Switch, 110 VAC	42.75

NRU Series Liquid Level Control Pump Up
NR Series Liquid Level Control Pump Down

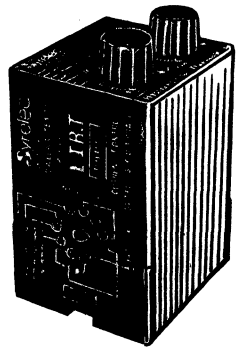


- ► LED Relay Indicator
- ► 8-Pin Plug-In Style
- ► Pump Up Control
- ► 4.7KΩ to100KΩ Sensitivity

Control of conductive liquids (tap water, sea water, sewage, chemical solutions, coffee, ice cream, etc.).
The relay is energized when the level falls below the low level probe. It de-energizes when the high level probe is reached. The NRU will also control a single level. In this case, a single probe is used, and the relay operates when that probe is not immersed.
In either case, a common electrode is needed if the container is nonconductive.

Stock No.	Mfr.'s Type	Description	EACH
793-2011	PNR	8 Pin Plug in, 110 VAC, Pump Down	34.00
793-2012	PNRU	8 Pin, Plug in, 110 VAC, Pump Up	36.00

Current Control Relays IR.T and IAR.T Series



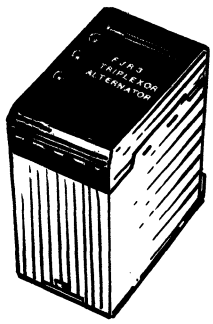
- ► Automatic or Manual Control
- ► Start-up Inhibit
- ► Adjustable Hysteresis
- ► Multiple Voltages
- ► LED Relay Status Indicator

IR.T Series will monitor current ranges of 5mA up to 10A, and can be set for latching or non-latching operation. The IAR.T series monitors 5A to 100A (Peak to Peak) with the addition of a TIXP3 Current Transformer. **Specify input power for both units:** 24VDC, 24VAC, 48VAC, 110VAC, 220VAC, or 240VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5519	LIR.T	11 Pin Plug-In	53.00
793-5520	DIR.T	DIN Rail Mount	54.25
793-5521	LIAR.T/TIXP3	11 Pin Plug-In w/current transformer	70.00
793-5522	DIAR.T/TIXP3	DIN Rail Mount w/current transformer	71.25
793-5523	TIXP3	Additional current transformer	25.00

FJR3 Series

3 or 2 Stage Alternator

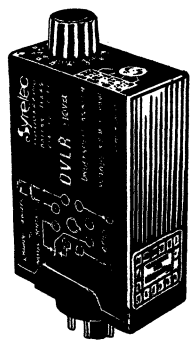


- ► Triplex or Duplex Mode Selectable
- ► Compact Size
- ► SPST 5 Amp Output

The FJR3 is primarily designed to control multi-pump systems. Three pumps can be controlled and given approx. the same amount of run time while running only the number of pumps needed. For maintenance purposes or for two pump systems, Output 3 can be locked out. **Specify input power when ordering:** 24 VAC/DC, 110VAC, 220VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5524	FJR3	DIN-Rail Mount Triplexor	120.00

VLR/OVLR Series Underspeed Monitors



- ► Start-Up Inhibit Time
- ► Adjustable Time Ranges
- ► Multiple Inputs
- ► Monitors Speeds up to 300Hz

The input information sensor for both models can be a proximity switch, voltage level, or contact closure. Start-up inhibit time on the VLR is adjustable from 0.1 to 20 seconds. The OVLR is factory set at a fixed eight seconds. Output for both models is SPDT 10A rated relay. **Specify input power for both models:** 24VAC, 24VDC, 48VAC/DC, 110VAC, or 220VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5525	DVLR	DIN Rail Mount	47.00
793-5526	LVLR	11 Pin Plug-In	47.00
793-5527	OVLR	8 Pin Plug-In	40.00

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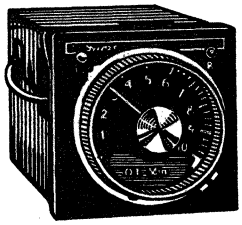
Multi-Function Model GLR2U

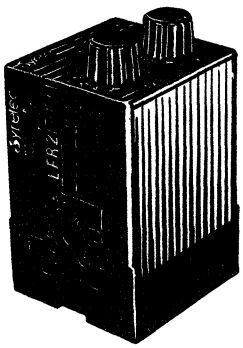
- 4 Functions in one unit
- Multi Time Range (0.1 sec to 10 hrs.)
- DPDT 10 Amp Relay Output
- LED Indicators — Power/Relay Status



Four Function Timer: delay on make, single shot, delay on break, interval timer. Slide switch selects time range in seconds, minutes, or hours. Easy to set dial for direct reading. Fits standard 11-pin sockets. Also available in DIN-rail version (FLR2U). Other voltages available on special order.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5004	GLR2U	110 VAC	50.00
793-5005	FLR2U	110 VAC	51.25

Delay On Make/ Delay On Break Combination Model FR2



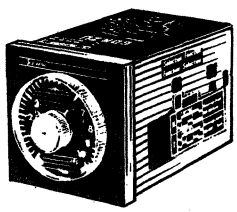
- Two Functions
- 10 Amp DPDT Output
- Four Mounting Options

When initiate switch is closed, a delay on make function begins. At the end of this delay (T1), the relay output is energized. When the initiate switch opens, a delay on break function begins. At the end of this delay (T2), the relay output is de-energized. The opening of the initiate switch during (T1) or the closure of the initiate switch during (T2) will reset the timer. **Time range:** B = .06 secs.-160 secs. 110 VAC. Other time ranges and voltages available on special order.

Stock No.	Mfr.'s Type	Description	EACH
793-5508	DFR2-B	DIN Rail Mount	55.25
793-5509	LFR2-B	11 Pin Plug-In	54.00
793-5510	PFR2-B	8 Pin Plug-In	54.00

Repeat Cycle Timer Model DR2U

- Large Dial Face with Independently Adjustable "ON" and "OFF" Time Range
- 10 Amp DPDT Relay Output
- LED Relay and Power Status Indicators
- Dual Voltage

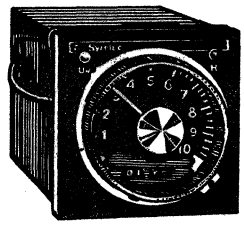


Selection of the time ranges (.1 sec. to 10 hrs.) is made by slide switch on the front of the case. "On" or "Off" time first is also switch selectable. Inner dial selects "On" time; outer dial selects "Off". 48 × 48 mm size for easy panel mounting. Dual voltage feature is identical to CHRONOS series. 110 VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5514	MDR2U	8 Pin Plug-In	68.00
793-5515	GDR2U	11 Pin Plug-In	68.00

Delay on Make Model MAXR2U

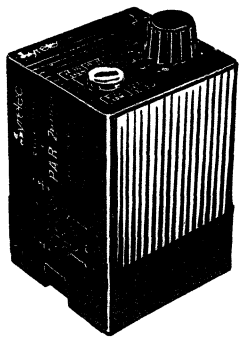
- 2 Delayed SPDT or 1 Delayed SPDT and 1 instantaneous SPDT
- Multi Time Range (0.1 sec to 10 hrs.)
- 48 × 48 mm
- LED Indicators — Power/Relay Status



Selection of the two functions is programmed by a slide switch on the side of the timer. Easy to set dial for direct reading. Fits standard 8-pin sockets. Also available in DIN-Rail (FAXR2U), or 11-pin plug-in (GAXR2U). Other voltages available on special order.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5006	MAXR2U	110 VAC	49.50
793-5007	FAXR2U	110 VAC	52.50
793-5008	GAXR2U	110 VAC	49.50

Delay On Make Model PAR2



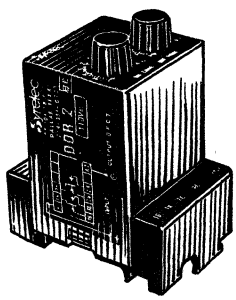
- Two Timing Ranges
- 10 Amp DPDT Relay
- LED Relay Status Indicator

When input power is applied, the relay delays the preset time period prior to energizing. Interrupt power to unlatch the relay. **Time range:** B = .06 secs.-160 secs. Other time ranges and voltages available on special order.

Stock No.	Mfr.'s Type	Description	EACH
793-5511	DAR2-B	DIN Rail Mount	33.75
793-5512	LAR2-B	11 Pin Plug-In	32.50
793-5513	PAR2-B	8 Pin Plug-In	32.50

Repeat Cycle Timer Model PDR2

- Selectable ON or OFF Start
- 10 Amp DPDT Relay Output
- LED Relay Status Indicator
- Three Mounting Options



Where T1 is the adjustable "Off" time and T2 is the adjustable "On" time, specify T1 or T2 first in the part number according to the state of the relay desired when input power is applied. T1 and T2 can be any combination of time ranges. **Time Range:** BB = .06 sec.-160 sec. **Input Power:** 110 VAC. Other time ranges and voltages available on special order.

Stock No.	Mfr.'s Type	Description	EACH
793-5516	PDR2-BB	8 Pin Plug-In	51.00
793-5517	LDR2-BB	11 Pin Plug-In	51.00
793-5518	DDR2-BB	DIN Rail Mount	52.25

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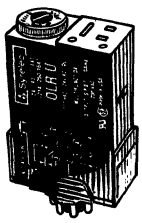
The new CHRONOS series of Timers is now available from Syrelec that will make ordering a much simpler process. Time setting and testing is simplified by the dial face and direct reading capability. Featured below are the five models including, Multifunction, Repeat Cycle, Delay on Make (two versions), and Delay on Break. CHRONOS Timers feature dual voltages in the following combinations: 48 VAC/DC or 24 VAC/DC.....110 VAC or 24 VAC/DC...220 VAC or 24 VAC/DC. 12 VDC is also available on all CHRONOS models on special request.

CHRONOS Multi-Function Model OLRU



OLRU

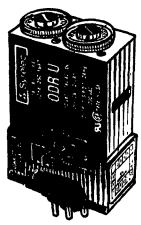
BLRU

- ► 4 Functions in one unit
- ► Multi Time Range (0.1 sec to 10 hrs.)
- ► SPDT 10 Amp Relay Output
- ► LED Indicators — Power/Relay Status

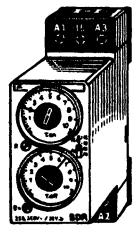
Four Function Timer: delay on make, single shot, delay on break, interval timer. Slide switch selects time range in seconds, minutes, or hours. Easy to set dial for direct reading. Fits standard 8-pin sockets. For DIN-rail mounting, order Model BLRU.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5000	OLRU	110 VAC or 24 VAC/DC	44.00
793-5001	BLRU	110 VAC or 24 VAC/DC	45.25

CHRONOS Repeat Cycle Model ODRU



ODRU

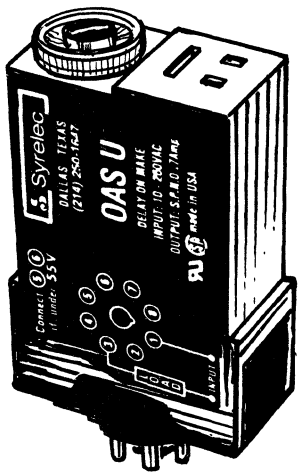


BDRU

- ► Multi Time Range (0.1 sec to 10 hrs.)
- ► SPDT 10 Amp Relay Output
- ► LED Indicators — Power/Relay Status
- ► Individual "on" and "off" settings

Time range selection is made by dip switches on the case. T1 is the adjustable "off time" for relay R and T2 is the adjustable "on time". When input power is applied, the relay will alternate between "off and on" according to the preset times selected. For DIN-Rail mounting, order Model BDRU.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5002	ODRU	110 VAC	49.50
793-5003	BDRU	110 VAC	50.50

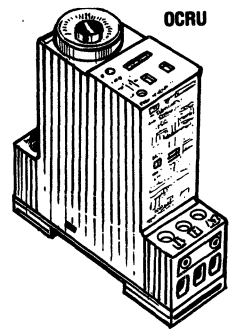


CHRONOS Delay on Make Model OARU/OASU

- ► Multi Time Range (0.1 sec. to 10 hrs.)
- ► SDDT 10 Amp Relay Output OARU or SCR Solid State Output OASU
- ► LED Indicators—Power/Relay Status OARU

For the relay output version OARU, when input power is applied, the relay delays the preset time period prior to energizing. The model OASU, delays the solid state output for the preset time period prior to turning on. Next timing cycle begins when the input power is re-applied. Fits standard 8-pin sockets. For DIN-rail mounting, order models BARU or BASU.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5500	OARU	110VAC or 24VAC/DC	30.00
793-5501	BARU	110VAC or 24VAC/DC	31.25
793-5502	OASU	10-260 VAC/DC	22.50
793-5503	BASU	10-260VAC/DC	23.50



OCRU

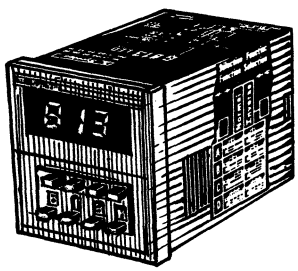
CHRONOS Delay on Break Model OCRU

- ► Multi Time Range (0.1 sec. to 10 hrs.)
- ► SPDT 10 Amp Relay Output
- ► LED Indicators—Power/Relay Status

Input power is continuously supplied to the timer. When an external initiate switch is closed, the output relay is energized. Timing begins when the initiate switch opens. At the end of the delay time, the output is de-energized and the timer is ready for another cycle. Fits standard 8-pin sockets. Order BCRU for DIN-rail mounting.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5504	OCRU	110VAC or 24VAC/DC	35.00
793-5505	BCRU	110VAC or 24VAC/DC	36.00

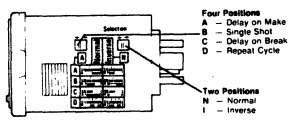
813 Series Multifunction Timer with LED Display

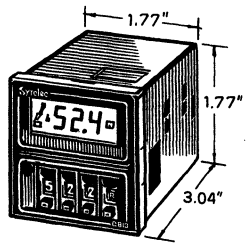


Identical to the 813 Series adjacent, with the exception of LED Display in lieu of Liquid Crystal Display. For certain applications, the LED display will offer much greater visibility.

Stock No.	Mfr.'s Type	Description	EACH
793-5506	M813LED HV	8 Pin Plug In, 24-240VAC	110.00
793-5507	M813LED LV	8 Pin Plug In, 12-48VDC	110.00

813 Series Multifunction Timer





- ► 8 Modes of Operation
- ► LCD 0.3" Display
- ► Multirange Timing
- ► Crystal Oscillator
- ► Push-button Presetting

The 813 Timer is a multifunction control available in three different configurations. The basic control is the M, F, or G mounting with one of four modes of operation slide switch selectable: Delay on Make, Single Shot, Delay on Break, and Repeat Cycle are standard. Normal and inverse relay operation is also slide switch selectable.

Stock No.	Mfr.'s Type	Description	EACH
793-2003	M813HV	8 Pin Plug In, 24-240VAC	75.00
793-2004	M813LV	8 Pin Plug In, 12-48VDC	75.00

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Semiconductor Directory

586 587 SIEMENS · 671 DALLAS SEMICONDUCTOR · 702 CKE · 735 TEXAS INSTRUMENTS

858 MOTOROLA · 899 XICOR · 902 GE · 902 RCA

925 Coilmer Semiconductor, Inc. · 935 NTE · 950 GENERAL INSTRUMENT

Type-Description	Price	Mfg. Code
1.5KE10A VOLTAGE SUPPRESSORS 10V 1500W	4.46	950
1.5KE12A VOLTAGE SUPPRESSORS 12V 1500W	3.31	950
1.5KE130A VOLTAGE SUPPRESSORS 130V 1500W	4.84	950
1.5KE180A VOLTAGE SUPPRESSORS 180V 1500W	4.89	950
1.5KE18A VOLTAGE SUPPRESSORS 18V 1500W	3.31	950
1.5KE200CA VOLTAGE SUPPRESSORS 200V 1500W	5.76	950
1.5KE220CA VOLTAGE SUPPRESSORS 220V 1500W	5.76	950
1.5KE24CA VOLTAGE SUPPRESSORS 24V 1500W	4.61	950
1.5KE250CA VOLTAGE SUPPRESSORS 250V 1500W	5.76	950
1.5KE27A VOLTAGE SUPPRESSORS 27V 1500W	3.31	950
1.5KE30A VOLTAGE SUPPRESSORS 30V 1500W	3.31	950
1.5KE350A VOLTAGE SUPPRESSORS 350V 1500W	4.89	950
1.5KE36S VOLTAGE SUPPRESSORS 36V 1500W	3.31	950
1.5KE39A VOLTAGE SUPPRESSORS 39V 1500W	3.31	950
1.5KE43CA VOLTAGE SUPPRESSORS 47V 1500W	4.61	950
1.5KE47A VOLTAGE SUPPRESSORS 47V 1500W	3.31	950
1.5KE51CA VOLTAGE SUPPRESSORS 51V 1500W	4.61	950
1.5KE6.8AA VOLTAGE SUPPRESSORS 6.8V 1500W	4.46	950
1.5KE7.5A VOLTAGE SUPPRESSORS 7.5V 1500W	4.46	950
1.5KE75A VOLTAGE SUPPRESSORS 75V 1500W	3.31	950
1.5KE91C VOLTAGE SUPPRESSORS 91V 1500W	4.17	950
1N746A ZEN 3.3V .4 5% DO35	0.20	858
1N747A ZEN 3.6V .4 5% DO35	0.20	858
1N748A ZEN 3.9V 0.4W 5% DO35	0.20	858
1N749A ZEN 4.3V .4W 5% DO35	0.20	858
1N750A ZEN 4.7V .4W 5% DO35	0.20	858
1N751 ZEN 5.1V .4W 10% DO35	0.10	858
1N751A ZEN 5.1V .4W 5% DO35	0.20	858
1N752A ZEN 5.6V .4W 5% DO35	0.20	858
1N753A ZEN 6.2 .4W 5% DO35	0.20	858
1N754A ZEN 6.8V .4W 5% DO35	0.20	858
1N755A ZEN 7.5V .4W 5% DO35	0.20	858
1N756A ZEN 8.2V 0.4W 5% DO35	0.20	858
1N757A ZEN 9.1V .4W 5% DO35	0.20	858
1N758A ZEN 10V .4W 5% DO35	0.20	858
1N821 ZEN 6.2V 0.4W .01%TC DO35	0.60	858
1N823A ZEN 6.2V 0.4W .005% TC DO35	1.20	858
1N825 ZEN 6.2V .4W .002% TC DO35	1.26	858
1N914 DIODE	0.15	294
1N914B DIODE	0.16	294
1N957B ZEN 6.8V 0.4W5% DO35	0.40	858
1N961B ZEN 10V 0.4W 5% DO35	0.20	858
1N965B ZEN 15V 0.4W 5% DO35	0.20	858
1N967B ZEN 18V 0.4W 5% DO35	0.54	858
1N968B ZEN 20V 0.4W 5% DO35	0.40	858
1N970B ZEN 24V .4 5% DO35	0.20	858
1N1183 REC 40A 50V STDREC DO5	2.20	858
1N1184 REC 40A 100V STDREC DO5	2.50	858
1N1186 REC 40A 200V STDREC DO5	3.10	858
1N1188 REC 40A 400V STDREC DO5	7.40	858
1N1190A REC 40A 600V STDREC DO5	5.61	858
1N3493 REC 25A 200V STD REC PFIT	1.53	858
1N3663 REC 30A 400V STD REC PFIT	4.14	858
1N3768 RECT 1000V	13.27	902
1N4001 REC 1A 50V STD REC AXIAL	0.08	858
1N4001 SILICON RECTIFIER 50V 1A	0.33	950
1N4002 REC 1A 100V STD REC AXIAL	0.08	858
1N4002 SILICON RECTIFIER 100V 1A	0.36	950
1N4003 REC 1A 200V STD REC AXIAL	0.08	858
1N4003 SILICON RECTIFIER 200V 1A	0.38	950
1N4004 REC 1A 400V STD REC AXIAL	0.09	858
1N4004 SILICON RECTIFIER 400V 1A	0.40	950
1N4005 REC 1A 600V STD REC AXIAL	0.10	858
1N4005 SILICON RECTIFIER 600V 1A	0.45	950
1N4006 REC 1A 800V STD REC AXIAL	0.11	858
1N4006 SILICON RECTIFIER 800V 1A	0.50	950
1N4007 REC 1A 1KV STD REC AXIAL	0.13	858
1N4007 SILICON RECTIFIER 1000V 1A	0.57	950
1N4053 RECT 700V	39.00	902
1N4148 DIODE, SILICON SWITCHING	0.15	294
1N4625 ZEN 5.1V .25W %5 DO35	1.26	858
1N4719 REC 3A 50V STD REC AXIAL	1.55	858
1N4720 REC 3A 100V STD REC AXIAL	1.70	858
1N4728A ZEN 3.3 1W 5% DO41	0.80	858
1N4730A ZEN 3.9V 1W 5% DO41	0.80	858

Type-Description	Price	Mfg. Code
1N4731A ZEN 4.3V 1W 10% DO41	0.80	858
1N4732A ZEN 4.7V 1W 5% DO41	0.80	858
1N4733 ZEN 5.1V 1W 10% DO41	0.13	858
1N4733A ZEN 5.1V DO41	0.15	858
1N4734A ZEN 5.6V 1W 5% DO41	0.80	858
1N4735 ZEN 6.2V 1W 10% DO41	0.12	858
1N4735A ZEN6.2V 1W 5% DO41	0.13	858
1N4736A ZEN 6.8V 1W 5% DO41	0.15	858
1N4737A ZEN 7.5V 1W 5% DO41	0.80	858
1N4738 ZEN 8.2V 1W 10% DO41	1.60	858
1N4738A ZEN 8.2V 1W 5% DO41	0.80	858
1N4739A ZEN 9.1V 1W 5% DO41	0.80	858
1N4740 ZEN 10V 1W 10% DO41	0.13	858
1N4740A ZEN 10V 1W 10% DO41	0.14	858
1N4741A ZEN 11V 1W 5% DO41	0.80	858
1N4742 ZEN 12V 1W 10% DO41	0.13	858
1N4742A ZEN 12V 1W 5% DO41	0.14	858
1N4743 ZEN 12V DO41	0.80	858
1N4743A ZEN 13V 1W 5% DO41	0.80	858
1N4744 ZEN 15V 1W 10% DO41	0.13	858
1N4744A ZEN 15V 1W 5% DO41	0.15	858
1N4745A ZEN 16V 1W 5% DO41	0.80	858
1N4746 ZEN 18V 1W 10% DO41	0.80	858
1N4746A ZEN 18V 1W 5% DO41	1.60	858
1N4747A ZEN 20V 1W 5% DO41	0.81	858
1N4748A ZEN 22V 1W 5% DO41	0.80	858
1N4749A ZEN 24V 1W 5% DO41	0.80	858
1N4750A ZEN 27V 1W 5% DO41	0.80	858
1N4751A ZEN 30V 1W 5% DO41	0.80	858
1N4752A ZEN 33V 1W 5% DO41	0.80	858
1N4753 ZEN 36V 1W 10% DO41	0.85	858
1N4753A ZEN 36V 1W 5% DO41	0.95	858
1N4754A ZEN 39V 1W 5% DO41	0.95	858
1N4757A ZEN 51V 1W 5% DO41	0.95	858
1N4764A ZEN 100V 1W 5% DO41	1.05	858
1N4933 REC 1A 50V FAST REC AXIAL	0.28	858
1N4934 FAST RECOVERY RECTIFIER 100V 1A	0.53	950
1N4934 REC 1A 100V FAST REC AXIAL	0.33	858
1N4935 FAST RECOVERY RECTIFIER 200V 1A	0.55	950
1N4935 REC 1A 200V FASTRC AXIAL	0.38	858
1N4936 FAST RECOVERY RECTIFIER 400V 1A	0.61	950
1N4936 REC 1A 400V FASTRC AXIAL	0.34	858
1N4937 FAST RECOVERY RECTIFIER 600V 1A	0.68	950
1N4937 REC 1A 600V FASTRC AXIAL	0.39	858
1N5221B ZEN 2.4V 0.5W 5% DO35	0.93	858
1N5223B ZEN 2.7V 0.5W 5% DO35	0.93	858
1N5226B ZEN 3.3V 0.5W 5% DO35	0.20	858
1N5227B ZEN 3.6V .5W 5% DO35	0.20	858
1N5228B ZEN 3.9V 0.5W 5% DO35	0.20	858
1N5229B ZEN 4.3V .5W 5% DO35	0.20	858
1N5230B ZEN 4.7V 0.5W 5% DO35	0.20	858
1N5231B DIODE, ZENOR	0.07	294
1N5231B ZEN 5.1V 0.5W 5% DO35	0.10	858
1N5232B ZEN 5.6V 0.5W 5% DO35	0.20	858
1N5234B ZEN 6.2V 0.5W 5% DO35	0.20	858
1N5235B ZEN 6.8V 0.5W 5% DO35	0.20	858
1N5236B ZEN 7.5V .5W 5% DO35	0.20	858
1N5237B ZEN 8.2V .5W 5% DO35	0.20	858
1N5239B ZEN 9.1V .5W 5% DO35	0.20	858
1N5240B ZEN 10V .5W 5% DO35	0.10	858
1N5242B ZEN 12V 0.5W 5% DO35	0.09	858
1N5245B ZEN 15V .5W 5% DO35	0.20	858
1N5248B ZEN 18V 0.5W 5% DO35	0.20	858
1N5250B ZEN 20V .5 5% DO35	0.20	858
1N5252B ZEN 24V 0.5W 5% DO35	0.20	858
1N5256B ZEN 30V 0.5W 5% DO35	0.20	858
1N5271B ZEN 100V 0.5W 5% DO35	0.34	858
1N5314 ZEN 2.9V 0.6W 4.7MA DO7	7.45	858
1N5338B ZEN 5.1V 5W 5% CASE 17	0.66	858
1N5339B ZEN 5.6V 5W 5% CASE 17	0.69	858
1N5346B ZEN 9.1V 5W 5% CASE 17	0.66	858
1N5349B ZEN 12V 5W 5% CASE 17	0.78	858
1N5352B ZEN 15V 5W 5% CASE 17	0.66	858
1N5353B ZEN 16V 5W 5% CASE 17	0.66	858
1N5355B ZEN 18V 5W 5% CASE 17	0.66	858

Type-Description	Price	Mfg. Code
1N5357B ZEN 20V 5W 5% CASE 17	0.66	858
1N5359B ZEN 24V 5W 5% CASE 17	0.66	858
1N5364B ZEN 33V 5W 5% CASE 17	0.66	858
1N5366B ZEN 39V 5W 5% CASE 17	0.66	858
1N5380B ZEN 12V 5W 5% CASE 17	0.66	858
1N5383B ZEN 150V 5W 5% CASE 17	0.66	858
1N5397 REC 1.5A 600V SRD REC AXIAL	0.46	858
1N5398 REC 1.5A800V STD REC AXIAL	0.62	858
1N5399 REC 1.5A 1KV STD REC AXIAL	0.92	858
1N5400 REC 3A 50V STD REC AXIAL	0.20	858
1N5400 SILICON RECT 50V 3A AXIAL	0.14	925
1N5400 SILICON RECTIFIER 50V 3A	0.72	950
1N5401 REC 3A 100V STD REC AXIAL	0.22	858
1N5401 SILICON RECT 100V 3A AXIAL	0.15	925
1N5401 SILICON RECTIFIER 100V 3A	0.80	950
1N5402 REC 3A 200V STDREC AXIAL	0.25	858
1N5402 SILICON RECT 200V 3A AXIAL	0.75	925
1N5402 SILICON RECTIFIER 200V 3A	0.88	950
1N5404 REC 3A 400V STD REC AXIAL	0.27	858
1N5404 SILICON RECT 400V 3A AXIAL	0.16	925
1N5404 SILICON RECTIFIER 400V 3A	1.04	950
1N5406 REC 3A 600V STD REC AXIAL	0.29	858
1N5406 SILICON RECT 600V 3A AXIAL	0.16	925
1N5406 SILICON RECTIFIER 600V 3A	1.20	950
1N5408 SILICON RECT 1000V 3A AXIAL	0.20	925
1N5408 SILICON RECTIFIER 1000V 3A	1.52	950
1N5817 REC 1A 20V SCHOTT AXIAL	0.41	858
1N5817 SCHOTTKY RECTIFIER 20V 1A	0.61	950
1N5818 REC 1A 30V SCHOTT AXIAL	0.44	858
1N5818 SCHOTTKY RECTIFIER 30V 1A	0.70	950
1N5819 REC 1A 40V SCHOTT AXIAL	0.48	858
1N5819 SCHOTTKY RECTIFIER 40V 1A	0.79	950
1N5820 SCHOTTKY RECTIFIER 20V 3A	0.96	950
1N5821 REC 3A 30V SCHOTT AXIAL	0.65	858
1N5821 SCHOTTKY RECTIFIER 30V 3A	1.05	950
1N5822 REC 3A40V SCHOTT AXIAL	0.68	858
1N5822 SCHOTTKY RECTIFIER 40V 3A	1.14	950
1N5824 REC 5A 30V SCHOTT AXIAL	5.00	858
1N5908 ZEN 6.2V 1500W 5% C41-11	1.62	858
2N682 SCR 25A 50V STUD	6.70	858
2N685 SCR,25A,200V,STUD	6.84	858
2N688 SCR 25A 400V STUD	6.92	858
2N692 SCR 25A 800V STUD	7.22	858
2N697 LOW POWER Si TRANS	0.77	902
2N697 SS GEN PUR NPN TO-39	1.04	858
2N918 SS AMPLIFIER NPN TO-92	0.76	858
2N1595 SCR 1.6A 50V TO 39	1.58	858
2N1711 GP NPN TO39	0.52	858
2N2102 SS AMP NPN TO-39	0.86	858
2N2102 TRANS. BIPOLAR	1.10	902
2N2218 SS GEN PUR NPN TO-39	2.08	858
2N2218A SS GEN PUR NPN TO39	0.54	858
2N2219 SS GEN PUR NPN TO-39	0.39	858
2N2219A SS GEN PUR NPN TO-39	0.40	858
2N2222 SS GEN PUR NPN TO-18	0.29	858
2N2222A SS GEN PUR NPN TO-18	0.30	858
2N2270 SS DUAL AMP NPN TO-39	0.56	858
2N2324 SCR 1.6A 100V TO39 SENGA	2.94	858
2N2369 SS SWITCH NPN TO-18	0.29	858
2N2369A SS SWITCH NPN TO-18	0.30	858
2N2405 SS GEN PUR NPN TO39	2.12	858
2N2484 SS AMPLIFIER NPN TO-18	0.36	858
2N2857 RF NPN LO PWR TO-72	1.22	858
2N2894 SS SWITCH PNP TO-18	0.44	858
2N2904A SS GEN PUR PNP TO39	0.48	858
2N2905 SS GEN PUR PNP TO-39	0.39	858
2N2905A SS GEN PUR PNP TO-39	0.40	858
2N2906 SS GEN PUR PNP TO-18	0.32	858
2N2907 SS GEN PUR PNO TO-18	0.29	858
2N2907A SS GEN PUR PNP TO-18	0.30	858
2N3019 SS GEN PUR NPN TO-39	0.64	858
2N3053 SS GEN PUR NPN TO39	0.41	858
2N3053A TRANS BIPOLAR	1.31	902
2N3054 PWR 4A 55V DIS NPN TO66	2.43	858
2N3055 PWR 15A 60V DIS NPN TO3	0.95	858

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Type-Description	Price	Mfg. Code
2N3055A PWR 15A 60V DIS NPN TO3	1.64	858
2N3250 SS GEN PUR PNP TO-18	0.76	858
2N3251 SS GEN PUR PNP TO-18	0.36	858
2N3302 SS GEN PUR NPN TO-18	1.26	858
2N3439 SS GEN PUR NPN TO39	0.86	858
2N3440 SS GEN PUR NPN TO39	0.78	858
2N3501 SS GEN PUR NPN TO-39	1.80	858
2N3546 SS SWITCH PNP TO-18	1.20	858
2N3553 RF NPN HI PWR TO-39	1.55	858
2N3584 NPN BIPOLAR TRANS	2.25	902
2N3585 HI-VLT NPN	2.34	902
2N3716 PWR 10A 100V DIS NPN TO3	1.55	858
2N3724 SS SWITCH NPN TO-39	0.58	858
2N3739 PWR 1A 300V DIS NPN TO66	2.78	858
2N3740 PWT 4A 60V DIS PNP TO66	2.33	858
2N3771 PWR 30A 40V DIS NPN TO3	1.92	858
2N3772 PWR 20A 60V DIS NPN TO3	2.90	858
2N3773 PWR 16A 140V DIS NPN TO3	2.88	858
2N3773 TRANS. SI NPN BIPOLAR	2.39	902
2N3791 PWR 10A 60V DIS PNP TO3	1.41	858
2N3792 PWR 10A 80V DIS PNP TO3	1.49	858
2N3799 SS AMPLIFIER PNP TO-18	0.60	858
2N3819 JFET SS N-CHAN TO-92	0.48	858
2N3866 RF NPN LO PWR TO-39	1.04	858
2N3903 SS GEN PUR NPN TO92	0.08	858
2N3904 SS GEN PUR NPN TO92	0.06	858
2N3905 SS GEN PUR PNP TO92	0.08	858
2N3906 SS GEN PUR PNP TO92	0.06	858
2N3947 SS GEN PUR NPN TO-18	0.52	858
2N3972 JFET SS N-CHAN TO-18	1.80	858
2N4033 SS GEN PUR PNO TO-39	1.00	858
2N4036 SS GEN PUR PNP TO39	0.74	858
2N4037 MED-PWR PNP	0.92	902
2N4037 SS GEN PUR PNP TO39	0.66	858
2N4124 SS GEN PUR NPN TO-92	0.08	858
2N4125 SS AMPLIFIER PNP TO92	0.08	858
2N4126 SS AMP PNP TO92	0.08	858
2N4172 SCR 8A 400V CASE86 ELF	11.76	858
2N4190 SCR 8A 600V CASE87 ELF	14.20	858
2N4234 SS POWER PNP TO-39	1.20	858
2N4236 SS POWER PNP TO-39	1.60	858
2N4237 SS POWER NPN TO-39	2.20	858
2N4240 HIGH VOLT NPN	2.45	902
2N4240 PWR 2A 300V DIS NPN Y066	2.60	858
2N4351 SS MOSFET N-CHAN-TO-72	1.90	858
2N4352 SS MOSFET P-CHAN TO-72	2.18	858
2N4360 JFET SS P-CHAN TO-92	0.72	858
2N4391 JFET SS N-CHAN TO-18	0.80	858
2N4392 SS JFRT N-CHAN TO-18	0.80	858
2N4393 SS JFET N-CHAN TO-18	0.84	858
2N4399 PWR 30A 60V DIS PNP TO3	4.05	858
2N4400 SS GEN PUR NPN TO92	0.09	858
2N4401 SS GEN PUR NPN TO92	0.09	858
2N4402 SS GEN PUR NPN TO92	0.09	858
2N4403 SS GEN PUR PNP TO92	0.09	858
2N4416 SS JFET N-CHAN TO-72	0.80	858
2N4427 RF NPN HI PWR TO-39	1.15	858
2N4856 JFET SS N-CHAN TO-18	0.90	858
2N4857 SS JFET N-CHAN TO-18	1.80	858
2N4861 SS JFET N-CHAN TO-18	0.72	858
2N4870 THYRISTOR	0.70	858
2N4871 THYRISTOR	0.63	858
2N4904 BIPOLAR TRANS	2.34	902
2N4905 TRANS. BIPOLAR	2.63	902
2N4918 PWR 3A 40V DIS PNP TO126	1.16	858
2N4920 PWR 3A 80V DIS PNP TO126	1.55	858
2N4921 PWR 3A 40V DIS NPN TO126	1.05	858
2N4922 PWR 3A 60V DIS NPN TO126	1.23	858
2N4923 PWR 3A 80V DIS NPN TO126	1.42	858
2N4958 RF PNP LO PWR TO-72	2.90	858
2N4959 RF PNP LO PWR TO-72	3.45	858
2N5031 RF NPN LO PWT TO-72	2.30	858
2N5038 TRANS. BIPOLAR	4.99	902
2N5039 TRANS. BIPOLAR	4.99	902
2N5060 SCR .8 25V TO92	0.22	858
2N5061 THYR .8A 50V TO92	0.23	858
2N5062 THYR .8A 100V TO92	0.24	858
2N5064 THYR .8A 200V TO92	0.26	858
2N5086 SS AMPLIFIER PNP TO92	0.16	858
2N5087 SS AMPLIFIER PNP TO92	0.12	858
2N5088 SS AMPLIFIER NPN TO92	0.12	858
2N5089 SS AMPLIFIER NPN TO92	0.12	858
2N5109 RF NPN LO PWR TO39	1.47	858
2N5160 RF PNP HI PWR TO39	3.45	858
2N5179 RF NPN LO PWR TO-72	0.77	858
2N5190 PWR 4A 40V DIS NPN TO126	1.04	858
2N5192 PWR 4A 80V DIS NPN TO126	1.42	858
2N5193 PWR 4A 40V DIS PNP TO126	1.15	858
2N5195 PWR 4A 80V DIS PNP TO126	1.62	858
2N5210 SS AMPLIFIER NPN TO92	0.19	858
2N5245 SS JFET N-CHAN TO-92	1.00	858
2N5301 TRANS BIPOLAR	3.17	902
2N5302 TRANS. BIPOLAR	3.17	902
2N5320 SS SWITCH NPN TO-39	1.16	858
2N5321 COMP NPN&PNP	1.08	902
2N5322 SS SWITCH NPN TO-39	1.50	858
2N5322 TRANS. BIPOLAR	1.80	902
2N5400 SS AMPLIFIER PNP TO92	0.19	858
2N5401 SS AMPLIFIER PNP TO92	0.19	858
2N5415 HI-VLT PNP	1.51	902
2N5416 SS GEN PUR PNP TO-39	0.98	858
2N5444 TR1AC 40A 200V STUD	5.45	858
2N5457 SS JFET N-CHAN TO-92	0.34	858
2N5458 SS JFET N-CHAN TO-92	0.34	858
2N5459 JFET SS N-CHAN TO-92	0.40	858
2N5460 SS JFET P-CHAN TO-92	0.48	858
2N5461 SS JFET P-CHANNEL TO-92	0.44	858
2N5484 SS JFET N-CHAN TO-92	0.34	858
2N5485 SS JFET N-CHAN TO-95	0.36	858
2N5486 SS JFET N-CHAN TO-92	0.36	858
2N5496 TRANS. BIPOLAR	1.30	902
2N5550 SS AMPLIFIER NPN TO92	0.19	858
2N5551 SS AMPLIFIER NPN TO92	0.28	858
2N5583 RF PNP LO PWR TO-39	3.45	858
2N5631 TRANS. BIPOLAR	6.25	902
2N5638 SS JFET N-CHAN TO-92	0.44	858
2N5639 SS JFET N-CHAN TO-92	0.80	858
2N5640 SSJFET N-CHAN TO-92	0.88	858
2N5680 SS GEN PUR PNP TO-39	1.36	858
2N5681 SS GEN PUR NPN TO-39	1.20	858
2N5684 PWR 50A 80V DIS PNP TO3	8.28	858
2N5685 PWR 50A 60V DIS NPN TO3	5.39	858
2N5686 PWR 50A 80V DIS NPN TO3	6.48	858
2N5771 SS SWITCHING PNP TO92	0.26	858
2N5875 PNP BIPOLAR TR	1.82	902
2N5884 PWR 25A 80V DIS PNP TO3	2.88	858
2N5885 PWR 25A 60V DIS NPN TO3	2.25	858
2N5885 TRANS. BIPOLAR	3.47	902
2N5886 PWR 25A 80V DIS NPN TO3	2.88	858
2N5886 TRANS. BIPOLAR	3.99	902
2N5943 RF NPN LO PWR TO-39	1.85	858
2N5944 RF NPN HI PWR SOE STUD	10.35	858
2N6027 THYRISTOR	0.24	858
2N6028 THYRISTOR	0.27	858
2N6030 PWR 16A 120V DIS NPN TO3	5.00	858
2N6034 PWR 4A 40V DIS PNP TO126	0.65	858
2N6037 PWR 4A 40V DIS NPN TO126	0.65	858
2N6041 PWR 8A 80V DAR PNP TO220	0.68	858
2N6042 PWR 8A 100V DAR PNP TO220	0.72	858
2N6043 PWR 8A 60V DAR NPN TO220	0.59	858
2N6044 DAR. NPN TRANS	2.34	902
2N6045 PWR 8A 100V DAR NPN TO220	0.67	858
2N6055 NPN DARLINGTON	2.36	902
2N6055 PWR 8A 60V DAR NPN TO3	1.38	858
2N6056 DAR. NPN TRANS	2.36	902
2N6057 PWR 12A 60V DAR NPN TO3	2.50	858
2N6059 PWR 12A 100V DAR NPN TO3	3.17	858
2N6070B TRIAC 100V 4A CASE 77-04	0.68	858
2N6071 TRIAC 200V 4AM CASE 77-04	0.48	858
2N6071B TRIAC 200V 4A CASE 77-04	0.69	858
2N6073 TRIAC 400V 4AM CASE 77	0.50	858
2N6073A TRIACE 400V 4 CASE 77	0.61	858
2N6073B TRIAC 400V 4A CASE 77	0.72	858
2N6075 TRIAC 600V 4AM CASE 77	0.55	858
2N6080 PF NPN HI PWR SOE STUD	10.35	858
2N6084 RF NPN HI PWR SOE STUD	16.70	858
2N6107 PWR 7A 70V DIS PNP TO220	0.78	858
2N6109 PWR 7A 50V DIS PNP TO220	0.78	858
2N6124 PWR 4A 45V DIS PNP TO220	0.74	858
2N6124 TRANS. BIPOLAR	0.72	902
2N6238 SCR 100V 4A CASE-77	0.52	858
2N6239 SCR 200V 4A CASE-77	0.54	858
2N6241 SCR 600V 4A CASE-77	0.72	858
2N6259 TRANS. BIPOLAR	7.18	902
2N6282 DARLINGTON TRAN S	3.64	902
2N6283 PWR 20A 80V DAR NPN TO3	3.49	858
2N6283 TRANSISTOR, DARLINGTON, N-P-N, TO-204AA	4.21	902
2N6284 PWR 20A 100V DAR NPN TO3	3.69	858
2N6285 DAR. PNP TRANS	4.21	902
2N6286 PWR 20A 80V DAR PNP TO3	3.89	858
2N6287 PWR 20A 100V DAR PNP TO3	4.23	858
2N6292 PWR 7A 70V DIS NPN TO220	0.73	858
2N6308 PWR 8A 350V DIS NPN TO3	3.69	858
2N6343 TRIAC 8A 400V TO220	1.47	858
2N6343A TRIAC 400V 8A TO220	1.55	858
2N6344A TRIAC 600V 8A TO220	1.63	858
2N6346 TRIAC 200V 8A TO 220	1.30	858
2N6347A TRIAC 400V 8A TO220	1.57	858
2N6348A TRIAC 600V 8A TO220	1.65	858
2N6349A TRIAC 800V 8A TO220	1.56	858
2N6385 DAR. NPN TRANS	2.45	902
2N6386 NPN DARLINGTON	1.01	902
2N6386 PWR 8A 40V DAR NPN TO220	0.63	858
2N6387 PWR 8A 60V DAR NPN TO220	0.72	858
2N6388 DAR. NPN TRANS	1.40	902
2N6395 SCR 100V 12A TO 220	0.83	858
2N6396 SCR 200V 12A TO 220	0.86	858
2N6397 SCR 400V TO220	0.88	858
2N6400 SCR 16AMP TO 220	1.10	858
2N6402 SCR 200V 16AMP TO 220	1.15	858
2N6403 SCR 400V 16AMP TO 220	1.20	858
2N6421 PNP BIPOLAR TR	2.27	902
2N6426 SS DARLINGTON NPN TO92	0.30	858
2N6427 SS DARLINGTON NPN TO92	0.34	858
2N6504 SCR 50V 25AMP TO 220	1.16	858
2N6505 SCR 100V 25AMP TO 220	1.20	858
2N6507 SCR 400V 25AMP TO 220	1.35	858
2N6517 SS HIGH VOLT NPN TO92	0.32	858
2N6520 SS HIGH VOLT PNP TO92	0.46	858
2N6545 PWR 8A 400V DIS NPN TO3	4.05	858
2N6547 PWR 15A 400V DIS NPN TO3	5.40	858
2N6578 PWR 15A 120V DAR NPN TO3	1.55	858
2N6667 PWR 8A 60V DAR PNP TO220	1.26	858
2SK723 N-CHANNEL MOSFET 500V 7A TO-3P	5.24	925
2SK724 N-CHANNEL MOSFET 500V 10A TO-3P	7.28	925
2SK725 N-CHANNEL MOSFET 500V 15A TO-3P	11.82	925
2SK726 N-CHANNEL MOSFET 900V 3A TO-3P	6.82	925
2SK727 N-CHANNEL MOSFET 900V 5A TO-3P	9.96	925
2SK783 N-CHANNEL MOSFET 500V 12A TO-3P	9.00	925
2SK859 N-CHANNEL MOSFET 500V 9A TO-3P	16.34	925
2SK897 N-CHANNEL MOSFET 550V 4A TO-220F	4.28	925
2SK899 N-CHANNEL MOSFET 500V 18A TO-3P	10.52	925
2SK900 N-CHANNEL MOSFET 250V 12A TO-220	7.52	925
2SK901 N-CHANNEL MOSFET 250V 20A TO-3P	10.52	925
2SK902 N-CHANNEL MOSFET 250V 30A TO-3P	16.20	925
2SK903 N-CHANNEL MOSFET 800V 3A TO-220F	5.40	925
2SK904 N-CHANNEL MOSFET 800V 3A TO-220	3.82	925
2SK905 N-CHANNEL MOSFET 50V 45A TO-3P	10.22	925
2SK906 N-CHANNEL MOSFET 100V 32A TO-3P	9.64	925
2SK947 N-CHANNEL MOSFET 250V 12A TO-220F	4.30	925
2SK948 N-CHANNEL MOSFET 250V 12A TO-3P	4.28	925
2SK949 N-CHANNEL MOSFET 500V 6A TO-220F	3.86	925
2SK950 N-CHANNEL MOSFET 500V 6A TO-220	3.82	925
2SK954 N-CHANNEL MOSFET 800V 3A TO-3P	7.84	925
2SK955 N-CHANNEL MOSFET 800V 5A TO-3P	9.96	925
2SK960 N-CHANNEL MOSFET 900V 3A TO-220F	4.24	925
2SK961 N-CHANNEL MOSFET 900V 3A TO-220	3.82	925
2SK1099 N-CHANNEL MOSFET 500V 10A TO-3PF	6.06	925
2SK1105 N-CHANNEL MOSFET 800V 3A TO-3PF	4.28	925
2SK1134 N-CHANNEL MOSFET 50V 45A TO-3PF	7.38	925
3N187 MOS FET TO-72 DUAL GATE	3.91	902
3N200 TRANS. FET	6.19	902
4N22 JEDEC TIL102	7.66	735
4N23 OPTO COUPLER METAL CAN	8.33	735
4N25 OPTOCOUPLER	0.50	587
4N25 OPTO COUPLER	0.69	735
4N25 OPTOISOLATOR 6-PIN DIP	0.44	858
4N25A OPTOISOLATOR 6-PIN DIP	0.44	858
4N26 OPTOCOUPLER	0.50	587
4N26 OPTO COUPLER	0.67	735
4N26 OPTOISOLATOR 6-PIN DIP	0.44	858
4N27 OPTOISOLATOR 6-PIN DIP	0.44	858
4N28 OPTOCOUPLER	0.50	587
4N28 OPTOISOLATOR 6-PIN DIP	0.44	858
4N31 OPTO 6-PIN DIP	0.46	858
4N32 OPTO 6-PIN DIP	0.46	858
4N32 OPTOCOUPLER	0.99	587
4N33 OPTOCOUPLER	0.99	587
4N33 OPTOISOLATOR 6-PIN DIP	0.46	858
4N35 OPTOCOUPLER	0.50	587
4N35 OPTO COUPLER	0.78	735
4N35 OPTOISOLATOR 6-PIN DIP	0.44	858
4N36 OPTO COUPLER	0.75	735
4N36 OPTOISOLATOR 6-PIN DIP	0.44	858
4N37 OPTO 6-PIN DIP	0.44	858
4N37 OPTOCOUPLER	0.50	587
4N38 OPTOISOLATOR 6-PIN DIP	0.44	858
4N38A OPTOISOALTOR 6-PIN DIP	0.44	858
4N47 OPTO COUPLER METAL CAN	8.04	735
4N48 OPTO COUPLER METAL CAN	8.75	735
4N49 OPTO COUPLER METAL CAN	9.63	735
6N137 HIGH SPEED LOGIC GATE OPTO COUPLER	3.66	735
6RI30E-060 DIODE MODULE 3 PHASE STD REC 600V 30A	20.00	925
6RI50E-060 DIODE MODULE 3 PHASE STD REC 600V 50A	38.00	925
6RI75E-060 DIODE MODULE 3 PHASE STD REC 600V 75A	52.00	925
6RI100E-060	76.00	925
40HF60 RECTIFIER, STUD 600V	7.89	902
50RIA60 SCR 600V	27.99	902
70H60A RECTIFIER,STUD 600V	15.46	902
71RA80 SCR 800V S15CG8BO	72.20	902
40841 MOS FET DUAL GATE	1.89	902
ADC0803CN 8 BIT A/D CONVERTER	5.88	735
ADC0804CN A/D CONVERTER	4.33	735
ADC0809N A/D CONVERTER 8 BIT/8 CHANNEL	4.24	735
ADC0820CCN 8 BIT SEMI FLASH A/D CONVERTER	11.10	735
AM26LS31CN QUAD RS-232 LINE DRIVER	0.93	735
AM26LS32ACN QUAD RS-232/423 LINE RECEIVER	0.82	735
AW02M BRIDGE RECTIFIER 200V 1.5A	3.89	950
AW04M BRIDGE RECTIFIER 400V 1.5A	4.53	950
AW06M BRIDGE RECTIFIER 600V 1.5A	5.18	950
AW08M BRIDGE RECTIFIER 800V 1.5A	5.83	950

Type-Description	Price	Mfg. Code
B1-A230 SURGE PROTECTOR	2.30	586
B1-A350 SURGE PROTECTOR	2.18	586
B1-C75 SURGE PROTECTOR	2.26	586
B1-C90/20 SURGE PROTECTOR	2.34	586
B1-C145 SURGE PROTECTOR	1.77	586
B1-F90 SURGE PROTECTOR	2.57	586
B2-B270 SURGE PROTECTOR	3.88	586
B2-B470 SURGE PROTECTOR	2.97	586
B2-B600 SURGE PROTECTOR	2.13	586
B2-B800 SURGE PROTECTOR	2.69	586
B2-H10 SURGE PROTECTOR	3.55	586
B2-H25 SURGE PROTECTOR	5.20	586
B2-H45 SURGE PROTECTOR	4.16	586
B2-H80X SURGE PROTECTOR	4.34	586
B2-H100X SURGE PROTECTOR	4.09	586
B32K130 METAL OXIDE VARISTOR	12.10	586
B32K150 METAL OXIDE VARISTOR	12.10	586
B32K250 METAL OXIDE VARISTOR	12.10	586
B32K275 METAL OXIDE VARISTOR	12.10	586
B32K385 METAL OXIDE VARISTOR	12.10	586
B32K420 METAL OXIDE VARISTOR	12.10	586
B32K460 METAL OXIDE VARISTOR	12.10	586
B32K550 METAL OXIDE VARISTOR	12.10	586
B40K130 METAL OXIDE VARISTOR	24.30	586
B40K150 METAL OXIDE VARISTOR	24.30	586
B40K250 METAL OXIDE VARISTOR	24.30	586
B40K275 METAL OXIDE VARISTOR	24.30	586
B40K460 METAL OXIDE VARISTOR	24.30	586
B40K550 METAL OXIDE VARISTOR	24.30	586
B60K130 METAL OXIDE VARISTOR	56.00	586
B60K250 METAL OXIDE VARISTOR	56.00	586
B60K275 METAL OXIDE VARISTOR	56.00	586
BA243S BANDWIDTH DIODE	0.16	586
BA244S BANDWIDTH DIODE	0.16	586
BA282 BANDWIDTH DIODE	0.16	586
BA389 BANDWIDTH DIODE	0.41	586
BAL99 SWITHCING DIODE	0.15	586
BAR14-1 PIN DIODE SOT23 PKG	0.60	586
BAS28 SWITCHING DIODE	0.35	586
BAS40-04 SCHOTTKY DIODE G/P SOT-23	0.54	586
BAS40-05 SCHOTTKY DIODE G/P SOT-23	0.54	586
BAS70-04 SCHOTTKY DIODE G/P SOT-23	0.81	586
BAT17-04 SCHOTTKY DIODE	0.68	586
BAV70 SWITCHING DIODE	0.14	586
BAV99 SWITCHING DIODE	0.14	586
BAW56 SWITCHING DIODE	0.14	586
BAW78D RECTIFIER DIODE	0.63	586
BAW79D RECTIFIER DIODE	0.68	586
BB112 VARACTOR DIODE	0.60	586
BB204G VARACTOR DIODE	0.45	586
BB304 VARACTOR DIODE	0.46	586
BB505B TUNING DIODE AXIAL	0.32	586
BB609A VARACTOR DIODE	0.42	586
BB609B VARACTOR DIODE	0.42	586
BB801 VARACTOR DIODE	0.91	586
BC807 G/P TRANSISTOR	0.23	586
BC817 G/P TRANSISTOR	0.23	586
BC846 G/P TRANSISTOR	0.19	586
BC856 G/P TRANSISTOR	0.20	586
BCV27 DARLINGTON TRANSISTOR	0.27	586
BCV47 DARLINGTON TRANSISTOR	0.33	586
BCW60 G/P TRANSISTOR	0.15	586
BCW61 G/P TRANSISTOR	0.15	586
BCW66 G/P TRANSISTOR	0.17	586
BCW68 G/P TRANSISTOR	0.17	586
BCX41 G/P TRANSISTOR	0.20	586
BCX42 G/P TRANSISTOR	0.20	586
BCX53 G/P TRANSISTOR	0.46	586
BCX56 G/P TRANSISTOR	0.46	586
BCX68 G/P TRANSISTOR	0.52	586
BCX69 G/P TRANSISTOR	0.52	586
BCX70 G/P TRANSISTOR	0.15	586
BCX71 G/P TRANSISTOR	0.15	586
BF763 RF TRANSISTOR	0.57	586
BF960 DUAL GATE NOSFET	0.78	586
BF961 DUAL GATE MOSFET	0.75	586
BF963 DUAL GATE MOSFET	0.97	586
BF964S DUAL GATE MOSFET	0.97	586
BF965 DUAL GATE MOSFET	1.03	586
BF966S DUAL GATE MOSFET	1.09	586
BF970 RF TRANSISTOR	0.84	586
BF979S RF TRANSISTOR	0.93	586
BF993 DUAL GATE MOSFET	0.97	586
BF995 DUAL GATE MOSFET	0.76	586
BF996S DUAL GATE MOSFET	1.09	586
BF997 DUAL GATE MOSFET	1.03	586
BFN18 HI-VOLT TRANS	0.52	586
BFN19 HI-VOLT TRANS	0.55	586
BFN27 HI-VOLT TRANS	0.23	586
BFQ69 TRANS. BIPOLAR T - PLAST PKG	1.51	586
BFQ70 TRANS. BIBOLAR	11.40	586
BFQ74 TRANS. BIPOLAR CEREC X PKG	12.90	586
BFR90 TRANS. BIPOLAR	1.07	586
BFR91A TRANS. BIPOLAR	1.30	586
BFR96 RF NPN LO PWR MACRO-T	1.76	858

Type-Description	Price	Mfg. Code
BFS17P TRANS. BIPOLAR	0.44	586
BGX50A SWITCHING DIODE	0.64	586
BSS79 SWITCHING TRANS	0.15	586
BSS82 LO-PWR MOSFET	0.15	586
BSS84 LO-PWR MOSFET	0.58	586
BSS87 LO-PWR MOSFET	1.02	586
BSS88 SIPMOS TRANS.	0.78	586
BSS89 SIPMOS TRANS.	0.67	586
BSS92 SIPMOS TRANS.	0.79	586
BSS98 SIPMOS TRANS.	0.45	586
BSS100 SIPMOS TRANS.	0.45	586
BSS101 SIPMOS TRANS.	0.46	586
BSS110 SIPMOS TRANS.	0.51	586
BSS123 LO-PWR MOSFET	0.51	586
BSS125 SIPMOS TRANS.	0.73	586
BSS129 SIPMOS TRANS.	0.87	586
BSS131 LO-PRW MOSFET	0.55	586
BSS138 LO-PRW MOSFET	0.55	586
BU208 PWR 5A 700V DEF NPN TO3	4.66	858
BUZ11 TMOS POWER 50V .04R TO-220	2.42	858
C106D SCR 4A 400V CASE 77-04	0.38	858
C122D1 SCR 8A 400V TO220	0.62	858
C122F1 SCR 8A 50V TO220	0.59	858
CA224E QUAD OP-AMP	0.79	902
CA311E SINGLE VOLT COMPARATOR	0.59	902
CA324E QUAD OP-AMP	0.79	902
CA339E QUAD VOLTAGE COMPARATOR	0.59	902
CA555CE TIMER	0.79	902
CA555CT TIMER	1.99	902
CA555E TIMER	0.89	902
CA723E ADJ. 2-37 VOLT REGULATOR	0.99	902
CA741CE SINGLE OP-AMP	0.69	902
CA741E SINGLE OP-AMP	0.79	902
CA741T SINGLE OP AMP	2.29	902
CA747CE DUAL 741 OP-AMP	0.89	902
CA747E DUAL OP-AMP	0.99	902
CA1458E DUAL 748 OP- AMP	0.89	902
CA1458T DUAL 748 OP-AMP	2.19	902
CA3018A TRANS.	2.99	902
CA3028A CASCODE	2.29	902
CA3045 TRANS	7.99	902
CA3046 G-P TRAN ARRAY	0.99	902
CA3053 CASCADE DIFFERENTIAL AMPLIFIER	1.99	902
CA3054 DUAL AMPLIFIER ARRAY	1.09	902
CA3059 ZERO VOLTAGE SWITCH	1.49	902
CA3079 ZERO VOLTAGE SWITCH AT 50, 60, OR 400HZ	0.99	902
CA3080E HI SLEW RATE OTA	1.09	902
CA3081 TRANS. ARRAY N-P-N	1.19	902
CA3082 TRANS NPN	1.19	902
CA3083 G-P NPN TRAN-A	1.19	902
CA3085 1.7 TO 47 VOLT REGULATOR	2.29	902
CA3085A 1.7-47 VOLT REGULATOR	2.69	902
CA3086 TRANS. ARRAY N-P-N	0.89	902
CA3088E AM REC	2.49	902
CA3089E FM IF SYS	1.49	902
CA3094AE AF DRIVER	2.19	902
CA3094E PROGRAMABLE	1.69	902
CA3096CE NPN/PND TRAN	0.99	902
CA3098E PROG SCHMITT TRIGGER	1.59	902
CA3100E BIMOS OP-AMP	1.99	902
CA3102E DUAL, HI-FREQ	4.69	902
CA3130AE BIMOS OP-AMP WITH MOS INPUT AND MOS OUTPUT	1.89	902
CA3130E BIMOS OP-AMP	1.39	902
CA3130S BIMOS OP-AMP WITH MOS INPUT AND MOS INPUT	2.39	902
CA3130T BIMOS OP-AMP	2.29	902
CA3140AE MOS INPUT AND BIPOLAR OUTPUT	1.19	902
CA3140AS MOS INPUT AND BIPOLAR OUTPUT	2.49	902
CA3140AT MOS INPUT AND BIPOLAR OUTPUT	2.39	902
CA3140E MOS INPUT AND BIPOLAR OUTPUT	0.79	902
CA3140S MOS INPUT AND BIPOLAR OUTPUT	2.19	902
CA3140T MOS INPUT AND BIPOLAR OUTPUT	1.99	902
CA3141E HI-VOLT DIODE ARRAY	1.29	902
CA3146E HI-VOLT TRAN. ARRAY	1.39	902
CA3160AE BIMOS OP-AMP WITH MOS INPUT AND MOS OUTPUT	1.99	902
CA3160E BIMOS OP-AMP WITH MOS INPUT AND MOS OUTPUT	1.19	902
CA3161E BCD TO 7 SEGMENT DECODER/DRIVER	1.99	902
CA3162E A/D CONVERTER FOR 3-DIGIT DIGITAL READOUT SYSTEM	7.99	902
CA3189E FM IF SYS	1.69	902
CA3199E 1.3GHZ PRESCAL ER	1.59	902
CA3240AE DUAL BIMOS OP-AMP	2.59	902
CA3240E DUAL BIMOS OP-AMP WITH MOS INPUT AND BIPOLAR OUTPUT	1.69	902
CA3260E DUAL BIMOS OP-AMP WITH MOS INPUT AND MOS OUTPUT	2.19	902
CA3280E DUAL DTA	2.59	902
CA3290E DUAL BIMOS COMPARATOR/MOS INPUT & BIPOLAR OUTPUT	0.99	902
CD74HCT00E QUAD2 INPUT NAND GATE	0.49	902
CD4001AE QUAD 2-INPUT	0.58	902

Type-Description	Price	Mfg. Code
CD4001BE QUAD 2-INPUT NOR GATE	0.41	902
CD4001BF QUAD 2 INPUT NOR GATE	0.85	902
CD4002BE DUAL 4-INPUT NOR GATE	0.41	902
CD4006BE 18 STAGE STATIC SHIFT REGISTER	0.99	902
CD4007AE DUAL PAIR PLUS INVERTER	0.58	902
CD4007UBE DUAL PAIR PLUS INVERTER	0.41	902
CD4009UBE HEX BUFFER CONVERTER	0.79	902
CD4010BE HEX BUFFER CONVERTER	0.79	902
CD4011AE QUAD 2-INPUT NAND GATE	0.69	902
CD4011BE QUAD 2-INPUT NAND GATE	0.41	902
CD4011BF QUAD 2-INPUT NAND GATE	0.99	902
CD4011UBE QUAD 2-INPU NAND GATE	0.49	902
CD4012BE DUAL 4-INPUT NAND GATE	0.41	902
CD4013BE DUAL D F/F	0.41	902
CD4015BE DUAL 4-STAGE STATIC SHIFT REGISTER	0.99	902
CD4016AE QD BILATERAL SWITCH FOR TRANSMISSION OR MULTIPLEXING	1.19	902
CD4016BE QD BILAT SITCH FOR TRANSMISSION OR MULTIPLEXING	0.59	902
CD4017AE DECADE COUNTER/DIVIDER	2.09	902
CD4017BE DECADE CNTR/ DIVIDER	0.99	902
CD4018BE COUNTER	1.09	902
CD4019BE QUAD AND/OR	0.79	902
CD4020BE COUNTER 14 STAGE BINARY RIPPLE	0.99	902
CD4021BE 8 STAGE STATIC SHIFT REGISTER	0.99	902
CD4022BE DIVIDE-BY-8, COUNTER/DIVIDER	0.99	902
CD4023BE TRIPLE 3-INPUT NAND GATE	0.41	902
CD4024BE 7-STAGE BINARY COUNTER	0.69	902
CD4025BE TRIPLE 3/ INPUT NOR GATE	0.41	902
CD4027BE DUAL J-K F/F	0.59	902
CD4028BE BDCD TO DECIM AL DECODER	0.99	902
CD4029BE PRESETTABLE UP/DOWN COUNTER	0.99	902
CD4030BE QUAD EXCLUSIVE OR	1.49	902
CD4040BE 12-STAGE BINARY/RIPPLE COUNTER	0.99	902
CD4043BE QUAD 3-STATE NOR R/S LATCH	0.99	902
CD4047BE MONOSTABLE/SASTABLE MULTIVIBRATOR	1.09	902
CD4049UBE HEX BUFFER/CONVERTER (INVERTING)	0.59	902
CD4050BE HEX BUFFER/CONVERTER (NON-INVERTING)	0.59	902
CD4051BE SINGLE8-CHANNEL MULTIPLEXER	0.99	902
CD4052BE DIFFERENTIAL 4 CHANNEL MUL/DEMUL	0.99	902
CD4053BE TRIPPLE 2 CHANNEL MUL/DEMUL	0.99	902
CD4063BE 4-BIT MAGNITUDE COMPARATOR	2.19	902
CD4066AE QD BILATERAL SWITCH	1.19	902
CD4066BE QUAD BILATERA L SWITCH	0.59	902
CD4068BE CMOS 8 INPUT NAND/AND	0.41	902
CD4069UBE HEX INVERTER	0.49	902
CD4070BE QUAL EXCLUSIVE OR	0.49	902
CD4071BE QUAD 2-INPUT OR GATE	0.49	902
CD4073BE TRIPLE 3-INPUT AND GATE	0.49	902
CD4076BE 4-BIT "D"-TYPE FLIP-FLOPS (3-STATE)	1.09	902
CD4077BE QD EXCLUSIVE-OR GATE	0.49	902
CD4078BE 8-INPUT NOR GATE	0.49	902
CD4081BE QUAD 2-INPUT AND GATE	0.49	902
CD4082BE DUAL 4-INPUT AND GATE	0.49	902
CD4093BE QUAD 2-INPUT NND SCHMITT TRIGGER	0.59	902
CD4094BE 8-STAGE SHIFT AND STORE BUS REGISTER	1.09	902
CD4098BE DUAL MONOSTABLE MULTIVIBRATOR	1.09	902
CD4099BE 8 BIT ADDRESSABLE LATCH	1.09	902
CD40103BE PRESETTABLE 8-BIT BINARY DOWN COUNTER	1.39	902
CD40106BE HEX SCHMITT TRIGGER	0.79	902
CD40107BE DUAL 2-INPUT NAND BUFFER	1.39	902
CD40109BE QD LO-TO-HI LEVEL SHIFTER	1.09	902
CD40116E 8-BIT BIDIRECTIONAL CMOS/TTL INTERFACE	13.99	902
CD40174BE HEX "D" FLIP-FLOP	0.99	902
CD40192BE COUNTER 4 BIT BCD	1.99	902
CD40193BE COUNTER 4 BIT BINARY	2.19	902
CD4503BE HEX BUFFER (3-STATE, NON-INVERTING)	0.79	902
CD4512BE 8-CHANNEL DATA SELECTOR (3-STATE OUTPUT)	0.99	902
CD4516BE 4-BIT BINARY UP/DOWN COUNTER	1.09	902
CD4517BE DUAL 64 STAGE STATIC SHIFT REGISTER	2.09	902
CD4518BE DUAL BCD UP COUNTER	1.09	902
CD4538BE DUAL PRECISION MONOSTABLE MULTIVIBRATOR	1.19	902
CD4724BE 8 BIT ADDRESSABLE LATCH	2.19	902
CDP1852CE 8BIT I/O PO	2.99	902
CFY18-20 GAAS FET	25.99	586
CGY40 GAAS MMIC BROAD BAND AMP CEREC X PKG	19.00	586
CS52-10 HIGH VOLTAGE 10KV 10A AXIAL	0.86	925
CS52-12 HIGH VOLTAGE 12KV 10A AXIAL	1.04	925
CS53-14 HIGH VOLTAGE 14KV 10A AXIAL	1.12	925
CS53-16 HIGH VOLTAGE 16KV 10A AXIAL	1.22	925
CS53-18 HIGH VOLTAGE 18KV 10A AXIAL	1.28	925
CS53-20 HIGH VOLTAGE 20KV 10A AXIAL	1.50	925
CS54-06 HIGH VOLTAGE 6KV 25A AXIAL	0.80	925
CS54-08 HIGH VOLTAGE 8KV 25A AXIAL	0.82	925
CS56-20 HIGH VOLTAGE 20KV 10A AXIAL	1.50	925
CS56-24 HIGH VOLTAGE 24KV 10A AXIAL	1.56	925
CS57-04 HIGH VOLTAGE 4KV 25A AXIAL	0.74	925
DF005 SI BRIDGE 50V 1A DIP	0.42	925

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Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

Type-Description	Price	Mfg. Code
DF005M BRIDGE RECTIFIER 50V 1A	1.66	950
DF01 SI BRIDGE 100V 1A DIP	0.44	925
DF01M BRIDGE RECTIFIER 100V 1A	1.81	950
DF02 SI BRIDGE 200V 1A DIP	0.48	925
DF02M BRIDGE RECTIFIER 200V 1.0A	1.96	950
DF04 SI BRIDGE 400V 1A DIP	0.52	925
DF04M BRIDGE RECTIFITER 400V 1.0A	2.11	950
DF06 SI BRIDGE 600V 1A DIP	0.56	925
DF06M BRIDGE RECTIFIER 600V 1.0A	2.26	950
DF08M BRIDGE RECTIFIER 800V 1.0A	2.41	950
DF10 SI BRIDGE 1000V 1A DIP	0.62	925
DF10M BRIDGE RECTIFIER 1000V 1.0A	2.71	950
DL1414T INTELLIGENT DISPLAY .112" RED	18.00	587
DL2416T INTELLIGENT DISPLAY .160" RED	18.00	587
DL3416 INTELLIGENT DISPLAY .225 RED	41.00	587
DLG1414 INTELLIGENT DISPLAY .150" GREEN	22.80	587
DLG2416 INTELLIGENT DISPLAY .200" GREEN	22.80	587
DLG3416 INTELLIGENT DISPLAY .270" GREEN	32.00	587
DLO1414 INTELLIGENT DISPLAY .150" HER	22.80	587
DLO2416 INTELLIGENT DISPLAY .200" HER	22.80	587
DLO3416 INTELLIGENT DISPLAY .270" HER	32.00	587
DLR1414 INTELLIGENT DISPLAY .150" RED	19.95	587
DLR2416 INTELLIGENT DISPLAY .200" RED	22.80	587
DLR3416 INTELLIGENT DISPLAY .270" RED	28.00	587
DS1000-60 5 TAP SILICON DELAY 60NS	6.15	671
DS1000-75 5 TAP SILICON DELAY 75NS	6.15	671
DS1005-100 5 TAP SILICON DELAY 100NS	8.00	671
DS1005-125 5 TAP SILICON DELAY 125NS	8.00	671
DS1005-250 5 TAP SILICON DELAY 250NS	8.00	671
DS1010-100 10 TAP SILICON DELAY 100NS	14.00	671
DS1010-500 10 TAP SILICON DELAY 500NS	14.00	671
DS1216B SMARTWATCH/ROM 8KX8	20.50	671
DS1216C SMARTWATCH/RAM 32KX8	20.50	671
DS1216E SMARTWATCH/EPROM 32KX8	20.50	671
DS1216EK DS1216E KIT WITH DISK	55.90	671
DS1220Y NONVOLATILE STATIC RAM 16K	10.00	671
DS1225AB-170 NONVOLATILE STATIC RAM 8KX8 170NS	23.85	671
DS1225AD-170 NONVOLATILE STATIC RAM 8KX8 170NS	26.25	671
DS1235ABW-120 256K NONVOLATILE SRAM	53.05	671
DS1235YW-120 256K NONVOLATILE SRAM	53.05	671
DS1255C SOFTWARE AUTHORIZATION COOKBOOK	60.00	671
DS1287 REAL TIME CLOCK PLUS RAM	17.50	671
DS2009-80 MULTI-PORT MEMORY 512X9 80NS	11.50	671
DS2010-80 MULTI-PORT MEMORY 1024X9 80NS	28.95	671
DS5000 8-12 MICROCONTROLLER 8K 12MHZ	79.50	671
DS5000T 32-12 MICROCONTROLLER 32K 12MHZ	125.00	671
DS5000TK DS5000 EVALUATION KIT	214.00	671
DS9000 ADAPTOR	20.00	671
ERA32-01 FAST RECOVERY 100V 1A AXIAL	0.18	925
ERA81-004 SCHOTTKY BARRIER RECTIFIER 45V 1A AXIAL	0.42	925
ERA82-004 SCHOTTKY BARRIER RECTIFIER 40V .6A AXIAL	0.32	925
ERA84-009 SCHOTTKY BARRIER RECTIFIER 90V .6A AXIAL	0.54	925
ERB06-15 FAST RECOVERY 1500V 1A AXIAL	0.44	925
ERB35-02 FAST RECOVERY 200V 1A AXIAL	0.44	925
ERB38-04 FAST RECOVERY 400V .8A AXIAL	0.44	925
ERB43-06 FAST RECOVERY 600V .5A AXIAL	0.40	925
ERB44-02 FAST RECOVERY 200V 1A AXIAL	0.32	925
ERB44-04 FAST RECOVERY 400V 1A AXIAL	0.00	925
ERB44-06 FAST REVOVERY 600V 1A AXIAL	0.36	925
ERB44-08 FAST RECOVERY 800V 1A AXIAL	0.36	925
ERB81-004 SCHOTTKY BARRIER RECTIFIER 45V 2A AXIAL	0.58	925
ERB84-009 SCHOTTKY BARRIER RECTIFIER 90V 2A AXIAL	0.84	925
ERB91-02 FAST RECOVERY 200V 1A AXIAL	0.48	925
ERB93-02 FAST RECOVERY 200V 1.5A AXIAL	0.82	925
ERC06-15 FAST RECOVERY 1500V 1.5A AXIAL	0.62	925
ERC20-06 FAST RECOVERY 600V 5A TO-220AB	1.58	925
ERC30-01 FAST RECOVERY 100V 1.5A AXIAL	0.24	925
ERC38-04 FAST RECOVERY 400V 1A AXIAL	0.82	925
ERC62-004 SCHOTTKY BARRIER RECTIFIER 45V 10A TO220	3.64	925
ERC80-004 SCHOTTKY BARRIER RECTIFIER 45V 5A TO-220	2.14	925
ERC81-004 SCHOTTKY BARRIER RECTIFIER 45V 3A AXIAL	2.14	925
ERC81S-004 SCHOTTKY BARRIER RECTIFIER 45V 5A AXIAL	1.88	925
ERC84-009 SCHOTTKY BARRIER RECTIFIER 90V 3A AXIAL	1.54	925
ERC88-009 SCHOTTKY BARRIER RECTIFIER 90V 5A TO-220	2.68	925
ERC90-02 FAST RECOVERY 200V 5A TO-220AB	1.86	925
ERC90-02B FAST RECOVERY 200V 16A TO-220	1.99	925
ERC91-02 FAST RECOVERY 200V 3A AXIAL	1.14	925
ERD28-04 FAST RECOVERY 400V 1.5A AXIAL	1.08	925
ERD28-06 FAST RECOVERY 600V 1.5A AXIAL	1.12	925
ERD29-02 FAST RECOVERY 200V 2.5A AXIAL	1.02	925
ERD29-04 FAST RECOVERY 400V 2.5A AXIAL	1.12	925
ERD29-06 FAST RECOVERY 600V 2.5A AXIAL	1.02	925

Type-Description	Price	Mfg. Code
ERD32-01 FAST RECOVERY 100V 3A AXIAL	0.78	925
ERD32-02 FAST RECOVERY 200V 3A AXIAL	0.80	925
ERD33-02 FAST RECOVERY 200V 2A AXIAL	1.78	925
ERD38-04 FAST RECOVRY 400V 1.5A AXIAL	0.82	925
ERD38-05 FAST RECOVERY 500V 1.5A AXIAL	0.82	925
ERD38-06 FAST RECOVERY 600V 1.5A AXIAL	0.88	925
ERD80-004 SCHOTTKY BARRIER RECTIFIER 45V 15A TO3P	4.58	925
ESAB82-004 SCHOTTKY DUAL 45V 5A TO-220	2.58	925
ESAB82M-004 SCHOTTKY DUAL 45V 5A F-PACK	1.60	925
ESAB85-009 SCHOTTKY DUAL 90V 5A TO-220	3.22	925
ESAB92-02C FAST RECOVERY 200V 5A TO-220AB	1.76	925
ESAC25-04C FAST RECOVERY DUAL 400V 10A TO-220AB	2.16	925
ESAC25-04N FAST RECOVERY DUAL 400V 10A TO-220AB	2.16	925
ESAC25M-02C FAST RECOVERY DUAL 200V 10A TO-220F	1.76	925
ESAC25M-02N FAST RECOVERY 200V 10A TO-220F	1.76	925
ESAC25M-04C FAST RECOVERY 400V 10A TO-220F	1.76	925
ESAC25M-04N FAST RECOVERY 400V 10A TO-220F	1.76	925
ESAC31-01C FAST RECOVERY DUAL 100V 10A TO-220AB	1.92	925
ESAC31-01N FAST RECOVERY DUAL 100V 10A TO-220AB	1.92	925
ESAC31-02C FAST RECOVERY DUAL 200V 10A TO-220AB	1.92	925
ESAC33-02C FAST RECOVERY DUAL 200V 8A TO-220AB	1.92	925
ESAC33-02CS FAST RECOVERY DUAL 200V 10A TO-220AB	3.06	925
ESAC33-02N FAST RECOVERY DUAL 200V 8A TO-220AB	1.92	925
ESAC33M-02C FAST RECOVERY 200V 8A TO-220F	1.84	925
ESAC33M-02N FAST RECOVERY 200V 8A TO-220F	1.84	925
ESAC34M-02C FAST RECOVERY 200V 10A TO-220F	2.48	925
ESAC63-004 SCHOTTKY DUAL 45V 20A TO-220	5.48	925
ESAC82-004K SCHOTTKY DUAL 45V 15A TO-220	3.00	925
ESAC82M-004 SCHOTTKY DUAL 45V 10A F-PACK	2.14	925
ESAC83-004 SCHOTTKY DUAL 45V 20A TO-3P	6.76	925
ESAC85-009 SCHOTTKY DUAL 90V 10A F-PACK	4.30	925
ESAC87-009 SCHOTTKY DUAL 90V 16A TO-3P	7.50	925
ESAC92-02B FAST RECOVERY 200V 10A TO-220AB	2.99	925
ESAC92-02C FAST RECOVERY DUAL 200V 10A TO-220AB	2.86	925
ESAD25-02C FAST RECOVERY 200V 15A TO-3P	3.44	925
ESAD25-02N FAST RECOVERY 200V 15A TO-3P	3.44	925
ESAD25-04C FAST RECOVERY 400V 15A TO-3P	4.46	925
ESAD25-04N FAST RECOVERY 400V 15A TO-3P	4.46	925
ESAD33-02C FAST RECOVERY 200V 15A TO-3P	4.48	925
ESAD33-02CS FAST RECOVERY 200V 20A TO-3P	3.74	925
ESAD33-02N FAST RECOVERY 200V 15A TO-3P	4.46	925
ESAD75-01 FAST RECOVERY 100V 16A TO-3	16.04	925
ESAD75-02 FAST RECOVERY 200V 16A TO-3	16.20	925
ESAD83-004K SCHOTTKY DUAL 45V 30A TO-3P	5.80	925
ESAD85-009 SCHOTTKY DUAL 90V 25A TO-3P	9.98	925
ESAD92-02B FAST RECOVERY 200V 16A TO-3P	3.99	925
ESAE83-004 SCHOTTKY DUAL 45V 60A TO-3P	9.06	925
ESJC01-09 HIGH VOLTAGE DIODE 9KV 350MA AXIAL	2.54	925
ESJC01-12B HIGH VOLTAGE DIODE 12KV 350MA AXIAL	1.86	925
ESJC03-09 HIGH VOLTAGE DIODE 9KV 280MA AXIAL	2.26	925
ESJC04-05 HIGH VOLTAGE DIODE 5KV 420MA AXIAL	2.70	925
ESJC30-08 HIGH VOLTAGE DIODE 8KV 300MA AXIAL	1.98	925
H11A1 OPTOCOUPLER	0.50	587
H11A1 OPTOISOLATOR 6-PIN DIP	0.39	858
H11A2 OPTO 6-PIN DIP	0.99	858
H11A2 OPTOCOUPLER	0.55	587
H11A3 OPTOCOUPLER	0.50	587
H11A4 OPTOCOUPLER	0.50	587
H11A5 OPTOCOUPLER	0.50	587
H11AA1 OPTISOLATOR 6-PIN DIP	0.87	858
H11AA1 OPTOCOUPLER	1.01	587
H11B1 OPTOCOUPLER	0.87	587
H11B1 OPTOISOLTOR 6-PIN DIP	0.68	858
H11B2 OPTOCOUPLER	0.84	587
H11B255 OPTO DARLING COUPLER	1.36	858
H11B3 OPTOCOUPLER	0.84	587
H11C2 OPTOISATOR 6-PIN DIP	0.94	858
H11C3 OPTOISOLATOR 6-PIN DIP	1.02	858
H11D1 OPTOISOLATOR 6-PIN DIP	0.71	858
H11G2 OPTOISOLATOR 6-PIN DIP	0.77	858
H11L1 OPTOISOLATOR 6-PIN DIP	1.96	858
H21A1 OPTO SLOT SWITCH PLASTIC	1.45	858
HCPL2630 DUAL CHANNEL OPTO COUPLER/ISOLATOR	7.77	735
ILCT6 OPTOCOUPLER	1.75	587
ILQ2 OPTOCOUPLER	1.82	587
ILQ74 OPTOCOUPLER	3.75	587
KBL005 BRIDGE RECTIFIER 50V 4.0A	4.41	950
KBL01 BRIDGE RECTIFIER 100V 4.0A	4.84	950
KBL01 SI BRIDGE 100V 4A INLINE	1.08	925
KBL02 BRIDGE RECTIFIER 400V 4.0A	5.40	950
KBL04 BRIDGE RECTIFIER 400V 4.0A	5.97	950
KBL04 SI BRIDGE 400V 4A INLINE	1.16	925

Type-Description	Price	Mfg. Code
KBL06 BRIDGE RECTIFIER 600V 4.0A	6.54	950
KBL08 BRIDGE RECTIFIER 800V 4.0A	7.68	950
KBL08 SI BRIDGE 800V 4A INLINE	1.28	925
KBL10 BRIDGE RECTIFIER 1000V 4.0A	9.81	950
KBP01 SI BRIDGE 100V 1.5A INLINE	0.44	925
KBP04 SI BRIDGE 400V 1.5A INLINE	0.46	925
KBPC10-005 BRIDGE RECTIFER 50V 10A	11.56	950
KBPC10-01 BRIDGE RECTIFIER 100V 10A	12.16	950
KBPC10-02 BRIDGE RECTIFIER 200V 10A	12.77	950
KBPC10-04 BRIDGE RECTIFIER 400V 10A	13.38	950
KBPC10-06 BRIDGE RECTIFIER 600V 10A	14.60	950
KBPC10-08 BRIDGE RECTIFIER 800V 10A	16.42	950
KBPC10-10 BRIDGE RECTIFIER 1000V 10A	20.68	950
KBPC101 BRIDGE RECTIFIER 100V 3.0A	4.32	950
KBPC101 SI BRIDGE 100V 3A SQUARE	0.84	925
KBPC102 BRIDGE RECTIFIER 200V 3.0A	4.55	950
KBPC102 SI BRIDGE 200V 3A SQUARE	0.96	925
KBPC104 BRIDGE RECTIFIER 400V 3.0A	5.00	950
KBPC104 SI BRIDGE 400V 3A SQUARE	0.96	925
KBPC106 BRIDGE RECTIFIER 600V 3.0A	5.55	950
KBPC106 SI BRIDGE 600V 3A SQUARE	1.16	925
KBPC108 BRIDGE RECTIFIER 800V 3.0A	6.33	950
KBPC110 BRIDGE RECTIFIER 1000V 3.0A	7.33	950
KBPC110 SI BRIDGE 1000V 3A SQUARE	1.34	925
KBPC1001P SI BRIDGE 100V 10A SQUARE	1.86	925
KBPC1002P SI BRIDGE 200V 10A SQUARE	1.92	925
KBPC1004P SI BRIDGE 400V 10A SQUARE	1.98	925
KBPC1005 BRIDGE RECTIFIER 50V 3.0A	4.00	950
KBPC1005 SI BRIDGE 50V 3A SQUARE	0.80	925
KBPC1006P SI BRIDGE 600V 10A SQUARE	2.18	925
KBPC1008P SI BRIDGE 800V 10A SQUARE	2.28	925
KBPC1010P SI BRIDGE 1000V 10A SQUARE	2.40	925
KBPC2501 SI BRIDGE 100V 25A SQUARE	2.84	925
KBPC2502 SI BRIDGE 200V 25A SQUARE	2.88	925
KBPC2504 SI BRIDGE 400V 25A SQUARE	3.00	925
KBPC2506 SI BRIDGE 600V 25A SQUARE	3.10	925
KBPC2508 SI BRIDGE 800V 25A SQUARE	3.99	925
KBPC3501 SI BRIDGE 100V 35A SQUARE	3.04	925
KBPC3502 SI BRIDGE 200V 35A SQUARE	3.20	925
KBPC3504 SI BRIDGE 400V 35A SQUARE	3.36	925
KBPC3506 SI BRIDGE 600V 35A SQUARE	3.52	925
KBPC3508 SI BRIDGE 800V 35A SQUARE	3.78	925
KBPC3510 SI BRIDGE 1000V 35A SQUARE	4.00	925
KBPC601 BRIDGE RECTIFIER 100V 6.0A	7.39	950
KBPC601 SI BRIDGE 100V 6A SQUARE	1.16	925
KBPC602 BRIDGE RECTIFIER 200V 6.0A	7.88	950
KBPC602 SI BRIDGE 200V 6A SQUARE	1.16	925
KBPC604 BRIDGE RECTIFIER 400V 6.0A	8.87	950
KBPC604 SI BRIDGE 400V 6A SQUARE	1.20	925
KBPC606 BRIDGE RECTIFIER 600V 6.0A	9.85	950
KBPC606 SI BRIDGE 600V 6A SQUARE	1.24	925
KBPC608 BRIDGE RECTIFIER 800V 6.0A	12.32	950
KBPC610 BRIDGE RECTIFIER 1000V 6.0A	13.96	950
KBPC610 SI BRIDGE 1000V 6A SQUARE	1.40	925
KBPC801 BRIDGE RECTIFIER 100V 8.0A	7.69	950
KBPC802 BRIDGE RECTIFIER 200V 8.0A	8.39	950
KBPC804 BRIDGE RECTIFIER 400V 8.0A	8.95	950
KBPC806 BRIDGE RECTIFIER 600V 8.0A	10.21	950
KBPC808 BRIDGE RECTIFIER 800V 8.0A	11.89	950
KBPC810 BRIDGE RECTIFIER 1000V 8.0A	13.29	950
KBPC6005 BRIDGE RECTIFIER 50V 6.0A	6.90	950
KBPC6005 SI BRIDGE 50V 6A SQUARE	1.12	925
KBPC8005 BRIDGE RECTIFIER 50V 8.0A	7.13	950
KBPC35005 SI BRIDGE 50V 35A SQUARE	2.98	925
KBU801 SI BRIDGE 100V 8A INLINE	1.58	925
KBU802 SI BRIDGE 200V 8A INLINE	1.66	925
KBU804 SI BRIDGE 400V 8A INLINE	1.74	925
KBU806 SI BRIDGE 600V 8A INLINE	1.82	925
KBU808 SI BRIDGE 800V 8A INLINE	1.90	925
KBU810 SI BRIDGE 1000V 8A INLINE	2.16	925
KBU8005 SI BRIDGE 50V 8A INLINE	1.50	925
KPY10 ABSOLUTE PRESS SENSOR	21.30	586
KSY10 SENSOR	2.42	586
KSY13 POSITION SENSOR	2.13	586
KTY10 TEMP. SENSOR	0.64	586
LF347N LIN QUAD BIFET OP AMP	0.88	858
LF356H LIN JFET OP AMP	1.84	858
LM101AH LIN EXT COMP OP AMP	2.46	858
LM117LH LIN LOW CUR/ADJ POS REG	2.90	858
LM124JB QUAD OP AMP	3.20	735
LM139J QUAD COMPARATOR	1.92	735
LM158H LIN DUAL LOW POW OP AMP	3.54	858
LM158J LIN DUAL LOW POW OP AMP	3.43	858
LM193JG DUAL COMPARATOR	3.52	735
LM201AH LIN EXT COMP OP AMP	2.04	858
LM201AN LIN EXT COMP OP AMP	0.75	858
LM224J LIN QUAD DIFF INPT OP AMP	2.10	858
LM224N LIN QUAD DIFF INPT OP AMP	1.67	858
LM239N LIN QUAD SNGL SPLY COMP	1.31	858
LM258N LIN DUAL LOW POW OP AMP	1.48	858
LM258P DUAL OP AMP	1.18	735
LM301AH LIN EXT COMP OR AMP	1.61	858
LM301AN LIN EXT COMP OP AMP	1.07	858
LM301AN SNGL OP-AMP	0.69	902
LM306P DUAL COMPARATOR	0.78	735

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Type-Description	Price	Mfg. Code
LM307N LIN EXT COMP OP AMP	0.60	858
LM307P HIGH PERFORMANCE OP AMP	0.44	735
LM308AH LIN SUPER GAIN OP AMP	2.68	858
LM308AN LIN SUPER GAIN OP AMP	0.92	858
LM308N LIN SUPER GAIN OP AMP	0.72	858
LM309H LIN POS 5V REG	3.01	858
LM309K LIN POS 5V REG	2.05	858
LM311H LIN HI PERF VOLT COMP	1.50	858
LM311N LIN HI PERF VOLT COMP	0.42	858
LM311N VOLTG COPM	0.59	902
LM317K LIN ADJ POS VOLT REG	2.69	858
LM317LH LIN LOW CURR ADJ POS REG	1.46	858
LM317T LIN ADJ POS VOLT REG	0.80	858
LM318P HIGH SPEED OP AMP	1.11	735
LM324J LIN QUAD LOW POWER OP AMP	1.39	858
LM324N LIN QUAD LOW PWER OP AMP	0.46	858
LM324N QUAD OP AMP	0.31	735
LM337KC NEGATIVE ADJ VOL REF	1.11	735
LM337T LIN ADJ NEG VOLT REG	1.26	858
LM339AN LIN QUAD SNGL SPLY COMP	1.03	858
LM339D QUAD COMPARATOR SOIC	0.60	735
LM339N HIGH PERFORMANCE QUAD COMPARATOR	0.31	735
LM339N LIN QUAD SNGL SPLY COMP	0.42	858
LM339N QUAD VOLT COMP	0.59	902
LM340K-5.0 LIN 3-TERM POS 5V REG	3.65	858
LM340K-12 LIN 3-TERM POS 12V REG	3.65	858
LM348N HIGH GAIN QUAD OP AMP	0.56	735
LM350K LIN ADJ POS VOLT REG	5.16	858
LM350T LIN ADJ POS VOLT REG	3.96	858
LM358H LIN DUAL LOW POW OP AMP	1.35	858
LM358N DUAL OP AMP	0.59	902
LM358N LIN DUAL LOW POW OP AMP	0.40	858
LM358P DUAL OP AMP	0.31	735
LM393N LIN LO PWR DL COMPARATOR	0.40	858
LM393P DUAL COMPARATOR	0.31	735
LM555CN TIMER	0.79	902
LM723CH LIN VOLT REG REG (MC1723CG)	1.18	858
LM723CN ADJ 2-37V REGULATOR	0.69	902
LM723CN LIN VOLT REG (MC1741CP1)	0.54	858
LM741CH LIN OP AMP (MC1741CG)	0.96	858
LM741CH SNGL OP AMP	1.99	902
LM741CJ LIN OP AMP (MC1741CU)	0.94	858
LM741CN LIN OP AMP (MC1741CP1)	0.54	858
LM2901N LIN QUAD SNGL SPLY COMP	0.54	858
LM2902N HIGH GAIN QUAD OP AMP	0.78	735
LM2902N LIN QUAD LOW POW OP AMP	0.72	858
LM2904P DUAL VOLTAGE COMPARATOR	0.78	735
LM3900N LIN QUAD SNGL SPLY OP AMP	0.84	858
LM3900N QUAD OP AMP	0.44	735
MBD101 SS HOT CARRIER DIODE T092	0.36	858
MBD201 SS HOT CARRIER DIODE T092	0.40	858
MBR1045 REC 10A 45V SCHOTT TO220	1.80	858
MBR1635 REC 16A 35V SCHOTT TO220	1.80	858
MBR3545 REC 35A 45V SCHOTT D04	4.38	858
MBR7545 REC 75A 45V SCHOTT D05	7.55	858
MBS4991 PL BIDIRECT SWITCH	0.25	858
MC10H116P MECL TRIPLE LINE RECEIVER	1.14	858
MC10H131P MECL DUAL TYPE "D" MSFF	2.24	858
MC68B00P 8-BIT MPU, 2.0 MHZ	6.46	858
MC68B09P 8-BIT MPU W/ CLOCK, 2 MHZ	8.36	858
MC68B21P PIA PLASTIC, 2.0 MHZ	3.36	858
MC68B40P PTM PLASTIC, 2.0 MHZ	5.94	858
MC68B44P DMAC PLASTIC 2.0 MHZ	22.93	858
MC68B50P ACIA PLASTIC 2.0 MHZ	3.36	858
MC68B54P ADLC,PLASTIC 2.0 MHZ	8.45	858
MC74F00N FAST QD 21/P NAND GATE	0.20	858
MC74F02N FAST QD 21/P NOR GATE	0.20	858
MC74F04N FAST HEX INVERTER	0.20	858
MC74F08N FAST QD 2 I/P AND GATE	0.20	858
MC74F10N FAST 3I/P NAND GATE	0.20	858
MC74F11N FAST TRPL 3I/P AND GATE	0.20	858
MC74F14N FAST HEX INVERTER SCHMITT TRIGGER	0.41	858
MC74F20N FAST DUAL 4 INPUT NAND GATE	0.20	858
MC74F32N FAST QUAD 2 INPUT OR GATE	0.20	858
MC74F38N FAST QUAD 2 INPUT NAND BUFFER	0.39	858
MC74F64N FAST 4-2-3-2 INPUT AND/OR/INVERT GATE	0.25	858
MC74F74N FAST DUAL POS EDGE TRIGGER FLIP-FLOP	0.23	858
MC74F85N 4 BIT MAGNITUDE COMPARATOR	1.94	858
MC74F109N FAST DL JK POS EDG-TRG FF	0.45	858
MC74F112N FAST DL J-K NEG EDGE F F	0.52	858
MC74F138N FAST 1 OF 8 DECODER/DEMULTIPLEXER	0.45	858
MC74F139N FAST DUAL 1 OF 4 DECODER	0.54	858
MC74F148N FAST 8 LINE TO 3 LINE PRIORITY ENCODER	0.82	858
MC74F151N FAST 8 INPUT MULTIPLEXER	0.54	858
MC74F153N FAST DUAL 4 INPUT MULTIPLEXER	0.45	858
MC74F157N FAST QUAD 2 INPUT MULTIPLEXER	0.45	858
MC74F158N FAST QUAD 2 INPUT MULTIPLEXER	0.45	858
MC74F161AN FAST SYNC PRESET BINARY COUNTER	0.64	858
MC74F163AN FAST SYNC PRESET BINARY COUNTER	0.64	858
MC74F169N FAST UP/DOWN BINARY COUNTER	2.52	858
MC74F174N FAST HEX D FLIP-FLOP W/MASTER RESET	0.76	858
MC74F175N FAST QUAD D FLIP-FLOP	0.50	858
MC74F182N FAST LOOK AHEAD CARRY GENERATOR	1.44	858
MC74F194N UNIVERSAL SHIFT REGISTER	1.54	858
MC74F195N 4 BIT SHIFT REGISTER	1.90	858
MC74F240N FAST OCTAL BUFFER/LINE DRIVER	0.62	858
MC74F241N FAST OCTAL BUFFER/LINE DRIVER	0.62	858
MC74F244N FAST OCTAL BUFFER/LINE DRIVER	0.62	858
MC74F251N FAST 8 INPUT MULTIPLEXER	0.60	858
MC74F253N FAST DUAL 4 INPUT MULTIPLEXER/3 STATE	0.48	858
MC74F257AN FAST QUAD 3 INPUT MULTIPLEXER	0.48	858
MC74F257N FAST QUAD 3 INPUT MULTIPLEXER	0.48	858
MC74F258N FAST QUAD 2 INPUT MULTIPLEXER	0.48	858
MC74F259N FAST 8 BIT ADDRESSABLE LATCH	2.44	858
MC74F273N FAST OCTAL DUAL FLIP-FLOP	0.62	858
MC74F280N FAST 9 BIT PARITY GENERATOR/ CHECKER	0.45	858
MC74F283N FAST 4 BIT FULL ADDER	0.90	858
MC74F367N FAST HEX BUFFER	1.08	858
MC74F373N FAST OCTAL TRASPARENT LATCH/3 STATE	0.62	858
MC74F374N FAST OCTAL D TYPE FLIP-FLOP	0.62	858
MC74F377N FAST OCTAL D FLIP-FLOP W/CLOCK ENABLE	1.80	858
MC74F378N FAST PARALLEL D REGISTER W/ ENABLE	1.00	858
MC74F379N FAST QUAD PARALLEL REGISTER W/ ENABLE	1.00	858
MC74F381N FAST 4 BIT ARITHMETIC LOGIC UNIT	3.16	858
MC74F399N FAST QUAD 2 PORT REGISTER	1.26	858
MC74F521N FAST OCTAL COMPARATOR	0.90	858
MC74F533N FAST OCTAL TRANSPARENT LATCH/3 STATE	1.22	858
MC74F534N FAST OCTAL D TYPE FLIP-FLOP	1.22	858
MC74F569N FAST UP/DOWN BINARY COUNTER/3 STATE	3.40	858
MC74HC00AN GATE NAND GATE 2-I	0.20	858
MC74HC02AN QUAD 2 INPUT NOR GATE	0.20	858
MC74HC03N HSL QUAD 2-NAND,O.D.	0.20	858
MC74HC04AN HSL HEX INVERTER	0.20	858
MC74HC08AN QUAD 2 INPUT AND GATE	0.20	858
MC74HC10N HSL TRIPLE 3-1 NAND GATE	0.20	858
MC74HC11N HSL TRIPLE 3-1 AND GATE	0.20	858
MC74HC14AN HEX SCHMITT INVERTER	0.25	858
MC74HC20N HSL DUAL 4-NAND GATE	0.20	858
MC74HC27N HSL TRIPLE 3-1 NOR GATE	0.20	858
MC74HC32AN QUAD 2 INPUT OR GATE	0.20	858
MC74HC42N HSL 10F10 DECODER	0.48	858
MC74HC51N HSL OA1 GAT	0.20	858
MC74HC73N HSL DUAL JK F/F W/RESET	0.27	858
MC74HC74AN DUAL D FLIP-FLOP W/ SET AND RESET	0.27	858
MC74HC75N HSL DUAL 2- BIT TRANS. LATCH	0.27	858
MC74HC85N HSL 4-BIT MAG COMPARATOR	0.64	858
MC74HC86N HSL QUAD 2-EX-OR GATE	0.30	858
MC74HC107N HSL DUAL J-F/F W/RESET	0.30	858
MC74HC112N HSL DUAL J-F/F W/RESET	0.30	858
MC74HC132AN QUAD 2 INPUT SCHMITT TRIGGERED NAND GATE	0.60	858
MC74HC138AN DECODER/DEMULTIPLX 10F8	0.36	858
MC74HC139AN DUAL 1 OF 4 DECODER/DEMULTIPLEXER	0.36	858
MC74HC151N HSL 8-1 DATA SELECT/MULTIPLEXER	0.36	858
MC74HC154N HSL 1-16 DECODER/DEMULTIPLEXER	1.54	858
MC74HC157AN QUAD 2 INPUT NON-INVERTING DATA SEL/MUX	0.36	858
MC74HC160N HSL BCD COUNTER	0.45	858
MC74HC161N HSL 4-BIT BINARY COUNTER	0.45	858
MC74HC164N HSL 8-BIT SERIAL TO PARALLEL SHIFT REGIS	0.45	858
MC74HC174AN HEX D TYPE FLIP-FLOP W/ CLOCK AND RESET	0.36	858
MC74HC175N HSL SSQUAD "D" TYPE FLIP-FLOP	0.36	858
MC74HC240AN HSL OCTAL 3-ST DRVR	0.50	858
MC74HC244AN HSL OCTAL 3-ST DRVR	0.48	858
MC74HC244AN OCTAL 3 STATE NON-INV BUF/LINE DRV/REC	0.48	858
MC74HC245AN HSL OCTAL 3-ST BUS TRANSC	0.54	858
MC74HC259N HSL 8-BIT LATCH/DECODER	0.72	858
MC74HC273N HSL OCTAL "D" TYPE F/F CLOCK W/RESET	0.54	858
MC74HC368N HSL HEX 3-STATE BUFFER	0.52	858
MC74HC373N HSL OCTAL D-TYPE TRANS. LATCH	0.50	858
MC74HC374N HSL OCTAL 3 STAGE DUAL FLIP-FLOP	0.50	858
MC74HC390N HSL DUAL BIN RIPPLE CONTROLLER	0.64	858
MC74HC646N HSL OCTAL 3-STATE NONINVERTING TRANS.	3.60	858
MC74HC4040N HSL 12-ST BIN RIPPLE COUNTER	0.72	858
MC74HC4049N HSL HEX LOGIC LEVEL CONVERTER	0.58	858
MC74HC4051N HSL 8-CH. ANALOG MULTIPLEXER/DEMULTIPLEX	0.90	858
MC74HC4053N HSL TRIPL 2-CH. ANALOG MULTIPLEXER/DEMUL	0.90	858
MC74HC4060N HSL 14-ST BINARY COUNTER/OSCILLATOR	0.90	858
MC74HC4075N HSL TRIPL 3-1 OR GATE	0.28	858
MC74HC4078N HSL 8-1 NOR/OR GATE	0.28	858
MC74HC4511N HSL BCD T 7 DECODER/DRIVER	0.90	858
MC74HC4514N HSL 10F16 DECODER/ DEMULTIPLEXER	2.60	858
MC74HC4538N HSL DUAL MULTIVIBRATOR	1.00	858
MC74HCT04AN HEX INVERTER W/LSTTL COMPATABLE INPUTS	0.20	858
MC74HCT74AN DUAL D FLIP-FLOP W/ SET AND RESET	0.27	858
MC74HCT138AN 1 OF 8 DECODER/DEMULTIPLEXER	0.36	858
MC74HCT157AN QUAD 2 INPUT NONINVERTING DATA SEL/MUX	0.36	858
MC74HCT174AN HEX D FLIP-FLOP W/ CLOCK AND RESET	0.36	858
MC74HCT240AN OCTAL 3 STATE INVERTING BUF/LINE DRV/REC	0.50	858
MC74HCT245AN OCTAL 3 STATE NON-INV BUS TRANSCEIVER	0.54	858
MC74HCT373AN OCTAL 3 STATE NON-INV TRANSPARENT LATCH	0.50	858
MC74HCT374AN OCTAL 3 STATE NIN-INV D FF W/LSTTL INPUT	0.50	858
MC74HCT533AN OCTAL 3 STATE INV TRANSPARENT LATCH	0.82	858
MC74HCT534AN OCTAL 3 STATE D FLIP FLOP	1.08	858
MC74HCT541N OCTAL 3 STATE NON-INV BUF/LINE DRV/REC	0.82	858
MC74HCT574AN OCTAL 3 STATE NON-INV D FLIP-FLOP	0.82	858
MC74HCT640AN OCTAL 3 STATE INV BUS TRANSCEIVER	1.08	858
MC78L05ACP LIN LOW CURR POS 5V REG	0.41	858
MC78L05CP LIN LOW CURR POS 8V REG	0.36	858
MC78L08ACP LIN LOW CURR POS 8V REG	0.41	858
MC78L08CP LIN LOW CURR POS 8V REG	0.36	858
MC78L12ACP LIN LOW CURR POS 12V REG	0.41	858
MC78L12CP LIN LOW CURR POS 12V REG	0.36	858
MC78L15CP LIN LOW CURR POS 15V REG	0.36	858
MC78M05CG LIN MED CURR POS 5V REG	1.72	858
MC78M05CT LIN MED CURR POS 5V REG	0.49	858
MC78M06CT LIN MED CURR POS 6V REG	0.49	858
MC78M15CT LIN MED CURR POS 15V REG	0.49	858
MC79L05ACP LIN LOW CURR NEG 5V REG	0.43	858
MC79L05CP LIN LOW CURR NEG 5V REG	0.40	858
MC79L12CP LIN LOW CURR NEG 12V REG	0.40	858
MC660P EXPANABLE DUAL 4 IN-PUT HAND GATE	3.22	858
MC663P DUAL J-K FLIP-FLOP	5.44	858
MC667P DUAL MONO-MULT IVIBRATOR	5.44	858
MC668L HTL QD 21/P NAND GATE	4.58	858
MC668P HTL QD 21/P NAND GATE	3.22	858
MC672P HTL QD 21/P NAND GATE	3.22	858
MC679P HTL DL LAMP/LINE DRVR	5.44	858
MC680L HTL HEX INVERTER	4.86	858
MC680P HTL HEX INVERTER	3.48	858
MC681P HEX INVERTER O/C	3.48	858
MC689P HEX INVERTER	3.48	858
MC830P EXPANDABLE DUA 4 IN-PUT NAND GATE	2.02	858
MC833P 4 INPUT EXPANDER	2.02	858
MC836P DTL HEX INTVERTER	2.28	858
MC837P HEX INVERTER	2.28	858
MC845P EXPANDABLE DUA 4 IN-PUT POWER GATE	2.84	858
MC846P DTL QUAD INVERTER	2.02	858
MC853P DUAL J-K FLIP-FLOP	3.28	858
MC857P DTL QD 2 I/P BUFFER	2.28	858
MC858P QUAD 2 INPUT NAND POWER GATE	2.28	858
MC862P DTL TPRL 3I/P NAND GATE	2.02	858
MC1350P LIN IF AMP	0.90	858
MC1374P LIN TV MODULATOR CIRCUIT	1.46	858
MC1377P LINEAR RGB TO PAL/NTSC ENCODER	2.57	858
MC1378P LINEAR COLOR	14.43	858
MC1391P LINEAR TV HORIZONTAL PROCESSOR	0.63	858
MC1403U LIN PREC LOW VOLT REFRNCE	2.09	858
MC1404U5 LIN PREC LOW DRFT VLT REF	2.73	858
MC1408P8 LIN 8-BIT MULT D-A CNVRTR	1.23	858
MC1411P LINEAR PERIPH EARL DRIVER ARRAY	0.65	858
MC1412P LINEAR PERIPH EARL DRIVER ARRAY	0.65	858
MC1413P LIN PERIPHERAL DRVR ARRAY	0.65	858
MC1437P LIN DUAL MC1709 OP AMP	0.95	858
MC1455P1 LIN TIMING CIRCUIT (555)	0.52	858
MC1458CP1 LIN (DUAL MC1741) OP AMP	0.59	858
MC1458G LIN (DUAL MC1741) OP AMP	1.61	858
MC1458P G/P DUAL OP AMP	0.36	735
MC1458P1 LIN (DUAL MC1741) OP AMP	0.44	858
MC1458SP1 LIN HI SLW RT/INT COMP OA	1.07	858
MC1466L LIN PREC VOLT & CURR REG	10.08	858
MC1468L LIN DUAL ± 15V TRCKG REG	5.33	858
MC1488L LIN QUAD 232D LINE DRVR	1.14	858
MC1488P LIN QUAD 232D LINE DRVR	0.45	858
MC1489AN RS-232 QUAD LINE RECEIVER	0.31	735
MC1489AP LIN QUAD 232D LINE RCVR	0.42	858
MC1489L LIN QUAD 232D LINE RCVR	1.14	858
MC1489P LIN QUAD 232D LINE DRVR	0.43	858
MC1496G LIN BAL MODULTR/DEMODULTR	1.48	858
MC1496P LIN BAL MODULTR/DEMODULTR	1.16	858
MC1558G LIN (DUAL MC1741) OP AMP	1.91	858

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Type-Description	Price	Mfg. Code
MC1558U LIN (DUAL MC1741) OP AMP	1.56	858
MC1568L LIN DUAL ± 15 TRCKG REG	6.08	858
MC1590G IF AMP	3.98	858
MC1594L LIN 4-QUADRNT MULTPLR	9.12	858
MC1595L LIN WDBAND 4-QUADRNT MULT	7.61	858
MC1648P MCEL VLTGE-CNTRLLD OSCIL	3.80	858
MC1723CL LIN (723) VOLT REG	0.97	858
MC1723CP LIN (723) VOLT REG	0.54	858
MC1723G LIN (723) VOLT REG	2.11	858
MC1733CP LIN DIFF VIDEO WDBAND AMP	0.77	858
MC1741CP1 LIN INT COMP/HI PERF O.A.	0.65	858
MC1741U LIN INT COMP/HI PERF O.A.	1.35	858
MC1747CP2 LIN (DUAL MC1741) OP AMP	1.04	858
MC2681P DUART, PLASTI PACKAGE	5.40	858
MC3242AP LIN 16K DYNAMIC RAM COUNT	7.87	858
MC3301P QUAD 2 INPUT NAND GATE	0.88	858
MC3302P LIN QUAD SNGL SPLY COMP	0.57	858
MC3303P QUAD OP AMP	0.76	858
MC3340P LIN ELECTRONICS ATTENUATOR	1.50	858
MC3346P LIN GEN PUR XISTOR ARRAY	1.46	858
MC3356P LIN WIDEBAND FSK RECIEVER	2.90	858
MC3357P LIN LO PWR NARWBAND FM IF	2.58	858
MC3359P HIGH GAIN, LO POWER FM IF	1.66	858
MC3373P LIN RRMTE CONTROL AMP-DET	1.08	858
MC3401P LIN QUAD SNGL SPLY OP AMP	0.86	858
MC3403N LOW POWER QUAD OP AMP	0.56	735
MC3403P LIN QUAD DIFF INPT OP AMP	0.46	858
MC3417L LIN CVSD/MODUL/DEMODUL	10.62	858
MC3423P1 LIN OVERVOLTAGE SENSG CKT	1.06	858
MC3447P LIN BIRDIR GPIB BUS XCVR	4.73	858
MC3453P LIN QUAD TTL COMP LN RCVR	1.57	858
MC3456P LIN DUAL TIMING CIRCUT	0.76	858
MC3470P LIN FLPY DSK READ AMP SYS	2.57	858
MC3486L LIN QUAD EIA-422/423 RCVR	2.57	858
MC3486N RS-422/423 QUAD LINE RECEIVER	0.89	735
MC3486P LIN QUAD EIA-422/423 RCVR	1.10	858
MC3487N3 RS-422 QUAD LINE DRIVER PEP3	1.60	735
MC3487P LIN QUAD EIA-422 LNE DRVR	1.10	858
MC4018P PROGRAMMABLE MODULE-N HEX COUNTER	7.90	858
MC4024P TTL DL V-CNTRLD MLTVBRTR	4.48	858
MC4044P TTL PHASE-FREQ DETECTOR	4.48	858
MC4558CP1 LIN DUAL WD BANDWDTH O.A.	0.46	858
MC4741CP LIN (QUAD MC1741) OP AMP	0.43	858
MC6172P 2400BPX MODULATOR	16.25	858
MC6800CP 8-BIT MPU PLASTIC EXTENDED TEMP.	7.93	858
MC6800P 8 BIT MPU PLASTIC	5.60	858
MC6802P 8 BIT MPU W/CLK/RAM PLAS	2.50	858
MC6803CP 8BIT MPU, EXTENDED TEMPERATURE	6.03	858
MC6809EP 8 BIT MPU W/EXTERNAL CLCK	3.36	858
MC6809P 8 BIT MPU W/CLOCK	3.36	858
MC6821CP PIA PLASTIC EXT TEMP	2.03	858
MC6821P PIA PLASTIC	1.36	858
MC6840P PTM PLASTIC	2.15	858
MC6845P CRT CONT PLASTIC	4.43	858
MC6850CP ACIA PLASTIC EXTENDED TEMPERATURE	2.05	858
MC6850P ACIA PLASTIC	1.19	858
MC6854P ADLC PLASTIC	2.76	858
MC6875L LIN MPU CLOCK GEN	9.66	858
MC7805ACT LIN 3-TERM POS 5V REG	1.14	858
MC7805CK LIN 3-TERM POS 5V REG	2.04	858
MC7805CT LIN 3-TERM POS 5V REG	0.52	858
MC7806CK LIN 3-TERM POS 6V REG	2.04	858
MC7808CK LIN 3-TERM POS 8V REG	2.04	858
MC7812ACT LIN 3-TERM POS 12V REG	1.03	858
MC7812CK LIN 3-TERM POS 12V REG	2.04	858
MC7812CT LIN 3-TERM POS 12V REG	0.52	858
MC7815ACK LIN 3-TERM POS 15V REG	2.26	858
MC7815CK LIN 3-TERM POS 15V REG	2.04	858
MC7815CT LIN 3-TERM POS 15V REG	0.52	858
MC7818CK LIN 3-TERM POS 18V REG	2.04	858
MC7824CK LIN 3-TERM POS 24V REG	2.04	858
MC7905CK LIN 3-TERM NEG 5V REG	2.04	858
MC7905CT LIN 3 TERM NEG 5V REG	0.52	858
MC7908CT LIN VOLT REG	0.54	858
MC7912CK LIN 3-TERM NEG 12V REG	3.01	858
MC7912CT LIN 3-TERM NEG 12V REG	0.52	858
MC7915ACT LIN 3-TERM NEG 15V REG	1.14	858
MC7915CK LIN 3-TERM NEG 15V REG	3.01	858
MC7915CT LIN 3-TERM NEG 15V REG	0.52	858
MC10102P MECL QUAD 2 I/P NOR GATE	0.64	858
MC10103P MECL QUAD 2 IN-PUT OR GATE	0.64	858
MC10104P MECL QUAD 2 IN-PUT AND GATE	0.64	858
MC10105P MECL TRIPLE 2-3-2 IN-PUT OR/NOR	0.64	858
MC10109P MECL DUAL 4-INPUT OR/NOR GATE	0.72	858
MC10114P MECL TRIPLE LINE RECEIVER	0.76	858
MC10115P MECL QUAD LINE RECEIVER	0.72	858
MC10116L MECL TRIPLE LINE RECEIVER	0.88	858
MC10116P MECL TRIPLE LINE RECIEVER	0.72	858
MC10123P MECL TRIPLE 4-3-3 IN-PUT BUS DRIVER	0.80	858
MC10124L MECL QUAD TTL/ECL XLTR	2.00	858
MC10124P MECL QUAD TTL/ECL XLTR	1.70	858
MC10125L MECL QUAD ECL/TTL XLTR	2.00	858
MC10125P MECL QUAD ECL/TTL XTLR	1.70	858
MC10131L MECL DL TYP D MSTR SLV FF	2.20	858
MC10131P MECL DL TUP D MSTR SLV FF	1.90	858
MC10135P MECL DUAL J-MASTER SLAVE FLIP/FLOP	2.30	858
MC10136P MECL UNIVERS AL HEX-A-DECMIAL CONTROLLER	9.00	858
MC10141L MECL 4-BIT UNIV SHFT REG	4.02	858
MC10141P MECL 4-BIT UNIVERSAL SHIFT REGISTER	3.52	858
MC10166P MECL 5-BIT MAGNETIC COMPARATOR	4.04	858
MC10174P MECL DL 4 TO 1 MULTIPLXR	2.44	858
MC10176P MECL HEX "D" MSTR SLV FF	3.54	858
MC10195P MECL HEX INVERTER BUFFER	1.60	858
MC10197P MECL HEX AND GATE	1.60	858
MC10198P MECL MONOSTABLE MULTIVIBRATOR	14.14	858
MC10216L MECL HI SPD TRPL LNE RCVR	1.56	858
MC12013P MECL 2-MODUL US PRESCALER	11.90	858
MC12019P MECL %20/21 LO-POWER PRESCALER	6.30	858
MC12040P MECL PHASE-FREQ DETCETOR	8.24	858
MC12061P MECL CRYSTAL OSCILLATOR	3.94	858
MC12073P MECL LO-POWE PRESCALER %64	6.30	858
MC14001BAL CMOS QUAD 2-1 NOR GATE	0.45	858
MC14001BCP CMOS QUAD 2-I NOR GATE	0.27	858
MC14001BCPD CMOS QUAD 2-1 NOR GATE	0.39	858
MC14001UBCP CMOS QUAD 2-1 NOR GATE	0.27	858
MC14002BCP CMOS DUAL 4-1 NOR GATE	0.27	858
MC14007UBCP CMOS DUAL COMP PAIR/INV	0.27	858
MC14008BCP CMOS 4-BIT FULL ADDER	0.72	858
MC14011BAL CMOS QUAD 2-I NAND GATE	0.45	858
MC14011BCL CMOS QUAD 2-I NAND GATE	0.41	858
MC14011BCLD CMOS QUAD 2-I NAND GATE	0.52	858
MC14011BCP CMOS QUAD 2-I NAND GATE	0.27	858
MC14011BCPD CMOS QUAD 2-1 NAND GATE	0.39	858
MC14011UBCP CMOS QUAD 2-1 NAND GATE	0.27	858
MC14012BCP CMOS DUAL 4-1 NAND GATE	0.27	858
MC14013BAL CMOS DUAL D-TYPE FF	0.68	858
MC14013BCL CMOS DUAL D-TYPE FF	0.60	858
MC14013BCP CMOS DUAL D-TYPE FF	0.32	858
MC14013BCPD CMOS DUAL D-TYPE FF	0.45	858
MC14014BCP CMOS 8-BIT STATIC S/R	0.72	858
MC14015BCL CMOS DUAL 4-BIT STATIC SHIFT REGISTER	0.90	858
MC14015BCP CMOS DUAL 4-BIT STAT S/R	0.64	858
MC14016BCP CMOS QUAD ANALOG SW/MUX	0.41	858
MC14017BAL CMOS DECADE CNTRL/DIVIDER	1.00	858
MC14017BCL CMOS DECAD COUNTER DIVIDER	0.90	858
MC14017BCP CMOS DECADE COUNTER/DRIVER	0.64	858
MC14018BCP CMOS PRESET DIV BY N CNTR	0.72	858
MC14020BCP CMOS 14-BIT BINARY CNTR	0.64	858
MC14021BCL CMOS 8-BIT STATIC SHIFT REGISTER	0.90	858
MC14021BCP CMOS 8-BIT STATIC S/R	0.64	858
MC14022BCP CMOS OCTAL COUNTER/DIVIDER	0.64	858
MC14023BAL CMOS TRIPL 3-1 NAND GATE	0.45	858
MC14023BCL CMOS TRIPLE 3-I NAND GATE	0.41	858
MC14023BCP CMOS TRIPLE 3-1 NAND GATE	0.27	858
MC14024BAL CMOS 7-STG RIPPLE COUNTER	0.80	858
MC14024BCL CMOS 7-STG RIPPLE COUNTER	0.70	858
MC14024BCP CMOS 7-STG RIPPLE CNTR	0.43	858
MC14025BAL CMOS TRIPLE 3-I NOR GATE	0.45	858
MC14025BCL CMOS TRIPLE 3-I NOR GATE	0.41	858
MC14025BCP CMOS TRIPLE 3-I NOR GATE	0.27	858
MC14027BCL CMOS DUAL J-K FLIPFLOP	0.64	858
MC14027BCP CMOS DUAL J-K FF	0.36	858
MC14028BCP CMOS BCD-TO-DECIMAL DEC	0.64	858
MC14029BCP CMOS BIN/DEC U/D CTR	0.64	858
MC14035BCP CMOS 4-BIT SHIFT REGISTER	0.72	858
MC14040BAL CMOS 12 BIT BINARY CNT	1.00	858
MC14040BCL CMOS 12-BI BINARY CNT	0.90	858
MC14040BCP CMOS 12-BIT BINARY CNT	0.64	858
MC14042BCP CMOS QUAD LATCH	0.45	858
MC14043BCP CMOS QUAD NOR R-S LATCH	0.64	858
MC14044BCP CMOS QUAD NAND R-S LATCH	0.72	858
MC14046BAL CMOS PHASE-LOCKED LOOP	1.08	858
MC14046BCP CMOS PHASE-LOCKED LOOP	0.72	858
MC14049UBAL CMOS HEX INVERTING BUFFER	0.72	858
MC14049UBCL CMOS HEX INVERTING BUFFER	0.64	858
MC14049UBCP CMOS HEX INVERTING BUFFER	0.36	858
MC14050BAL CMOS HEX NON-INV BUFFER	0.72	858
MC14050BCL CMOS HEX NON-INVERTING BUFFER	0.64	858
MC14050BCP CMOS HEX NON-INV BUFFER	0.36	858
MC14051BAL CMOS 8-CHANNEL MUX	1.00	858
MC14051BCP CMOS 8-CHANNEL MUX	0.64	858
MC14052BCP CMOS DUAL 4-CHANNEL MUX	0.64	858
MC14053BCP CMOS TRIPLE 2-CHANNEL MUX	0.64	858
MC14060BCP CMOS 14-STG BIN CTR/OSC	0.64	858
MC14066BAL CMOS QUAD ANALOG SWITCH	0.78	858
MC14066BCL CMOS QUAD ANALOG SWITCH	0.68	858
MC14066BCP CMOS QUAD ANALOG SWITCH	0.41	858
MC14068BCP CMOS 8-1 NAND GATE	0.27	858
MC14069UBCP CMOS HEX INVERTER	0.27	858
MC14070BAL CMOS QUAD EX-OR GATE	0.45	858
MC14070BCP CMOS QUAD EX-OR GATE	0.27	858
MC14071BAL CMOS QUAD 2-I OR GATE	0.45	858
MC14071BCL CMOS QUAD 2-1 OR GATE	0.41	858
MC14071BCP CMOS QUAD 2-I OR GATE	0.27	858
MC14072BCP CMOS DUAL 4-1 OR GATE	0.27	858
MC14073BAL CMOS TRIPLE 3-I AND GATE	0.45	858
MC14073BCP CMOS TRIPLE 3-I AND GATE	0.27	858
MC14075BCP CMOS TRIPLE 3-1 GATE	0.27	858
MC14077BCP CMOS QUAD EX-NOR GATE	0.27	858
MC14078BCP CMOS 8-INO GATE	0.27	858
MC14081BAL CMOS QUAD 2-I AND GATE	0.45	858
MC14081BCP CMOS QUAD 2-1 AND GATE	0.27	858
MC14082BCP CMOS DUAL 4-1 GATE	0.27	858
MC14093BCL CMOS QUAD 2-I NAND S.T.	0.64	858
MC14093BCP CMOS QUAD 2-1 NAND S.T.	0.36	858
MC14099BCP CMOS 8-BIT ADDRESS LATCH	0.72	858
MC14161BCP CMOS 4 BIT BINARY CNTR	0.72	858
MC14174BCP CMOS HEX DUAL FLIP-FLOP	0.64	858
MC14175BCP CMOS QUAD D-TYPE FLIP-FLOP	0.64	858
MC14410P 20F8 TONE DIALER	6.25	858
MC14411P BIT RATE GEN	11.25	858
MC14417P TIME SLOT ASSIGNER CIRCUIT	5.33	858
MC14419P BIN DECODER/ BCD DEBOUNCE	3.75	858
MC14433P CMOS 3 1/2 DIGIT A/D CONV	6.88	858
MC14442P CMOS 8-BIT A/ D PARRELL	6.23	858
MC14443P CMOS 8-BIT A/D SUBSYSTEM	3.58	858
MC14447P CMOS 8-BIT A/D SUBSYSTEM	3.58	858
MC14469P CMOS ASYN RECIEVER/TRANS	12.20	858
MC14490L CMOS HEXBOWN CE ELEIMINATOR	4.66	858
MC14490P HEX BOUNCER	3.44	858
MC14497P CMOS 62-CH RMT CONTINUOUS TRANSMITTER	7.28	858
MC14499P CMOS 4-DIGIT 7-SEGMENT DRIVER	3.75	858
MC14502BCP CMOS STROBE HEX INV/BUFFER	0.72	858
MC14503BCP CMOS HEX 3 STATE BUFFER	0.45	858
MC14504BCP CMOS HEX LEVEL SHIFTER	1.26	858
MC14508BCP CMOS DUAL 4-BIT LATCH	1.76	858
MC14510BCP CMOS BCD UP/DOWN COUNTER	0.72	858
MC14511BCP CMOS BCD TO 7SEG/L/DEC/DR	0.72	858
MC14511BCPD CMOS BLD-TO-7 SEGMENT LINE DECODER DRIV	0.84	858
MC14512BCP CMOS 8-CH DATA SELECT	0.64	858
MC14513BCP CMOS BCD-TO-7 SEGMENT DRIVE	1.62	858
MC14514BCP CMOS 4-BIT LATCH/DECODER	1.40	858
MC14515BCP CMOS 4-BIT LATCH DECODER	1.40	858
MC14516BCP CMOS BINARY U/D CNTR	0.72	858
MC14518BCL CMOS DUAL BCD UP CNTR	1.00	858
MC14518BCP CMOS DUAL BCD UP CNTR	0.72	858
MC14519BCP CMOS 4-BIT AND/OR SELECT	0.37	858
MC14520BCP CMOS DUAL BINARY UP CNTR	0.64	858
MC14521BCP CMOS 24-ST FREQUENCY DIVIDER	1.18	858
MC14522BCP CMOS PROG BCD DOWN CNTR	0.90	858
MC14526BCP CMOS PROG 4-BIT BIN CTR	0.82	858
MC14527BCP CMOS BCD RATE MULT	0.78	858
MC14528BCL CMOS DUAL MONO MULTIVIB	1.00	858
MC14528BCP CMOS DUAL MONO MULTIVIB	0.72	858
MC14529BCP CMOS DUAL 4-CHANNEL DATA SELECTOR	1.08	858
MC14530BCP CMOS DUAL 5-I MAJ LOG GATE	0.96	858
MC14532BCP CMOS 8 BIT PRIORITY ENC	0.72	858
MC14536BCP CMOS PROGRAMMABLE TIMER	1.54	858
MC14538BAL CMOS DUAL MONO MULTIVIBRATOR	1.18	858
MC14538BCL CMOS DUAL MONO MULTIVIBRATOR	1.08	858
MC14538BCP CMOS DUAL MONO MULTIVIB	0.82	858
MC14539BCP CMOS DUAL 4-CHANNEL DATA SELECTOR	0.72	858
MC14541BAL CMOS PROG. OSCILLATOR-TIMER	1.00	858
MC14541BCP CMOS PROG OSC-TIMER	0.64	858
MC14543BCL CMOS BCD-TO-7 SEGMENT LINE/DE/DRIVER	0.90	858
MC14543BCP CMOS BCD-TO-7 SEG L/DE/DRV	0.64	858
MC14544BCP CMOS BCD-TO-7 SEGMENT LCD DRVR	2.64	858
MC14551BCP CMOS QUAD 2 IN ANALOG MUX	1.30	858
MC14553BCP CMOS 3 DIGIT BCD COUNTER	3.54	858
MC14555BCP CMOS DUAL BIN DECODER	0.68	858
MC14556BCP CMOS DUAL BIN DECODER	0.68	858
MC14557BCP CMOS 1T064 BIT SHIFT REGISTER	2.08	858
MC14560BCP CMOS NBCD ADDER	2.44	858
MC14566BCP CMOS IND. TIME BASE GEN	1.44	858
MC14569BCP CMOS DUAL GRG BCD/BI COUNTER	1.72	858
MC14572UBCP CMOS HEX GATE	0.60	858
MC14583BCP CMOS DUAL SCHMITT TRIGGER	1.00	858
MC14584BAL CMOS HEX SCHMITT TRIGGER	0.82	858
MC14584BCL CMOS HEX SCHMITT TRIGGER	0.72	858
MC14584BCP CMOS HEX SCHMITT TRIG	0.45	858
MC14584BCPD CMOS HEX SCHMITT TRIG	0.58	858
MC14585BCP CMOS 4-BIT MAG COMP	0.82	858
MC34002P LIN DUAL JFET INPUT OP AMP	0.77	858
MC34004P LIN QUAD JFET INPUT OP AMP	0.96	858
MC34018P LIN VCE SWITCH SPKRPHN CKT	6.42	858
MC34060P LIN SWITCH MODE PW CONT CKT	1.36	858
MC68488P GPIA PLASTIC	21.55	858
MC68705P3S 8-BIT EPROM MCU W/2K	11.98	858
MC68901P MULTI-FUNCTION PERIPHERAL, PLASTIC	6.90	858
MC142100CP 4X4 CROSS-POINT SWITCH	1.75	858
MC144111P QUAD D/A CONVERTER	4.70	858
MC145000P CMO LCD DISPLAY SRIVER MASTER	10.98	858
MC145026P CMOS REMOTE CONTINUOUS ENCODER	2.25	858
MC145027P CMOS REMOTE CONTINUOUS DECODER	3.00	858
MC145028P CMOS REMOTE CONTINUOUS DECODER	3.00	858
MC145106P CMOS PHASE LOCK LOOP FREQUENCY SYNTHESIZ	4.95	858

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Type-Description	Price	Mfg. Code
MC145159P CMOS PHASE LOCK LOOP FREQUENCY SYNTHESIZ	10.80	858
MC145406P RS-232 DRIVER/RECEIVERD	2.93	858
MC145411P BIT RATE GENERATOR	4.50	858
MC145428P DATA SET INTERFACE CIRCUIT (DSI)	12.50	858
MC145432P SIGNALING FILTER	24.82	858
MC145450P 1200BPS MODEM	13.50	858
MC146805E2P 8 BIT CMOS MPU, PLASTIC	7.76	858
MC146818CP 8-BIT RTC EXTENDED TEMPERATURE	6.38	858
MC146818P 8-BIT RTC ± RAM, PLASTIC	5.09	858
MCA230 OPTOCOUPLER	0.84	587
MCA231 OPTO DARLINGTO COUPLER	0.61	858
MCA231 OPTOCOUPLER	0.87	587
MCA255 OPTO DARLINGTO COUPLER	0.60	858
MCA255 OPTOCOUPLER	0.87	587
MCM68B10P STATIC RAM, 2.0 MHZ	5.80	858
MCM6810P STATIC RAM PLASTIC	4.65	858
MCM511000AP10 1 MEG X 1 DRAM 100NS PAGE	14.20	858
MCR103 THYR SCR .8A 50V CASE 77-04	0.24	858
MCT2 OPTO COUPLER 6 PIN P-DIP	0.69	735
MCT2 OPTOCOUPLER	0.50	587
MCT2 OPTOISOLATOR 6-PIN DIP	0.51	858
MCT2E OPTO 6-PIN DIP	0.51	858
MCT2E OPTOCOUPLER	0.50	587
MCT6 OPTOCOUPLER	1.06	587
MCT270 OPTOCOUPLER	0.50	587
MCT271 OPTO TRASNSISTOR COUPLER	0.71	858
MCT271 OPTOCOUPLER	0.92	587
MCT272 OPTOCOUPLER	0.92	587
MCT273 OPTOCOUPLER	0.92	587
MCT274 OPTOCOUPLER	0.92	587
MCT275 OPTOCOUPLER	0.92	587
MCT276 OPTOCOUPLER	0.92	587
MCT277 OPTOCOUPLER	0.92	587
MDA980-5 REC 12A 400V STDREC BRIDG	3.45	858
MDA2500 REC 25A 50V STDREC BRIDG	3.20	858
MDA2501 REC 25A 100V STDREC BRIDG	3.40	858
MDA2502 REC 25A 200V STDREC BRIDG	3.60	858
MDA2504 REC 25A 400V STDREC BRIDG	3.90	858
MDA2506 REC 25A 600V STDREC BRIDG	5.10	858
MDA3501 REC 35A 100V STDREC BRIDG	3.70	858
MDA3502 REC 35A 200V STDREC BRIDG	3.90	858
MDA3504 REC 35A 400V STDREC BRIDG	4.20	858
MDA3506 REC 35A 600V STDREC BRIDG	5.60	858
MDA3508 REC 35A 800V STDREC BRIDG	6.40	858
MFOD72 OPTO FIBER OPTIC	1.02	858
MFOD73 OPTO FIBER OPTIC	1.16	858
MFOD300 OPTO DETECTOR METAL CAN	2.72	858
MFOE71 OPTO EMITTER FIBER OPTIC	1.55	858
MFOE200 OPTO EMITTER METAL CAN	7.14	858
MHW591 RF LINEAR AMPL-FLANGE PKG	36.00	858
MHW592 RF LINEAR AMPL FLANGE PKG UN	38.75	858
MJ802 PWR 30A 90V DIS NPN TO3	3.04	858
MJ1000 PWR 8A 60V DAR NPN T03	1.49	858
MJ1001 PWR 8A 80V DAR NPN TO3	1.76	858
MJ4502 PWR 30A 100V DIS PNP TO3	3.04	858
MJ10000 PWR 20A 350V DAR NPN TO3	5.94	858
MJ10009 PWR 20A 500V DAR NPN TO3	10.33	858
MJ10016 PWR 50A 500V DAR NPN TO3	22.75	858
MJ10020 PWR 60A 200V DAR NPN TO3	11.70	858
MJ10023 PWR 40A 400V DAR NPN TO-3	13.16	858
MJ11015 PWR 50A 400V DAR NPN TO3	7.56	858
MJ11016 PWR 50A 500V DAR NPN TO3	6.68	858
MJ11032 TRANS, POWER NPN 120V 50A T03	7.20	858
MJ11033 PWR 50A 120V DAR PNP TO3	7.74	858
MJ12004 PWR 5A 750V DEF NPN TO3	4.19	858
MJ15015 PWR 15A 120V DIS NPN TO3	1.83	858
MJ15024 PWR 16A 250V DIS NPN TO3	3.87	858
MJE171 PWR 3A 60V DIS PNP TO126	0.63	858
MJE180 TRANS,POWER NP 40V 3A T0126	0.59	858
MJE181 PWR 3A 60V NPN TO-126	0.63	858
MJE182 TRANS,POWER NP 80V 3A T0126	0.69	858
MJE200 TRANS,POWER NP 25V 5A T0126	0.65	858
MJE210 TRANS,POWER PN 25V 5A T0126	0.70	858
MJE243 PWR 4A 100V DIS NPN TO126	1.38	858
MJE253 PWR 4A 100V DIS PNP TO126	1.50	858
MJE340 PWR 1A 300V DIS NPN TO126	0.67	858
MJE350 PWR 1A 300V DIS PNP TO126	1.06	858
MJE371 PWR 4A 40V DIS PNP TO-126	1.22	858
MJE520 PWR 3A 30V DIS NPN TO126	0.86	858
MJE700 PWR 4A 60V DAR PNP TO126	0.81	858
MJE800 PWR 4A 60V DAR NPN TO126	0.80	858
MJE802 PWR 4A 80V DAR NPN TO-126	0.82	858
MJE2955 PWR 10A 60V DIS PNP TO127	3.77	858
MJE2955T PWR 10A 60V DIS PNP TO220	0.70	858
MJE3055 PWR 10A 60V DIS NPN TO127	3.24	858
MJE3055T PWR 10A 60V DIS NPN TO220	0.59	858
MJE3439 PWR 1A 350 DIS NPN TO-126	0.90	858
MJE5742 PWR 8A 400V DAR NPN TO220	1.82	858
MJE8503 PWR 5A 800V SM NPN TO220	3.39	858
MJE13002 PWR2A 300V SM NPN TO126	0.72	858
MJE13003 PWR 2A 400V SM1 NPN TO-126	0.81	858
MJE13004 PWR 4A 300V SM1 NPN TO-220	1.04	858
MJE13005 PWR 4A 400V SM1 NPN TO220	1.08	858
MJE13006 PWR 8A 300V SM1 NPN TO-220	1.44	858
MJE13007 PWR 8A 400V SM1 NPN TO-22	1.53	858
MJE13009 PWR 12A 400V NPN TO220	2.25	858
MJE15030 PWR 8A 150V PLA NPN TO220	1.57	858
MJE15031 PWR 8A 150V PLA PNP TO220	1.80	858
MLED930 OPTO EMITTER METAL CAN	1.25	858
MOC3007 OPTOISOLATOOR 6-PIN DIP	0.85	858
MOC3010 OPTOISOLATOR 6-PIN DIP	0.60	858
MOC3011 OPTOISOLATOR 6 PIN DIP	0.63	858
MOC3012 OPTOISOLATOR 6-PIN DIP	0.64	858
MOC3020 OPTO 6-PIN DIP	0.70	858
MOC3021 OPTO 6-PIN DIP	0.77	858
MOC3022 OPTOISOLATOR 6 PIN DIP	0.74	858
MOC3030 OPTO TRIAC DRIVER COUPLER	1.45	858
MOC3031 OPTOISOLATOR 6-PIN DIP	1.90	858
MOC3040 OPTO TRIAC DRIVER COUPLER	1.29	858
MOC3041 OPTOISOLATOR 6-PIN DIP	1.07	858
MOC5007 OPTO 6 PIN DIP	2.60	858
MOC5008 OPTOISOLATOR 6-PIN DIP	1.90	858
MOC5009 OPTO 6-PIN DIP	1.43	858
MOC8021 OPTOISOLATOR 6-PIN DIP	1.40	858
MOC8030 OPTOISOLATOR 6 PIN	1.20	858
MOC8050 OPTOISOLATOR 6-PIN DIP	1.40	858
MOC8100 OPTOISOLATOR 6-PIN DIP	1.20	858
MPF102 SS JFET N-CHAN TO92	0.32	858
MPF910 JFET SS N-CHAN TO-92 ±	1.00	858
MPF970 SS JFET P-CHAN UO-92	1.52	858
MPS2222 SS GEN PUR NPN TO92	0.09	858
MPS2222A SS GEN PUR NPN TO92	0.09	858
MPS2369 TRANSISTOR SS SWITCHING NPN TO92	0.20	858
MPS2907 TRANLS. SS GP PNP TO92	0.09	858
MPS2907A SS GEN PUR PNP TO-92	0.09	858
MPS3563 TRANS. SS AMP NPN TO92	0.18	858
MPS3638 SS SWITCHING PNP TO92	0.64	858
MPS3640 TRANS. SS SWITCHING PNP TO 92	0.22	858
MPS3646 TRANS. SS SWITCHING NPN TO92	0.20	858
MPS3702 TRANS. SS AMP PNP TO92	0.56	858
MPS3866 RF NPN LO-PWR TO-92	0.52	858
MPS3906 TRANS. SS GP PNP TO92	0.12	858
MPS4123 TRANS. SS GP NPN TO92	0.05	858
MPS4124 TRANS. SS GP NPN TO92	0.05	858
MPS4125 TRANS. SS GP PNP TO92	0.10	858
MPS4126 TRANS. SS GP PNP TO92	0.05	858
MPS4250 SS AMP PNP TO-92	0.12	858
MPS4356 TRANS. SS AMP PNP TO92	0.18	858
MPS5172 SS AMP NPN TO-92	0.07	858
MPS6515 TRANS. SS AMP NPN TO92	0.18	858
MPS6518 TRANS. SS AMP PNP TO92	0.36	858
MPS6523 TRANS. SS AMP PNP TO92	0.18	858
MPS6531 SS AMP NPN TO92	0.16	858
MPS6534 TRANS. SS AMP PNP TO92	0.34	858
MPS6601 TRANS. SS AMP NPN TO92	0.22	858
MPS6725 TRANS. SS DARLINGTON PNP TO-92	0.38	858
MPS8098 TRANS. SS AMP NPN TO-92	0.22	858
MPS8599 TRANS. SS AMP PNP TO-92	0.21	858
MPSA05 SS GEN PUR NPN TO92	0.10	858
MPSA06 SS GEN PUR NPN TO92	0.10	858
MPSA12 SS DAR NPN TO92	0.22	858
MPSA13 SS DAR NPN TO92	0.14	858
MPSA14 SS DAR NPN TO92	0.16	858
MPSA18 TRANS. SS LOW NOISE NPN TO92	0.28	858
MPSA20 SS AMP NPN TO92	0.07	858
MPSA25 TRANS. SS DARLINGTON NPN TO92	0.50	858
MPSA29 TRANS. DARLINGTON NPNTO92	0.48	858
MPSA42 SS HIGH VOLT NPN TO92	0.19	858
MPSA43 TRANS. SS HIGH VOLT NPN TO92	0.24	858
MPSA55 SS GEN PUR PNP TO92	0.12	858
MPSA56 TRANS. 33 GP PNP TO92	0.10	858
MPSA62 SS DARLINGTON PNP TO-92	0.48	858
MPSA63 TANS SS. DARLINGTON PNP TO92	0.15	858
MPSA70 TRANS. SS AMP PNP TO-92	0.07	858
MPSA75 TRANS. SS AMP DARLINGTON PNP TO-92	0.50	858
MPSA92 SS HIGH VOLT PNP TO92	0.22	858
MPSA93 TRANS. SS HIGH VOLT PNP TO92	0.30	858
MPSH10 SS AMPLIFIER NPN TO92	0.22	858
MPSU01 PWR 2A 30V NPN C152	0.85	858
MPSU05 PWR 2A 60V DIS NPN C152	0.85	858
MPSU06 PWR 2A 80V DIS NPN C152	0.93	858
MPSU10 PWR 1A 300V DIS NPN C152	1.04	858
MPSU45 PWR 2A 40V DAR NPN C152	1.06	858
MPSU51 PWR 2A 30V DIS PNP C152	0.88	858
MPSU55 PWR 2A 60V DIS C152	0.85	858
MPSU56 PWR 2A 80V DIS PNP C152	0.93	858
MPSU60 PWR .5A 300V DIS PNP C152	1.94	858
MPSU95 PWR 2A 40V DAR PNP C152	1.38	858
MPSW01 SS HIGH CUR NPN TO92	0.30	858
MPZ5-32A ZEN 32N 8KW CASE 119-01	62.00	858
MR500 REC 3A 50V STDREC AXIAL	0.22	858
MR501 REC 3A 100V STDREC AXIAL	0.26	858
MR502 REC 3A 200V STDREC AXAIL	0.30	858
MR504 REC 3A 400V STDREC AXIAL	0.33	858
MR506 REC 3A 600V STDREC AXIAL	0.40	858
MR510 REC 3A 1KV STDREC AXIAL	0.66	858
MR750 REC 6A 50V STDREC AXIAL	0.45	858
MR751 REC 6A 100V STDREC AXIAL	0.64	858
MR752 REC 6A 200V STDREC AXIAL	0.70	858
MR754 REC 6A 400V STDREC AXIAL	0.81	858
MR756 REC 600V AXIAL	1.17	858
MR760 REC 6A 1KV STDREC AXIAL	1.62	858
MR817 REC 1A 800V FASTRC AXIAL	0.42	858
MR818 REC 1A 1KV FASTRC AXIAL	0.53	858
MR820 REC 5A 50V FASTRC AXIAL	0.90	858
MR821 REC 5A 100V FASTRC AXIAL	0.99	858
MR824 REC 5A 400V FASTRC AXIAL	1.44	858
MR826 REC 5A 600V FASTRC AXIAL	1.71	858
MR850 REC 3A 50V FASTRC AXIAL	0.55	858
MR851 REC 3A 100V FASTRC AXIAL	0.62	858
MR852 REC 3A 200V FASTREC AXIAL	0.69	858
MR854 REC 3A 400V FASTRC AXIAL	0.84	858
MR856 REC 3A 600V FASTRC AXIAL	0.98	858
MR918 REC 3A 1KV FASTRC AXIAL	1.62	858
MR2004 REC 20A 400V STDREC D04	3.96	858
MR5010 REC 50A 100V STDREC PFIT	4.58	858
MRD150 OPTO DECTECTOR PLASTIC	3.00	858
MRD300 OPTO DETECTOR METAL CAN	1.75	858
MRD500 OPTO DETECTOR METAL CAN	1.80	858
MRD510 OPTO DETECTOR METAL CAN	1.60	858
MRD701 OPTO DETECTOR PLASTIC	0.60	858
MRD711 OPTO DETECTOR PLASTIC	0.52	858
MRD721 OPTO DETECTOR PLASTIC	0.48	858
MRD3056 OPTO DETECTOR METAL CAN	1.24	858
MRF227 RF NPN HI PWR TO-39CE	3.45	858
MRF237 RF NPN HI PWR TO-39CE	3.15	858
MRF247 RF NPN HI PWR SOE FLANGE	31.00	858
MRF422 RF NPN HI PWR SOE FLANGE	41.40	858
MRF433 RF NPN HI PWR SOE FLANGE	12.07	858
MRF454 RF NPN HI PWR SOE FLANGE	20.12	858
MRF517 RF NPN LO-PWR TO-39	4.00	858
MRF559 RF NPN PWR MCRO-X	1.76	858
MRF571 RF NPN LO-PWR MACRO-X	1.19	858
MRF581 RF NPN LO-PWR MACRO-X	1.91	858
MRF587 RF NPN LO-PWR STUD	15.20	858
MRF627 RF NPN HI PWR CER PILL	9.43	858
MRF629 RF NPN HI PWR TO-39CE	3.45	858
MRF901 RF NPN LO-PWR MACRO-X	1.15	858
MRF904 RF NPN LO-PWR TO-72	1.85	858
MRF966 RF NPN LO PWR MACRO-X	1.40	858
MTP5N40 TMOSPWR 400V1.0R TO220	1.81	858
MUR110 REC 1A 100V ULTRAF AXIAL	0.64	858
MUR415 REC 4A 150V ULTRAF AXIAL	0.89	858
MUR805 REC 8A 50V ULTRAF TO220	1.20	858
MUR820 REC 8A 200V ULTRAF TO220	1.70	858
MUR840 REC 8A 400V ULTRAF TO220	2.10	858
MUR860 REC 8A 600V ULTRAF TO220	2.80	858
MV1404 SS HIGH CAP TUNING DIODE	8.82	858
MV1405 SS HIGH CAP TUNING DIODE	8.82	858
MV2101 SS GEN PUR TUNING DIODE	0.74	858
MV2107 SS GEN PUR TUNING DIODE	0.74	858
MV2109 SS GEN PUR TUNING DIODE	0.74	858
MWA110 RF PWR AMPLIFIER TO-39	5.50	858
MWA120 RF PWR AMPLIFIER TO-39	5.60	858
MWA130 RF PWR AMP TO-39	5.70	858
MWA310 RF PWR AMPLIFIER TO-39	5.70	858
MWA320 HI REL MWA320	5.80	858
NE555N LIN TIMING CIRCUIT	0.59	858
NE555P GENERAL PURPOSE TIMER	0.29	735
NE555V LIN TIMING CIRCUIT	0.59	858
NE556A LIN DUAL TIMING CIRCUIT	1.42	858
NE556N DUAL TIMER	0.40	735
NE556N LIN DUAL TIMING CIRCUIT	1.42	858
NE5532P LOW NOISE DUAL OP AMP	0.89	735
NE5534AP LOW NOISE SINGLE OP AMP	1.33	735
NTE 1990-91 TECH GUIDE CROSS REFERENCE GUIDE	3.25	935
NTE36 TRANS NPN SI AUDIO AMP	4.35	935
NTE37 TRANS PNP SI AUDIO POWER AMP	4.60	935
NTE46 TRANS NPN SI DARLINGTON G/P AMP	1.96	935
NTE51 TRANS NPN SI HI-VOLT HI-SPEED SWITCHING	3.85	935
NTE53 TRANS NPN SI HI-VOLT HI-SPEED SWITCHING	11.15	935
NTE54 TRANS NPN SI HI-FREQ DRIVER	3.65	935
NTE55 TRANS PNP SI HI-FREQ DRIVER	4.40	935
NTE85 TRANSIS, NPN	0.88	935
NTE87 TRANS NPN SI HI-POWER AUDIO AMP	8.28	935
NTE89 TRANS NPN SI COLOR TV HORIZONTAL OUTPUT	11.29	935
NTE91 TRANS PNP SI G/P HI-GAIN AMP	1.40	935
NTE94 TRANS NPN SI HI-VOLT INVER. CONVER. REG	4.70	935
NTE98 TRANSIS, NPN HIGH VOLT, HIGH CURRENT DAR	18.99	935
NTE100 TRANS PNP GE OSCILLATOR MIXER	3.12	935
NTE101 TRANS NPN GE OSCILLATOR MIXER	3.76	935
NTE102 TRANS. PNP GE, POWER OUTPUT, DRIVER	3.42	935
NTE102A TRANS. PNP GE MEDIUM POWER AMP	1.84	935
NTE103A TRANS NPN GE MEDIUM POWER AMP	2.02	935
NTE104 TRANS PNP GE, AUDIO POWER AMP	8.90	935
NTE105 TRANSIS, PNP AUDIO POWER AMP	15.68	935
NTE107 TRANS NPN SI, UHF OSCILLATOR	1.60	935
NTE108 TRANS. NPN SI, RF-IF AMP & OSCILLATOR	1.64	935
NTE109 DIODE GE, GEN. PURPOSE	0.65	935
NTE112 DIODE SI TV MIXER	1.57	935

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Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

Type-Description	Price	Mfg. Code
NTE116 RECTIFIER, SI 600PRV 1 AMP	0.66	935
NTE117 DIODE SI G/P RECTIFIER	1.12	935
NTE121 TRANS PNP GE, AUDIO POWER AMP	13.06	935
NTE123 TRANS NPN, SI, AUDIO AMP SWITCH	1.15	935
NTE123A TRANS NPN, SI AUDIO AMP SWITCH	1.39	935
NTE123AP TRANS NPN, SI AUDIO AMP SWITCH	1.17	935
NTE124 TRANS NPN SI HIGH VOLTAGE POWER OUTPUTD	3.01	935
NTE125 DIODE SI, 1000PRV, 2.5A	0.79	935
NTE126 TRANS PNP, GE, RF-IF AMP HI SPEED SWITCH	4.83	935
NTE127 TRANS PNP GE POWER OUTPUT	20.81	935
NTE128 TRANS NPN, SI AUDIO OUTPUT, DRIVER	1.95	935
NTE129 TRANS PNP, SI AUDIO OUTPUT, DRIVER	2.08	935
NTE130 TRANS NPN, SI AUDIO GEN. PURPOSE AMP	3.90	935
NTE132 J-FET N-CHAN., RF AMP MIXER	0.98	935
NTE133 TRANS JFET G/P AMP	0.98	935
NTE135A ZENER DIODE	0.98	935
NTE136A ZENER DIODE	0.98	935
NTE137A ZENER DIODE	0.98	935
NTE138A ZENER DIODE	0.98	935
NTE139A ZENER DIODE	0.98	935
NTE142A ZENER DIODE	0.98	935
NTE143A ZENER DIODE	0.98	935
NTE145A ZENER DIODE	0.98	935
NTE146A ZENER DIODE	0.98	935
NTE147A ZENER DIODE	0.98	935
NTE149A ZENE DIODE	0.92	935
NTE152 TRANS NPN, SI AUDIO GEN. PURPOSE AMP	2.39	935
NTE153 TRANS PNP, SI AUDIO GEN. PURPOSE AMP	2.90	935
NTE154 TRANS NPN SI HI-VOLT VIDEO OUTPUT	3.39	935
NTE156 RECTIFIER, SI 1000PRV, 3A	1.30	935
NTE156A DIODE SI G/P RECTIFIER	1.40	935
NTE157 TRANS NPN, SI HIGH VOLT AUDIO AMP	2.30	935
NTE158 TRANS NPN, GE, AUDIO POWER AMP	2.05	935
NTE159 TRANS PNP, SI, LOW NOISE AUDIO AMP	1.64	935
NTE160 TRANS PNP, GE, RF-IF AMP FM MIXER OSCILL	2.80	935
NTE161 TRANS NPN, SI VHF/UHF AMP MIXER OCILLATOR	2.55	935
NTE162 TRANS NPN SI TV VERTICAL DEFLECTION	9.00	935
NTE165 TRANS NPN SI COLOR TV HORIZONTAL OUTPUT	13.50	935
NTE166 DIODE SI BRIDGE RECTIFIER	1.90	935
NTE167 DIODE SI BRIDGE RECTIFIER	2.12	935
NTE168 DIODE SI BRIDGE RECTIFIER	2.42	935
NTE171 TRANS NPN SI AUDIO, VIDEO AMP	2.86	935
NTE172A TRANS NPN SI DARLINGTON PREAMP	0.90	935
NTE175 TRANS NPN SI LINEAR & AUDIO POWER AMP	3.00	935
NTE177 DIODE SI FAST SWITCH	0.99	935
NTE179 TRANSIS, NPN AUDIO P A, HIGH CUR. SWITCH	16.25	935
NTE180 TRANS PNP SI HI-POWER AUDIO AMP	8.84	935
NTE181 TRANSIS, NPN HIGH POWER AUDIO AMP	7.50	935
NTE182 TRANS NPN SI G/P AMP	7.19	935
NTE184 TRANS NPN SI AUDIO POWER AMP	2.10	935
NTE185 TRANS PNP SI AUDIO POWER AMP	2.49	935
NTE186 TRANS NPN SI GEN. PURPOSE OUTPUT, DRIVER	2.39	935
NTE186A TRANS NPN SI MED POWER AUDIO AMP	2.39	935
NTE187 TRANS PNP SI G/P OUTPUT DRIVER	2.50	935
NTE188 TRANS NPN SI HI-VOLT AMP AND DRIVER	2.40	935
NTE191 TRANS NPN SI HI-VOLT VIDEO AMP	3.98	935
NTE192 TRANS NPN SI AUDIO POWER OUTPUT	1.99	935
NTE192A TRANS NPN SI AUDIO POWER OUTPUT	1.80	935
NTE194 TRANS NPN SI G/P H V AMP/SWITCH	1.05	935
NTE196 TRANS NPN SI AUDIO POWER OUTPUT	2.99	935
NTE197 TRANS PNP SI AUDIO POWER OUTPUT	2.72	935
NTE198 TRANS NPN SI AUDIO POWEER OUTPUT	3.20	935
NTE199 TRANS NPN SI LOW NOISE, HI GAIN PRE-AMP	0.95	935
NTE210 TRANS NPN SI G/P OUTPUT	2.15	935
NTE211 TRANS PNP SI G/P OUTPUT	2.50	935
NTE219 TRANS PNP SI G/P AMP	6.49	935
NTE220 TRANS MOSFET VHF AMP	6.36	935
NTE221 MOSFET N CHANNEL VHF AMP/MIX	2.85	935
NTE222 TRANS MOSFET VHF AMP	3.07	935
NTE234 TRANS PNP SI LOW NOISE HI-GAIN AF PREAMP	1.00	935
NTE235 TRANS NPN SI RF POWER OUTPUT	6.30	935
NTE236 TRANS NPN SI RF POWER OUTPUT	10.40	935
NTE238 TRANS NPN SI COLOR TV HORIZONAL OUTPUT	15.75	935
NTE243 TRANS NPN SI DARLINGTON POWER AMP	3.36	935
NTE247 TRANS NPN SI DARLINGTON POWER AMP	5.25	935
NTE249 TRANS NPN SI DARLINGTON POWER AMP	8.38	935
NTE251 TRANS NPN SI DARLINGTON POWER AMP	8.38	935
NTE253 TRANS NPN SI DARLINGTON POWER AMP	2.18	935
NTE254 TRANS PNP SI DARLINGTON POWER AMP	2.41	935
NTE261 TRANS NPN SI DARLINGTON POWER AMP	1.95	935
NTE262 TRANS PNP SI DARLINGTON POWER AMP	2.55	935
NTE263 TRANS NPN SI DARLINGTON POWER AMP	2.40	935
NTE264 TRANS, PNP SI DARLINGTON POWER AMP	2.93	935
NTE265 TRANS NPN SI DARLINGTON POWER AMP	1.38	935
NTE276 SCR	18.40	935

Type-Description	Price	Mfg. Code
NTE280 TRANS NPN SI AUDIO OUTPUT	6.30	935
NTE281 TRANS PNP SI AUDIO OUTPUT	8.20	935
NTE283 TRANS NPN SI HI-VOLT HI-CURRENT SWITCH	9.90	935
NTE284 TRANS NPN SI AUDIO AMP OUTPUT	9.97	935
NTE285 TRANS PNP SI AUDIO AMP OUTPUT	10.95	935
NTE287 TRANS NPN SI HI-VOLT, G/P AMP	0.96	935
NTE288 TRANS PNP SI HI-VOLT, G/P AMP	0.98	935
NTE289 TRANS NPN SI AUDIO POWER AMP AND SWITCH	1.33	935
NTE289A TRANSIS, NPN AUDIO POWER AMP & SWITCH	1.32	935
NTE290 TRANS PNP SI AUDIO AMP AND SWITCH	1.12	935
NTE290A TRANS PNP SI AUDIO AMP AND SWITCH	1.38	935
NTE291 TRANS NPN SI G/P AMP	2.97	935
NTE292 TRANS PNP SI G/P AMP	3.25	935
NTE293 TRANS NPN SI AUDIO AMP AND DRIVER	1.64	935
NTE294 TRANS PNP SI AUDIO AMP AND DRIVER	1.63	935
NTE296 TRANS PNP SI HI-VOLT G/P AMP	1.91	935
NTE297 TRANS NPN SI AUDIO AMP AND DRIVER	1.64	935
NTE304A KIT	93.80	935
NTE311 TRANS NPN SI FREQ MULTIPLIER	2.66	935
NTE312 DTRANS JFET VHF AMP	1.34	935
NTE326 TRANS JFET G/P AMP	1.72	935
NTE331 TRANS NPN SI AUDIO POWER AMP AND SWITCH	2.92	935
NTE332 TRANS PNP SI AUDIO POWER AMP AND SWITCH	3.20	935
NTE373 TRANS NPN SI AUDIO AMP AND DRIVER	1.80	935
NTE374 TRANS PNP SI AUDIO AMP AND DRIVER	2.00	935
NTE375 TRANS NPN SDI VERT. DEFLECTION	2.69	935
NTE377 TRANS NPN SI POWER AMP DRIVER	2.85	935
NTE378 TRANS PNP SI POWER AMP DRIVER	3.00	935
NTE379 TRANS NPN SI POWER AMP HI-VOLT SWITCH	7.15	935
NTE382 TRANS NPN SI AUDIO FREQ DRIVER	2.05	935
NTE383 TRANS PNP SI AUDIO FREQ DRIVER	2.12	935
NTE384 TRANS NPN SI HI-VOLT POWER AMP/SWITCH	6.20	935
NTE385 TRANS NPN SI AUDIO POWER AMP, SWITCH	8.65	935
NTE386 TRANS NPN SI AUDIO POWER AMP, SWITCH	18.10	935
NTE388 TRANS NPN SI HI POWER AMP	7.00	935
NTE389 TRANS NPN SI HORZ. OUTPUT	6.50	935
NTE390 TRANS NPN SI POWER AMP AND HI-SPD SWITCH	4.05	935
NTE392 TRANS NPN SI POWER AMP AND HI-SPD SWITCH	5.75	935
NTE396 TRANS NPN SI POWER AMP AND HI-SPD SWITCH	3.05	935
NTE398 TRANS PNP SI VERT. DEFLECTION AUDIO AMP	3.20	935
NTE399 TRANS NPN SI HI-VOLT AMP	3.00	935
NTE413 HARDWARE, TO-3 INSULATOR KIT	1.78	935
NTE422 HARDWARE, TO-22 INSULATOR KIT	1.74	935
NTE439 HARDWARE, DO-5, TO-48 INSULATOR KIT	0.68	935
NTE454 TRANS MOSFET UHF/VHF PREAMP	2.55	935
NTE456 JFET NCHAN GEN. PURPOSE AMP SWITCH	1.73	935
NTE457 TRANS JFET G/P AMP	1.37	935
NTE459 TRANS JFET AF AMP	2.16	935
NTE506 RECT SI HI-VOLT DAMPING FAST RECOV 1400V	1.64	935
NTE519 DIODE SI ULTRA FAST SWITCH 100V	0.99	935
NTE524V13 VARISTOR, METAL OXIDE 130VMS 340 CLAMP V	2.90	935
NTE525 DIODE FAST RECOVERY	3.00	935
NTE552 DIODE SI G/P RECTIFIER	1.26	935
NTE555 PIN DIODE	1.40	935
NTE558 DIODE SI G/P RECTIFIER	2.17	935
NTE580 DIODE SI FAST RECOVERY	2.30	935
NTE778A 1C-DUAL OP-AMP	3.65	935
NTE815 1C-TV HORZ. PROCESSOR	3.05	935
NTE834 1C-QUAD COMPARATOR	2.42	935
NTE923 1C-PRECISION VOL REG	1.75	935
NTE923D 1C-PRECISION VOL REG	1.41	935
NTE928M 1C-DUAL LOW POWER OP-AMP	2.93	935
NTE931 VOLTAGE REGULATOR ± 5V 5A	12.45	935
NTE941 1C-FREQ. COMPENSATED OP-AMP	1.43	935
NTE941D 1C-FREQ. COMPENSATED OP-AMP	1.22	935
NTE941M 1C-FREQ. COMPENSATED OP-AMP	0.90	935
NTE943M 1C-DUAL COMPARATOR	3.65	935
NTE955M 1C-TIMER/OSCILLATOR	1.68	935
NTE956 1C-POS VOL REG	3.00	935
NTE960 VOLT REG POSITIVE, 5V, 1AMP	3.50	935
NTE964 1C-POS VOL REG	3.35	935
NTE966 VOLT REG POSITIVE, 12V, 1AMP	3.60	935
NTE967 VOLT REG NEGATIVE, – 12V, 1AMP	5.15	935
NTE968 1C-POS VOL REG	3.60	935
NTE972 VOLT REG POSITIVE, 24V, 1 AMP	3.55	935
NTE977 1C-POS VOL REG	1.65	935
NTE978 DUAL TIMER IC	2.55	935
NTE987 1C-QUAD OP-AMP	2.30	935
NTE992 1C-IND AMP	2.60	935
NTE1394 DUAL AUDIO P A, 5.8WATT/CHANNEL, 17W BTL	8.95	935
NTE1471 1C-TV HORZ. OSCILLATOR	7.25	935

Type-Description	Price	Mfg. Code
NTE2013 1C-7CHAN CMOS INPUT ARRAY	3.90	935
NTE2302 TRANS NPN SI HI-VOLT HORZ. OUTPUT	6.10	935
NTE2308 TRANS NPN SI HI-VOLT/CURRENT SWITCH	7.00	935
NTE3040 OPTOISOLATOR	1.71	935
NTE3041 OPTOISOLATOR	1.89	935
NTE3042 OPTOISOLATOR	1.57	935
NTE3047 OPTOISOLATOR	2.72	935
NTE3086 OPTOISOLATOR	3.65	935
NTE3101 PHOTON COUPLED INTERRUPTER MODULE	7.15	935
NTE4001B 1C-CMOS NOR	0.73	935
NTE4011B 1C-CMOS NAND	1.01	935
NTE4013B 1C-CMOS DUAL "D" FLIP-FLOP	1.27	935
NTE4049 1C-CMOS HEX BUFFER	1.35	935
NTE4066B 1C-CMOS QUAD SWITCH	1.71	935
NTE4069 1C-CMOS HEX INVERTER	0.82	935
NTE4081B 1C-CMOS AND	0.73	935
NTE5001A ZENER DIODE	0.79	935
NTE5010A ZENER DIODE	0.62	935
NTE5013A ZENER DIODE, 6.2V, 1/2W	0.79	935
NTE5069A ZENER DIODE	0.92	935
NTE5070A ZENER DIODE	0.92	935
NTE5071A ZENER DIODE	0.92	935
NTE5072A ZENER DIODE	0.92	935
NTE5077A ZENER DIODE	0.92	935
NTE5079A ZENER DIODE	0.92	935
NTE5080A ZENER DIODE	0.92	935
NTE5084A ZENER DIODE	0.92	935
NTE5098A ZENER DIODE	0.92	935
NTE5127A ZENER DIODE	2.18	935
NTE5130A ZENER DIODE	2.18	935
NTE5134A ZENER DIODE	2.18	935
NTE5155A DIODE, ZENER 91V, 5WATT	2.18	935
NTE5304 DIODE SI BRIDGE RECTIFIER	1.73	935
NTE5305 DIODE SI BRIDGE RECTIFIER	1.87	935
NTE5313 DIODE SI BRIDGE RECTIFIER	3.67	935
NTE5314 DIODE SI BRIDGE RECTIFIER	4.10	935
NTE5315 DIODE SI BRIDGE RECTIFIER	4.95	935
NTE5322 DIODE SI BRIDGE RECTIFIER	5.75	935
NTE5324 DIODE SI BRIDGE RECTIFIER	6.40	935
NTE5326 DIODE SI BRIDGE RECTIFIER	6.80	935
NTE5332 DIODE SI BRIDGE RECTIFIER	1.67	935
NTE5400 SCR	0.86	935
NTE5401 SCR	1.05	935
NTE5402 SCR	1.12	935
NTE5404 SCR	1.25	935
NTE5455 SCR	1.34	935
NTE5457 SCR	1.96	935
NTE5463 SCR	2.60	935
NTE5465 SCR	3.10	935
NTE5568 SCR, 600VRM, 80A	28.10	935
NTE5635 TRIAC, 400V 10AMP	3.40	935
NTE5645 TRIAC	3.92	935
NTE5656 TRIAL	1.83	935
NTE5800 INDUSTRIAL RECTIFIER	0.51	935
NTE5801 INDUSTRIAL RECTIFIER	0.76	935
NTE5802 RECTIFIER 200V, 3AMP, AXIAL LEAD	0.87	935
NTE5804 RECTIFIER 400V, 3AMP, AXIAL LEAD	1.18	935
NTE5806 RECTIFIER 600V, 3AMP, AXIAL LEAD	1.46	935
NTE5809 INDUSTRIAL RECTIFIER	2.60	935
NTE5812 INDUSTRIAL RECTIFIER	1.58	935
NTE5814 RECTIFIER, 400PRV, 6A122A/AXIAL LEAD	1.84	935
NTE5817 INDUSTRIAL RECTIFIER	3.70	935
NTE5994 INDUSTRIAL RECTIFIER	7.15	935
NTE6400 TRANSISTOR, UNIJUNCTION, SI	18.70	935
NTE6401 TRANS SILCON UNIJUNCTION	1.73	935
NTE6402 TRANS PROGRAMMABLE UNIJUNCTION	1.54	935
NTE6407 SILICON 3 LAYER BILATERAL TRIGGER DIODE	1.35	935
NTE6408 SILICON 3 LAYER BILATERAL TRIGGER DIODE	1.11	935
NTE6409 TRANS SILICON UNIJUNCTION	2.83	935
NTE6410 TRANS SILICON UNIJUNCTION	1.03	935
NTE6419 THYRISTOR DIODE	2.18	935
OLB2685 LIGHT BAR HER	1.95	587
OP07CD PRECISSION OP AMP SOIC	2.09	735
PAL16L8A-2CN AND/OR INVERT PAL, 35NS/90MA	5.55	735
PAL16L8ACN AND/OR/INVERT PAL 25NS/180MA	5.55	735
PR3001 SILICON RECT 50V 1A AXIAL	0.13	925
PR3002 SILICON RECT 100V 1A AXIAL	0.14	925
PR3003 SILICON RECT 200V 1A AXIAL	0.14	925
PR3004 SILICON RECT 400V 3A AXIAL	0.14	925
PR3005 SILICON RECT 600V 3A AXIAL	0.16	925
RC4136N HIGH PERFORMANCE QUAD OP AMP	0.67	735
RC4558P HIGH PERFORMANCE DUAL OP AMP	0.31	735
RDF005 SI BRIDGE FAST RECOVERY 50V 1A DIP	0.88	925
RDF01 SI BRIDGE FAST RECOVERY 100V 1A DIP	0.96	925
RDF02 SI BRIDGE FAST RECOVERY 200V 1A DIP	1.04	925
RDF04 SI BRIDGE FAST RECOVERY 400V 1A DIP	1.12	925
RDF06 SI BRIDGE FAST RECOVERY 600V 1A DIP	1.24	925
RKBPC601 BRIDGE RECTIFIER 100V 6.0A	8.66	950
RKBPC601 SI BRIDGE FAST RECOVERY 100V 6A SQUARE	2.18	925
RKBPC602 BRIDGE RECTIFIER 200V 6.0A	9.10	950

Type-Description	Price	Mfg. Code
RKPBC602 SI BRIDGE FAST RECOVERY 200V 6A SQUARE	2.28	925
RKBPC604 BRIDGE RECTIFIER 400V 6.0A	9.99	950
RKBPC604 SI BRIDGE FAST RECOVERY 400V 6A SQUARE	2.34	925
RKBPC606 BRIDGE RECTIFIER 600V 6.0A	11.10	950
RKBPC606 SI BRIDGE FAST RECOVERY 600V 6A SQUARE	2.44	925
RKBPC608 BRIDGE RECTIFIER 800V 6.0A	12.66	950
RKBPC610 BRIDGE RECTIFIER 1000V 6.0A	13.99	950
RKBPC801 SI BRIDGE FAST RECOVERY 100V 8A SQUARE	2.30	925
RKBPC802 SI BRIDGE FAST RECOVERY 200V 8A SQUARE	2.35	925
RKBPC804 SI BRIDGE FAST RECOVERY 400V 8A SQUARE	2.44	925
RKBPC806 SI BRIDGE FAST RECOVERY 600V 8A SQUARE	2.50	925
RKBPC3501 SI BRIDGE FAST RECOVERY 100V 35A SQUARE	5.32	925
RKBPC3502 SI BRIDGE FAST RECOVERY 200V 35A SQUARE	5.56	925
RKBPC3504 SI BRIDGE FAST RECOVERY 400V 35A SQUARE	5.56	925
RKBPC3506 SI BRIDGE FAST RECOVERY 600V 35A SQUARE	5.70	925
RKBPC6005 BRIDGE RECTIFIER 50V 6.0A	7.99	950
RKBPC6005 SI BRIDGE FAST RECOVERY 50V 6A SQUARE	2.12	925
RW01M BRIDGE FAST RECOVERY 100V 1.5A ROUND	0.92	925
RW02M BRIDGE FAST RECOVERY 200V 1.5A ROUND	0.96	925
RW04M BRIDGE FAST RECOVERY 400V 1.5A ROUND	1.04	925
S05K11 METAL OXIDE VARISTOR	0.36	586
S05K14 METAL OXIDE VARISTOR	0.36	586
S05K20 METAL OXIDE VARISTOR	0.36	586
S05K25 METAL OXIDE VARISTOR	0.36	586
S05K30 METAL OXIDE VARISTOR	0.36	586
S05K35 METAL OXIDE VARISTOR	0.36	586
S05K50 METAL OXIDE VARISTOR	0.32	586
S07K11 METAL OXIDE VARISTOR	0.40	586
S07K14 METAL OXIDE VARISTOR	0.40	586
S07K17 METAL OXIDE VARISTOR	0.40	586
S07K20 METAL OXIDE VARISTOR	0.40	586
S07K25 METAL OXIDE VARISTOR	0.40	586
S07K30 METAL OXIDE VARISTOR	0.40	586
S07K35 METAL OXIDE VARISTOR	0.40	586
S07K40 METAL OXIDE VARISTOR	0.40	586
S07K50 METAL OXIDE VARISTOR	0.36	586
S07K60 METAL OXIDE VARISTOR	0.36	586
S07K130 METAL OXIDE VARISTOR	0.36	586
S07K140 METAL OXIDE VARISTOR	0.36	586
S07K150 METAL OXIDE VARISTOR	0.36	586
S07K250 METAL OXIDE VARISTOR	0.36	586
S07K275 METAL OXIDE VARISTOR	0.36	586
S07K300 METAL OXIDE VARISTOR	0.36	586
S10K11 METAL OXIDE VARISTOR	0.53	586
S10K14 METAL OXIDE VARISTOR	0.53	586
S10K17 METAL OXIDE VARISTOR	0.53	586
S10K20 METAL OXIDE VARISTOR	0.53	586
S10K25 METAL OXIDE VARISTOR	0.53	586
S10K30 METAL OXIDE VARISTOR	0.53	586
S10K40 METAL OXIDE VARISTOR	0.53	586
S10K50 METAL OXIDE VARISTOR	0.46	586
S10K60 METAL OXIDE VARISTOR	0.46	586
S10K75 METAL OXIDE VARISTOR	0.46	586
S10K95 METAL OXIDE VARISTOR	0.46	586
S10K130 METAL OXIDE VARISTOR	0.49	586
S10K150 METAL OXIDE VARISTOR	0.49	586
S10K250 METAL OXIDE VARISTOR	0.49	586
S10K275 METAL OXIDE VARISTOR	0.49	586
S14K11 METAL OXIDE VARISTOR	0.64	586
S14K14 METAL OXIDE VARISTOR	0.64	586
S14K17 METAL OXIDE VARISTOR	0.64	586
S14K20 METAL OXIDE VARISTOR	0.64	586
S14K25 METAL OXIDE VARISTOR	0.64	586
S14K30 METAL OXIDE VARISTOR	0.64	586
S14K35 METAL OXIDE VARISTOR	0.64	586
S14K50 METAL OXIDE VARISTOR	0.60	586
S14K60 METAL OXIDE VARISTOR	0.60	586
S14K95 METAL OXIDE VARISTOR	0.60	586
S14K130 METAL OXIDE VARISTOR	0.60	586
S14K140 METAL OXIDE VARISTOR	0.60	586
S14K150 METAL OXIDE VARISTOR	0.60	586
S14K175 METAL OXIDE VARISTOR	0.60	586
S14K230 METAL OXIDE VARISTOR	0.60	586
S14K250 METAL OXIDE VARISTOR	0.60	586
S14K275 METAL OXIDE VARISTOR	0.60	586
S14K300 METAL OXIDE VARISTOR	0.60	586
S14K385 METAL OXIDE VARISTOR	0.92	586
S14K420 METAL OXIDE VARISTOR	0.92	586
S14K460 METAL OXIDE VARISTOR	0.92	586
S14K510 METAL OXIDE VARISTOR	1.19	586
S14K550 METAL OXIDE VARISTOR	1.19	586
S14K625 METAL OXIDE VARISTOR	1.19	586
S14K1000 METAL OXIDE VARISTOR	3.05	586

Type-Description	Price	Mfg. Code
S20K11 METAL OXIDE VARISTOR	0.89	586
S20K14 METAL OXIDE VARISTOR	0.89	586
S20K17 METAL OXIDE VARISTOR	0.89	586
S20K20 METAL OXIDE VARISTOR	0.89	586
S20K25 METAL OXIDE VARISTOR	0.89	586
S20K75 METAL OXIDE VARISTOR	0.76	586
S20K130 METAL OXIDE VARISTOR	0.72	586
S20K150 METAL OXIDE VARISTOR	0.72	586
S20K250 METAL OXIDE VARISTOR	0.76	586
S20K275 METAL OXIDE VARISTOR	0.76	586
S20K300 METAL OXIDE VARISTOR	0.76	586
S20K385 METAL OXIDE VARISTOR	1.13	586
S20K420 METAL OXIDE VARISTOR	1.13	586
S20K460 METAL OXIDE VARISTOR	1.13	586
S20K510 METAL OXIDE VARISTOR	1.45	586
S20K550 METAL OXIDE VARISTOR	1.45	586
S20K625 METAL OXIDE VARISTOR	1.45	586
S20K680 METAL OXIDE VARISTOR	1.45	586
S20K1000 METAL OXIDE VARISTOR	3.82	586
SAA1042 LIN STEPPER MOTOR DRIVER	9.68	858
SC141D TRIAC 6A 400V TO220	0.70	858
SD241 REC 30A 45V SCHOTT TO3	5.02	858
SE014 SCHOTTKY SINGLE 40V 1A SOT89	0.46	925
SE024 SCHOTTKY DUAL 40V .95A SOT89	0.46	925
SG3524N SWITCHING VOLTAGE REGULATOR	1.00	735
SK3V3 ZENER DIODE 1W 3.3V	0.92	902
SK5A1 ZENER DIODE 0.5W 5.1V	0.62	902
SK5V1 ZENER DIODE 1.0W 5.1V	0.92	902
SK6A2 ZENER DIODE 0.5W 6.2V	0.62	902
SK6V2 ZENER DIODE 1.0W 6.2V	0.92	902
SK10V ZENER DIODE 1.0W 10.0V	0.92	902
SK12A ZENER DIODE 0.5W 12.0V	0.62	902
SK12V ZENER DIODE 1.0W 12.0V	0.92	902
SK13V ZENER DIODE 1.0W 13.0V	0.92	902
SK15V ZENER DIODE 1.0W 15.0V	0.92	902
SK18A ZENER DIODE 0.5W 18.0V	0.62	902
SK24V ZENER DIODE 1.0W 24.0V	0.92	902
SK406 SURGE SUPRESSOR	19.40	902
SK411 SINGLE OUTLET VOLTAGE SURGE SUPPRESSOR	9.99	902
SK3004 TRANS PNP GE AF LOW POWER	1.84	902
SK3009 TRANS PNP GE AF HI-POWER	8.30	902
SK3017B RECTIFER 600V 1A	1.46	902
SK3024 TRAN NPN SI AF MED POWER	1.95	902
SK3025 TRANS PNP SI AF MED POWER	1.98	902
SK3027 TRANS NPN SI AF HI-POWER	3.90	902
SK3051 RECTIFER 1000V 3A	1.05	902
SK3081 RECTIFER 1000V 2.5A	0.79	902
SK3083 TRANSISTOR PNP SI AF/DEFLECTION TO-220	2.72	902
SK3090 RECTIFIER DIODE 1200V 0.2A DO-7	0.65	902
SK3100 RECTIFER SWITCH ING	0.99	902
SK3107 BRIDGE RECTIFER 1000V 1.5A	2.56	902
SK3114A TRANS NPN SI AF POWER AMP	1.38	902
SK3124A NPN TRAN PWR	1.32	902
SK3190 TRANS NPN SI AF HI-POWER	2.10	902
SK3220 TRANS NPN SI DEFLECTION	3.20	902
SK3245 TRANS NPN SI AF PREAMP	0.95	902
SK3275 TRANSISTOR NPN SI AF DRIVER TO-92	1.05	902
SK3311 TRANS NPN SI DEFLECTION	0.30	902
SK3312 RECTIFIER DIODE 400V 1.0A DO-41	3.50	902
SK3440 TRANS NPN SI AF MED POWER	2.97	902
SK3441 TRANS PNP SI AF MED POWER	3.25	902
SK3444 TRANS NPN SI FR/AF OSC/AMP	1.39	902
SK3462 VOL REG 5V	1.65	902
SK3466 TRANS PNP SI MED POWER PREAMP/DRIVER	1.64	902
SK3503 SCR 600V 7A	4.60	902
SK3533 TRIAC 400V 16A	3.40	902
SK3591 VOL REG 5V	3.50	902
SK3592 VOL REG 12V	3.60	902
SK3593 VOL REG 15V	3.60	902
SK3597 SCR 200V 4A	1.34	902
SK3598 SCR 400V 4A	1.96	902
SK3627 SCR 200V 0.8A TO-92	1.25	902
SK3630 VOL REG 8V	3.35	902
SK3639 RECTIFER 200V 6-22A	1.58	902
SK3647 BRIDGE RECTIFER 200V 2A	2.12	902
SK3649 BRIDGE RECTIFIER 1000V 2A	4.98	902
SK3650 BRIDGE RECTIFIER 200V 35A	12.00	902
SK3659 TRIAC 400V 15.0A TO-220	4.90	902
SK3666 TRIAC 400V 4A	2.35	902
SK3670 VOL REG 24V	3.55	902
SK3671 VOL REG-5V	4.80	902
SK3673 VOL REG-12V	5.15	902
SK3674 VOL REG-15V	4.90	902
SK3680 BRIDGE RECTIFIER 200V 25A	5.75	902
SK3682 BRIDGE RECTIFIER 600V 25A	6.80	902
SK3710 TRANS NPN SI DEFLECTION	15.75	902
SK3848 RECTIFIER 600V 3A	1.46	902
SK3854 TRANS NPN SI RF/AF OSC/AMP	1.17	902
SK3893 TRANS NPN SI AUDIO AMP/SWITCHING	2.39	902
SK3896 TRANS NPN SI POWER AMP	1.95	902
SK3925 RECTIFIER 2KV 2A	3.00	902
SK3950 SCR 30V .8A	0.86	902
SK3985 BRIDGE RECTIFIE R 100V 8A	3.42	902

Type-Description	Price	Mfg. Code
SK3988 BRIDGE RECTIFIE R 600V 8A	4.95	902
SK3998 RECTIFIER, FAST RECOVERY 1500V 1A	2.17	902
SK5237 SCR 400V 10A	2.28	902
SK5538 TRIAC 400V 8A	2.85	902
SK5545 TRIAC 600V 10A TO-220	3.92	902
SK5551 TRIAC 200V 2.5A	4.55	902
SK5552 TRIAC 400V 2.5A	6.90	902
SK5556 TRIAC 400V .8A	1.83	902
SK6708 TRIAC 400V 8A	2.35	902
SK9007 RECTIFIER, 400V 3A	1.18	902
SK9041 TRANSISTOR NPN SI AF DRIVER TO-126	1.80	902
SK9085 HI-VOLTAGE, HI-SPEED	7.15	902
SK9091 DIODE 200V 200M A	0.99	902
SK9112 TRANSISTOR NPN SI AF G/P TO-220	2.85	902
SK9118 TRANS NPN SI VERT DEFLECTION	2.69	902
SK9119 TRANS NPN SI HORZ DEFLECTION	11.29	902
SK9215 ADJ VOL REG 1.2 TO 37V	3.00	902
SK9292 SCR 200V 10A	2.60	902
SK9293 SCR 400V 10A	3.10	902
SK9340 VOL REG 5V	15.20	902
SK9341 VOL REG 12V	15.15	902
SK9343 VOL REG 15V	11.00	902
SK9344 VOL REG 1-2V TO 32V	14.40	902
SK9363 TRANSISTOR PNP SI AF AMP TO-220	3.20	902
SK9422 TRANSISTOR NPN SI DAMPER DIODE TO-3P	6.60	902
SKF406 SURGE SUP/FILT	28.75	902
SKG202F TCE SK SERIES REPLACEMENT GUIDE	4.00	902
SMBT2222A G/P TRANS	0.15	586
SMBT2907A G/P TRANS	0.15	586
SMBT3904 G/P TRANS	0.14	586
SMBT3906 G/P TRANS	0.14	586
SMBTA06 G/P TRANS	0.16	586
SMBTA14 DARLINGTON TRANSISTOR	0.19	586
SMBTA20 G/P TRANS	0.15	586
SMBTA42 HI-VOLT TRANS	0.20	586
SMBTA56 G/P TRANS	0.16	586
SMBTA64 TRANS. DARL SOT23	0.19	586
SMBTA92 HI-VOLT TRANS	0.20	586
SN74ALS00AN QUAD 2 INPUT NAND GATE	0.38	735
SN74ALS02N QUAD 2 INPUT NOR GATE	0.38	735
SN74ALS04BN HEX INVERTER	0.38	735
SN74ALS08N QUAD 2 INPUT AND GATE	0.38	735
SN74ALS10AN TRIPLE 3 INPUT NAND GATE	0.56	735
SN74ALS27N TRIPLE 3 INPUT NOR GATE	0.38	735
SN74ALS32N QUAD 2 INPUT OR GATE	0.38	735
SN74ALS34N HEX NON-INVERTER	0.56	735
SN74ALS74AN DUAL D TYPE FLIP FLOP	0.51	735
SN74ALS86N QUAD 2 INPUT EXCLUSIVE OR GATE	0.51	735
SN74ALS109AN DUAL J K FLIP FLOP	0.51	735
SN74ALS112AN DUAL JK FLIP FLOP	0.51	735
SN74ALS133N 13 INPUT NAND GATE	0.60	735
SN74ALS138N 3 TO 8 LINE DECODER/ DEMULTIPLEXER	0.80	735
SN74ALS139N DUAL 1 OF 4 DECODER/ DEMULTIPLEXER	0.80	735
SN74ALS151N 8 - 1 DATA SELECTOR/MULTIPLEXER	0.80	735
SN74ALS153N DUAL 4 - 1 DUAL SELECTOR/ MULTIPLEXER	0.80	735
SN74ALS161BN 4 BIT SYNC BINARY COUNTER	0.98	735
SN74ALS163BN 4 BIT BINARY COUNTER	0.98	735
SN74ALS169BN SYNC 4 BIT BINARY COUNTER	0.45	735
SN74ALS174N HEX D TYPE FLIP FLOP	0.80	735
SN74ALS175N HEX D TYPE FLIP FLOP	0.90	735
SN74ALS191N SYNC BINARY COUNTER	1.00	735
SN74ALS193N SYNC UP/DOWN COUNTER	1.00	735
SN74ALS240AN OCTAL BUFFER/LINE DRIVER	1.20	735
SN74ALS241BN QUAD BUS TRANSCEIVER	1.20	735
SN74ALS244BN OCTAL BUFFER/LINE DRIVER	1.02	735
SN74ALS245AN OCTAL BUS TRANCEIVER	1.02	735
SN74ALS253N DUAL DATA SELECTOR/ MULTIPLEXER	0.80	735
SN74ALS257N QUAD 2 INPUT MULTIPLEXER	0.80	735
SN74ALS258N QUAD 1 - 8 DATA SELECTOR/ MULTIPLEXER	0.80	735
SN74ALS273N OCTAL D TYPE FLIP FLOP	1.29	735
SN74ALS280N 9 BIT PARITY GENERATOR/CHECKER	1.22	735
SN74ALS299N 8 BIT SHIFT REGISTER	3.22	735
SN74ALS373N OCTAL D TYPE LATCH	1.20	735
SN74ALS374AN OCTAL D TYPE FLIP FLOP	1.02	735
SN74ALS520N 8 BIT IDENTITY COMPARATOR	2.00	735
SN74ALS521N 8 BIT IDENTITY COMPARATOR	2.00	735
SN74ALS527N FUSE PROG IDENTITY COMPARATOR	3.55	735
SN74ALS534N OCTAL D TYPE FLIP FLOP	1.67	735
SN74ALS540N OCTAL BUFFER	1.67	735
SN74ALS541N OCTAL BUFFER	1.67	735
SN74ALS569AN 4 BIT BINARY COUNTER	2.44	735
SN74ALS574BN OCTAL D TYPE FLIP FLOP	1.44	735
SN74ALS623AN OCTAL BUS TRANSCEIVER	2.20	735
SN74ALS640BN OCTAL BUS TRANSCEIVER	1.89	735
SN74ALS645AN OCTAL BUS TRANSCEIVER	1.89	735
SN74ALS646NT OCTAL BUS TRANSCEIVER	6.11	735
SN74ALS652NT OCTAL BUS TRANSCEIVER	6.11	735
SN74ALS666NT 8 BIT D TYPE TRANSPARENT READ BACK LATCH	7.70	735
SN74ALS667NT 16 TO 4 BIT COMPARATOR	7.71	735

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Type-Description	Price	Mfg. Code
SN74ALS688N 8 BIT MAGNITUDE COMPARATOR	3.55	735
SN74ALS756N INVERTING OCTAL W/OC	2.13	735
SN74ALS841NT 10 BIT BUS INTERFACE LATCH	4.22	735
SN74ALS871N DUAL 16 X 4 REGISTER FILE	9.99	735
SN74ALS990N 8 BIT FEEDBACK REGISTER	4.44	735
SN74ALS1008AN HEX INVERTING DRIVER	0.56	735
SN74ALS1010AN TRIPLE 3 INPUT NAND BUFFER	0.56	735
SN74ALS29821NT 10 BIT REGISTER NON-INVERTING	3.55	735
SN74ALS29826NT 9 BIT REGISTER INVERTING	3.55	735
SN74AS00N QUAD 2 INPUT NAND GATE	0.44	735
SN74AS02N QUAD 2 INPUT NOR GATE	0.44	735
SN74AS04N HEX INVERTER	0.44	735
SN74AS08N QUAD 2 INPUT AND GATE	0.44	735
SN74AS10N TRIPLE 3 INPUT NAND GATE	1.00	735
SN74AS11N TRIPLE 3 INPUT AND GATE	0.44	735
SN74AS20N DUAL 4 INPUT NAND GATE	0.44	735
SN74AS21N DUAL 4 INPUT AND GATE	0.44	735
SN74AS27N TRIPLE 3 INPUT NOR GATE	0.44	735
SN74AS30N 8 INPUT NAND GATE	0.44	735
SN74AS32N QUAD 2 INPUT OR GATE	0.44	735
SN74AS74N DUAL D TYPE FLIP FLOP	0.56	735
SN74AS74N DUAL D TYPE FLIP FLOP	1.53	735
SN74AS138N 3 TO 8 LINE DECODER/ DEMULTIPLEXER	1.02	735
SN74AS153N DUL 4 - 1 DUAL SELECTOR/ MULTIPLEXER	1.02	735
SN74AS160N BCD DECADE COUNTER	2.44	735
SN74AS161N 4 BIT SYNC BINARY COUNTER	2.44	735
SN74AS163N 4 BIT BINARY COUNTER	2.44	735
SN74AS169AN SYNC 4 BIT BINARY COUNTER	2.44	735
SN74AS174N HEX D TYPE FLIP FLOP	1.53	735
SN74AS175N HEX D TYPE FLIP FLOP	1.53	735
SN74AS181ANT 4 BIT ALU	9.99	735
SN74AS194N UNIVERSAL SHIFT REGISTER	2.15	735
SN74AS240N OCTAL BUFFER/LINE DRIVER	1.89	735
SN74AS241N QUAD BUS TRANSCEIVER	1.89	735
SN74AS244N OCTAL BUS DRIVER	1.89	735
SN74AS245N OCTAL BUS TRANSCEIVER	2.00	735
SN74AS250ANT 1 OF 16 DATA GENERATOR/ MULTIPLEXER	2.89	735
SN74AS280N 9 BIT PARITY GENERATOR/CHECKER	1.33	735
SN74AS286N AS280 WITH BI-DIRECTIONAL PORT	1.33	735
SN74AS298N QUAD 2 INPUT MULTIPLEXER	1.02	735
SN74AS373N OCTAL D TYPE LATCH	1.89	735
SN74AS374N OCTAL D TYPE FLIP FLOP	1.89	735
SN74AS533N OCTAL D TYPE LATCH	2.00	735
SN74AS534N OCTAL D TYPE FLIP FLOP	2.00	735
SN74AS573AN OCTAL D TYPE LATCH	2.00	735
SN74AS574N OCTAL D TYPE FLIP FLOP	2.00	735
SN74AS576N OCTAL D TYPE FLIP FLOP	2.00	735
SN74AS640N OCTAL BUS TRANSCEIVER	5.00	735
SN74AS646NT OCTAL BUS TRANSCEIVER	6.11	735
SN74AS648NT OCTAL BUS TRANSCEIVER AND REGISTER	6.11	735
SN74AS651NT OCTAL BUS TRANSCEIVER	6.11	735
SN74AS652NT OCTAL BUS TRANSCEIVER	6.11	735
SN74AS757N OPEN COLLECTOR SN74AS241	3.33	735
SN74AS760N OPEN COLLECTOR SN74AS244	3.33	735
SN74AS804BN HEX 2 INPUT NAND DRIVER	2.11	735
SN74AS808BN HEX 2 INPUT AND DRIVER	2.11	735
SN74AS821NT 10 BIT BUS I/F REGISTER	4.22	735
SN74AS823NT 9 BIT BUS I/F REGISTER	4.22	735
SN74AS825NT 8 BIT BUS INTERFACE FLIP FLOP	4.22	735
SN74AS826NT 8 BIT BUS INTERFACE FLIP FLOP	4.22	735
SN74AS832BN HEX 2 INPUT OR DRIVER	2.11	735
SN74AS841NT 10 BIT BUS INTERFACE LATCH	4.22	735
SN74AS869NT SYNC 8 BIT UP/DOWN COUNTER	6.33	735
SN74AS870NT DUAL 16 X 4 REGISTER FILE	8.77	735
SN74AS874NT DUAL 4 BIT D TYPE FLIP FLOP	4.22	735
SN74AS881ANT 4 BIT ALU WITH STATUS CHECK	9.99	735
SN74AS885NT 8 BIT MAGNITUDE COMPARATOR	8.66	735
SN74AS1000AN QUAD NAND BUFFER/DRIVER	1.00	735
SN74AS1004AN HEX INVERTING DRIVER	1.00	735
SN74AS1008AN HEX INVERTING DRIVER	1.00	735
SN74HC00N QUAD 2 INPUT NAND GATE	0.24	735
SN74HC02N QUAD 2 INPUT NOR GATE	0.24	735
SN74HC03N QUAD 2 INPUT NAND GATE	0.24	735
SN74HC04D HEX INVERTER SOIC	0.29	735
SN74HC04N HEX INVERTER	0.24	735
SN74HC05N HEX INVERTER	0.24	735
SN74HC08D QUAD 2 INPUT AND GATE SOIC	0.29	735
SN74HC08N QUAD 2 INPUT AND GATE	0.24	735
SN74HC10N TRIPLE 3 INPUT NAND GATE	0.24	735
SN74HC14N HEX SCHMITT TRIGGER	0.31	735
SN74HC27N TRIPLE 3 INPUT NOR GATE	0.24	735
SN74HC30N 8 INPUT NAND GATE	0.24	735
SN74HC32N QUAD 2 INPUT OR GATE	0.24	735
SN74HC51N DUAL AND/OR INVERT GATE	0.24	735
SN74HC74D DUAL D TYPE FLIP FLOP SOIC	0.40	735
SN74HC74N DUAL D TYPE FLIP FLOP	0.33	735
SN74HC86N QUAD 2 INPUT EXCLUSIVE OR GATE	0.38	735
SN74HC107N DUAL JK FLIP FLOP	0.38	735
SN74HC109N DUAL J-K FLIP FLOP	0.38	735
SN74HC112N DUAL J-K FLIP FLOP	0.38	735
SN74HC125N QUAD 3 STATE BUFFER	0.38	735

Type-Description	Price	Mfg. Code
SN74HC126N QUAD 3 STATE BUFFER	0.38	735
SN74HC132N QUAD 2 INPUT SCHMITT TRIGGER	0.73	735
SN74HC137N 3 TO 8 LINE DECODER/ DEMULTIPLEXER	0.73	735
SN74HC138D 3 TO 8 LINE DECODER/ DEMULTIPLEXER SOIC	0.53	735
SN74HC138N 3 TO 8 LINE DECODER/ DEMULTIPLEXER	0.44	735
SN74HC139N DUAL 1 OF 4 DECODER/ DEMULTIPLEXER	0.44	735
SN74HC148N PRIORITY ENCODER	1.20	735
SN74HC151N 8-1 DATA SELECTOR/MULTIPLEXER	0.44	735
SN74HC153N DUAL 4 - 1 DUAL SELECTOR/ MULTIPLEXER	0.44	735
SN74HC154NT 4 TO 16 LINE DECODER/ DEMULTIPLEXER	4.22	735
SN74HC157N QUAD 2 - 1 DATA SELECTOR/ MULTIPLEXER	0.44	735
SN74HC161N 4 BIT SYNC BINARY COUNTER	0.56	735
SN74HC163N 4 BIT BINARY COUNTER	0.56	735
SN74HC164N 8 BIT SHIFT REGISTER	0.56	735
SN74HC165N 8 BIT SHIFT REGISTER	0.56	735
SN74HC174N HEX D TYPE FLIP FLOP	0.44	735
SN74HC175N HEX D TYPE FLIP FLOP	0.44	735
SN74HC191N SYNC BINARY COUNTER	0.89	735
SN74HC192N SYNC UP/DOWN COUNTER	0.89	735
SN74HC193N SYNC UP/DOWN COUNTER	0.56	735
SN74HC237N 3 - 8 LINE DECODER/DEMUX W/LATCHES	1.00	735
SN74HC240N OCTAL BUFFER/LINE DRIVER	0.62	735
SN74HC244N OCTAL BUFFER LINE DRIVER	0.60	735
SN74HC245N OCTAL BUS TRANSCEIVER	0.67	735
SN74HC251N DATA SELECTOR/MULTIPLEXER	0.49	735
SN74HC257N QUAD 2 INPUT MULTIPLEXER	0.49	735
SN74HC259N 8 BIT ADDRESSABLE LATCH	0.89	735
SN74HC273N OCTAL D TYPE FLIP FLOP	0.67	735
SN74HC283N 4 BIT FULL ADDER	1.04	735
SN74HC356N 8 - 1 SELECTOR/MULTIPLEXER REGISTER	2.00	735
SN74HC373N OCTAL D TYPE LATCH	0.62	735
SN74HC374N OCTAL D TYPE FLIP FLOP	0.62	735
SN74HC377N OCTAL D TYPE FLIP FLOP	1.42	735
SN74HC393N DUAL 4 BIT BINARY COUNTER	0.80	735
SN74HC540N OCTAL BUFFER	1.00	735
SN74HC541N OCTAL BUFFER	1.00	735
SN74HC574N OCTAL D TYPE FLIP FLOP	1.00	735
SN74HC590AN BINARY COUNTER W/OUTPUT REG	1.67	735
SN74HC594N 8 BIT SHIFT REGISTER	2.62	735
SN74HC640N OCTAL BUS TRANSCEIVER	1.55	735
SN74HC646NT OCTAL BUS TRANSCEIVER	4.44	735
SN74HC677NT 16 BIT COMPARATOR WITH ENABLE	1.67	735
SN74HC682N 8 BIT MAGNITUDE COMPARATOR	4.26	735
SN74HC684N 8 BIT MAGNITUDE COMPARATOR	4.26	735
SN74HC688N 8 BIT MAGNITUDE COMPARATOR	3.62	735
SN74HC4020N 14 STAGE BINARY COUNTER	0.67	735
SN74HC4040N 12 STAGE BINARY COUNTER	0.89	735
SN74HC4515NT 4 BIT LATCH/4 TO 16 LINE DECODER	4.22	735
SN74HCT04N QUAD 2 INPUT NOR GATE	0.24	735
SN74HCT138N 3 TO 8 LINE DECODER/ DEMULTIPLEXER	0.44	735
SN74HCT240N OCTAL BUFFER/LINE DRIVER	0.62	735
SN74HCT244N OCTAL BUFFER LINE DRIVER	0.60	735
SN74HCT245N OCTAL BUS TRANSCEIVER	0.67	735
SN74HCT373N OCTAL D TYPE LATCH	0.62	735
SN74HCT374N OCTAL D TYPE FLIP FLOP	0.62	735
SN74HCT573N OCTAL D TYPE LATCH	1.00	735
SN74HCT645N OCTAL BUS TRANSCEIVER	2.55	735
SN74LS00D QUAD 2 INPUT NAND GATE SOIC	0.31	735
SN74LS00J LS QD 2 I/P NAND GATE	0.41	858
SN74LS00N LS QD 2 I/P NAND GATE	0.22	858
SN74LS00N QUAD 2 INPUT NAND GATE	0.27	735
SN74LS01N LS QD 2I/P NAND GATE O/C	0.22	858
SN74LS01N QUAD 2 INPUT NAND GATE	0.27	735
SN74LS02N LS QD 2 I/P NOR GATE	0.22	858
SN74LS02N QUAD 2 INPUT NOR GATE	0.27	735
SN74LS03N LS QD 2 I/P NAND GATE O/C	0.22	858
SN74LS03N QUAD 2 INPUT NAND GATE	0.27	735
SN74LS04D HEX INVERTER SOIC	0.31	735
SN74LS04N HEX INVERTER	0.27	735
SN74LS04N LS HEX INVERTER	0.22	858
SN74LS05N HEX INVERTER	0.27	735
SN74LS05N LS HEX INVERTER O/C	0.22	858
SN74LS08D QUAD 2 INPUT AND GATE SOIC	0.31	735
SN74LS08J LS QD 2 I/P AND GATE	0.41	858
SN74LS08N LS QD 21/P AND GATE	0.22	858
SN74LS08N QUAD 2 INPUT AND GATE	0.27	735
SN74LS09N LS QD 2 I/P AND GATE O/C	0.22	858
SN74LS09N QUAD 2 INPUT AND GATE	0.27	735
SN74LS10N LS TRPL 31/P NAND GATE	0.22	858
SN74LS10N TRIPLE 3 INPUT NAND GATE	0.27	735
SN74LS11N LS TRIPLE 3 I/P AND GATE	0.22	858
SN74LS11N TRIPLE 3 INPUT AND GATE	0.27	735
SN74LS12N LS TRIPLE 3 I/P NAND GATE O/C	0.22	858
SN74LS13N LS SCHMITT TRIGGER DUAL GATE/ HEX INV	0.32	858

Type-Description	Price	Mfg. Code
SN74LS14D HEX SCHMITT TRIGGER SOIC	0.38	735
SN74LS14N HEX SCHMITT TRIGGER	0.33	735
SN74LS14N LS SCHMITT TRIGGER DUAL GATE/ HEX INV	0.27	858
SN74LS15N TRIPLE 3 INPUT AND GATE	0.27	735
SN74LS20N DUAL 4 INPUT NAND GATE	0.33	735
SN74LS20N LS DL 41/P NAND GATE	0.27	858
SN74LS21N DUAL 4 INPUT AND GATE	0.33	735
SN74LS21N LS DUAL 4 I/P AND GATE	0.27	858
SN74LS22N LS DUAL 4 I/P NAND GATE	0.27	858
SN74LS26N LS QUAD 2 I/P NAND BUFFER	0.22	858
SN74LS27N LS TRIPLE 3 I/P NOR GATE	0.22	858
SN74LS27N TRIPLE 3 INPUT NOR GATE	0.27	735
SN74LS28N LS QUAD 2 I/P NOR BUFFER	0.30	858
SN74LS30N 8 INPUT NAND GATE	0.27	735
SN74LS30N LS 8 I/P NAND GATE	0.22	858
SN74LS32D QUAD 2 INPUT OR GATE SOIC	0.36	735
SN74LS32N LS QD 21/P OR GATE	0.27	858
SN74LS32N QUAD 2 INPUT OR GATE	0.33	735
SN74LS33N LS QUAD 2 I/P NOR BUFFER	0.27	858
SN74LS37N QUAD 2 INPUT NAND BUFFER	0.36	735
SN74LS38N LS QD 2I/P NAND BUFFER	0.27	858
SN74LS38N QUAD 2 INPUT NAND BUFFER	0.36	735
SN74LS42N 1 OF 10 DECODER	0.51	735
SN74LS42N LS 1 OF 10 DECODER	0.41	858
SN74LS47N BCD TO 7 SEGMENT DECODER/DRIVER	0.80	735
SN74LS47N LS BCD 7 SEG DEC/DRDIVER	0.64	858
SN74LS48N LS BCD TO 7 SEG DECODER	0.64	858
SN74LS51N DUAL AND/OR INVERT GATE	0.33	735
SN74LS51N LS DUAL 2 WD 2 I/P/3 I/P AOI	0.27	858
SN74LS54N LS 2-3-3-2 AOI GATE	0.27	858
SN74LS73AN DUAL J K FLIP FLOP	0.44	735
SN74LS73AN LS DUAL J K NEG EDGE TRIGGER FLIP FLOP	0.36	858
SN74LS74AN DUAL D TYPE FLIP FLOP	0.29	735
SN74LS74AN LS DL D TYPE POS EDGE FF	0.23	858
SN74LS75N 4 BIT LATCH	0.49	735
SN74LS75N LS 4-BIT D LATCH	0.37	858
SN74LS76AN LS DUAL J K FLIP FLOP W/SET & CLEAR	0.36	858
SN74LS77N LS 4 BIT D LATCH	0.60	858
SN74LS83AN LS 4 BIT BIN FULL ADDER	0.54	858
SN74LS85N 4 BIT MAGNITUDE COMPARATOR	0.51	735
SN74LS85N LS 4 BIT MAG COMPARATOR	0.41	858
SN74LS86AN QUAD 2 INPUT EXCLUSIVE OR GATE	0.51	735
SN74LS86N LS QUAD 2 I/P EXCLUSIVE OR	0.36	858
SN74LS90N DECADE COUNTER	0.56	735
SN74LS90N LS DECADE COUNTER	0.45	858
SN74LS92N DIVIDE BY 2 COUNTER	0.56	735
SN74LS92N LS DIVIDE BY 12 COUNTER	0.45	858
SN74LS93D 4 BIT BINARY COUNTER SOIC	0.64	735
SN74LS93N 4 BIT BINARY COUNTER	0.56	735
SN74LS93N LS 4 BIT BIN COUNTER	0.45	858
SN74LS107AN DUAL J-K FLIP FLOP	0.38	735
SN74LS107AN LS DL JK FLIP FLOP	0.30	858
SN74LS109AN DUAL J-K FLIP FLOP	0.38	735
SN74LS109AN LS DL JK POS EDG-TRIG FF	0.30	858
SN74LS112AN DUAL J-K FLIP FLOP	0.38	735
SN74LS112AN LS TRIPLE 3 I/P NAND GATE O/C	0.30	858
SN74LS113AN LS DUAL J K NEG EDGE TRIPPLE FLIP FLOP	0.30	858
SN74LS114AN LS DUAL J K NEG EDGE TRIGGER FLIP FLOP	0.30	858
SN74LS122N LS RETRIG MONOSTABLE MULTIVIBRATOR	0.45	858
SN74LS123N DUAL MONOSTABLE MULTIVIBRATOR	0.56	735
SN74LS123N LS RETRIG MONOSTBL MLTVBR	0.45	858
SN74LS125AN LS QUAD 3 STATE BUFFER	0.36	858
SN74LS125AN QUAD 3 STATE BUFFER	0.44	735
SN74LS126AN LS QUAD 3 STATE BUFFER	0.32	858
SN74LS126AN QUAD 3 STATE BUFFER	0.44	735
SN74LS132N LS QUAD 2 I/P SCHMITT TRIGGER NAND	0.50	858
SN74LS133N LS 3 I/P NAND GATE	0.39	858
SN74LS136N LS QUAD 2 I/P EXC OR O/C	0.37	858
SN74LS137N 3-8 LINE DECODER/DEMULTIPLEXER	0.3/	858
SN74LS138N 3 TO 8 LINE DECODER/ DEMULTIPLEXER	0.42	735
SN74LS138N LS 1 OF 8 DECODER/DEMULTIPLEXER	0.34	858
SN74LS139AN DUAL 1 OF 4 DECODER/ DEMULTIPLEXER	0.51	735
SN74LS139N LS DL 1-OF-4 DECDR/DEMUX	0.41	858
SN74LS145N BCD TO DECIMAL DECODER/ DRIVER	0.60	735
SN74LS145N LS 1 OF 10 DECODER/DRIVER O/C	0.48	858
SN74LS148N 8 TO 3 LINE ENCODER	1.07	735
SN74LS148N LS 10-4 AND 8-3 ENCODER	0.86	858
SN74LS151N 8 - 1 DATA SELECTOR/MULTIPLEXER	0.42	735
SN74LS151N LS 8 INPUT MULTIPLEXER	0.34	858
SN74LS153N DUAL 4 - 1 DUAL SELECTOR MULTIPLEXER	0.42	735
SN74LS153N LS DUAL 4 INPUT MULTIPLEXER	0.34	858
SN74LS155AN DUAL 1 OF 4 DECODER	0.42	735
SN74LS155N LS DL 1/4 DEC/DEMUX	0.34	858
SN74LS156N DUAL 1 OF 4 DECODER	0.42	735

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Type-Description	Price	Mfg. Code
SN74LS156N LS DL 1/4 DEC/DEMUX	0.34	858
SN74LS157N LS QD 2 INPUT MULTIPLEXER	0.34	858
SN74LS157N QUAD 2 - 1 DATA SELECTOR/ MULTIPLEXER	0.42	735
SN74LS158N LS QD 2 INPUT MULTIPLEXER	0.34	858
SN74LS158N QUAD 2 - 1 DATA SELECTOR/ MULTIPLEXER	0.42	735
SN74LS160AN BCD DECADE COUNTER	0.47	735
SN74LS160AN LS BCD DEC/4 BIT BIN CTRS	0.37	858
SN74LS161AN 4 BIT SYNC BINARY COUNTER	0.47	735
SN74LS161AN LS BCD DEC/4 BIT BIN CTRS	0.37	858
SN74LS163AN 4 BIT BINARY COUNTER	0.47	735
SN74LS163AN LS BCD DEC/4 BIT BIN CTRS	0.37	858
SN74LS164N 8 BIT SHIFT REGISTER	0.47	735
SN74LS164N LS SERIAL-IN PARA-OUT SR	0.37	858
SN74LS165AN 8 BIT SHIFT REGISTER	0.89	735
SN74LS165N LS 8BIT PARA/SER CONVERTER	0.72	858
SN74LS166AN 8 BIT SHIFT REGISTER	1.00	735
SN74LS166N LS 8BIT PARA/SER CONVERTER	0.82	858
SN74LS168BN SYNC 4 BIT BINARY COUNTER	1.11	735
SN74LS168N LS UP/DOWN DECADE CNTR	0.90	858
SN74LS169N LS UP/DOWN BIN COUNTER	0.90	858
SN74LS173AN LS 4BIT D TYP REG 3-STATE	0.41	858
SN74LS173AN QUAD D TYPE REGISTER	0.51	735
SN74LS174J LS HEX FF/CLEAR	0.60	858
SN74LS174N HEX D TYPE FLIP FLOP	0.42	735
SN74LS174N LS HEX FF W/CLEAR	0.34	858
SN74LS175N HEX D TYPE FLIP FLOP	0.42	735
SN74LS175N LS QD D FLIP FLOP W/CLEAR	0.34	858
SN74LS183N DUAL CARRY SAVE ADDER	7.04	735
SN74LS190N LS UP/DN DECADE COUNTER	0.45	858
SN74LS190N SYNC UP/DOWN COUNTER	0.56	735
SN74LS191N LS BIN UP/DN COUNTER	0.45	858
SN74LS191N SYNC BINARY COUNTER	0.56	735
SN74LS192N LS BCD/DECADE UP/DN CNTR	0.45	858
SN74LS193N LS 4-BIT BIN UP/DN CNTR	0.45	858
SN74LS193N SYNC UP/DOWN COUNTER	0.56	735
SN74LS194AN 4-BIT BI-DIRECTIONAL UNIVERSAL SHIFT REG	0.45	858
SN74LS194AN UNIVERSAL SHIFT REGISTER	0.51	735
SN74LS195AN 4 BIT SHIFT REGISTER	0.89	735
SN74LS195AN LS UNIV 4-BIT SHFT REG	0.45	858
SN74LS196N LS 4 STG PRESETBL RIP CNTR	0.72	858
SN74LS197N 4 BIT BINARY COUNTER	1.08	735
SN74LS197N LS 4 STG PRESETBL RIP CNTR	0.72	858
SN74LS221N DUAL MONOSTABLE MULTIVIBRATOR	0.80	735
SN74LS221N LS DL MONOSTBL MLTVBRTR	0.64	858
SN74LS222AN 16 WORD X 4 BIT FIFO	15.54	735
SN74LS224AN 16 WORD X 4 BIT FIFO	13.32	735
SN74LS227N 16 WORD X 4 BIT FIFO	15.54	735
SN74LS228N 16 WORD X 4 BIT FIFO	13.32	735
SN74LS240N LS OCTAL BUFF/LINE DEVR	0.46	858
SN74LS240N OCTAL BUFFER/LINE DRIVER	0.58	735
SN74LS241N LS OCTAL BUFF/LINE DRVR	0.46	858
SN74LS241N OCTAL 3 STATE DRIVER/BUFFER	0.58	735
SN74LS242N LS QUAD BUS TRANSCIEVER	0.50	858
SN74LS243N LS QUAD BUS TRANSCIEVER	0.50	858
SN74LS244N LS OCTAL BUFF/LINE DRVR	0.46	858
SN74LS244N OCTAL BUFFER LINE DRIVER	0.58	735
SN74LS245N LS OCTAL BUS TRANSCIEVER	0.48	858
SN74LS245N OCTAL BUS TRANSCEIVER	0.60	735
SN74LS247N BCD TO 7 SEGMENT DECODER	0.84	735
SN74LS247N LS BCD TO 7 SEG DEC/DRVR	0.68	858
SN74LS248N LS BCD TO 7 SEG DEC/DRVR	0.41	858
SN74LS251N 8 - 1 DATA SELECTOR MULTIPLEXER	0.44	735
SN74LS251N LS 8I/P MUX W/3STATE O/P	0.36	858
SN74LS253N DUAL DATA SELECTOR/MULTIPLEXER	0.44	735
SN74LS253N LS DL 4I/P MUX W/3ST O/P	0.36	858
SN74LS257AN LS QD 2I/P MUX W/3ST O/P	0.36	858
SN74LS257BN QUAD 2 INPUT MULTIPLEXER	0.44	735
SN74LS258AN QUAD 2 IN PUT MULTIPLEXER W/3 STATE OUTP	0.36	858
SN74LS259BN QUAD 2 INPUT MULTIPLEXER	0.69	735
SN74LS259N LS 8-BIT ADDR LATCH	0.56	858
SN74LS260N LS DL 5I/P NOR GATE	0.27	858
SN74LS266N LS QD 2I/P ECX NOR O/C	0.32	858
SN74LS266N QUAD EXCLUSSIVE NOR GATE	0.40	735
SN74LS273N LS 8-BIT REG W/CLEAR	0.48	858
SN74LS273N OCTAL D TYPE FLIP FLOP	0.60	735
SN74LS279AN QUAD SET/RESET LATCH	0.44	735
SN74LS279N LS QD SET-RESET LATCH	0.36	858
SN74LS280N 9 BIT PARITY GENERATOR/CHECKER	0.75	735
SN74LS280N LS 9-BIT O/E PAR GEN/CHK	0.58	858
SN74LS283N 4 BIT FULL ADDER	0.62	735
SN74LS283N LS 4-BIT BIN FULL ADDER	0.50	858
SN74LS290N LS DECADE COUNTER	0.56	858
SN74LS292N 30 BIT PROGRAMMABLE COUNTER	15.54	735
SN74LS294N 16 BIT PROGRAMMABLE COUNTER	15.54	735
SN74LS297N DIGITAL PHASE LOCK LOOP	15.54	735
SN74LS298N LS QD 2I/P MUX W/STORAGE	0.64	858
SN74LS298N QUAD 2 INPUT MULTIPLEXER	0.78	735
SN74LS299N 8 BIT SHIFT REGISTER	1.53	735
SN74LS299N LS 8BIT SHIFT/STORAGE REG	1.24	858
SN74LS320N CRYSTAL OSCILLATOR	6.16	735
SN74LS321N CRYSTAL OSCILLATOR	3.11	735
SN74LS322AN 8 BIT SHIFT REGISTER	2.66	735
SN74LS323N LS 8BIT SHIFT/STORAGE REG	2.16	858
SN74LS348N 3 STATE LS148	1.13	735
SN74LS348N LS 8I/P PRIORITY ENCODER	0.92	858
SN74LS353N LS DL 4/IP MUX W/3ST O/P	0.72	858
SN74LS355N 8 - 1 DATA SELECTOR	6.60	735
SN74LS365AN HEX BUS DRIVER	0.51	735
SN74LS365AN LS 3-STATE HEX BUFFERS	0.41	858
SN74LS366AN HEX BUS DRIVER	0.51	735
SN74LS366AN LS 3-STATE HEX BUFFERS	0.41	858
SN74LS367AN HEX BUS DRIVER	0.51	735
SN74LS367AN LS 3-STATE HEX BUFFERS	0.41	858
SN74LS368AN HEX BUS DRIVER	0.51	735
SN74LS368AN LS 3-STATE HEX BUFFERS	0.41	858
SN74LS373N LS OCTAL TRANSPARNT LATCH	0.46	858
SN74LS373N OCTAL D TYPE LATCH	0.58	735
SN74LS374N LS OCTAL D FF 3-STATE	0.46	858
SN74LS374N OCTAL D TYPE FLIP FLOP	0.58	735
SN74LS375N 4 BIT BISTABLE LATCH	0.51	735
SN74LS375N LS 4-BIT D LATCH	0.41	858
SN74LS377N LS OCTAL D FF W/ENABLE	0.64	858
SN74LS377N OCTAL D TYPE FLIP FLOP	0.80	735
SN74LS378N HEX D TYPE FLIP FLOP	0.82	735
SN74LS378N LS HEX D FF W/ENABLE	0.66	858
SN74LS381AN ALU FUNCTION GENERATOR	3.11	735
SN74LS382AN ALU FUNCTION GENERATOR	3.11	735
SN74LS390N DUAL 4 BIT DECADE BINARY COUNTER	0.64	735
SN74LS390N LS DL DECADE COUNTER	0.52	858
SN74LS393N DUAL 4 BIT BINARY COUNTER	0.64	735
SN74LS393N LS DL 4-STATE BIN CNTR	0.52	858
SN74LS396N OCTAL STORAGE REGISTER	3.74	735
SN74LS399N QUAD 2 INPUT MULTIPLEXER WITH STORAGE	0.89	735
SN74LS423N MULTIVIBRATOR	0.84	735
SN74LS442N TRI-DIRECTIONAL TRANSCEIVER	5.00	735
SN74LS466N 3 STATE OCTAL BUFFER	1.55	735
SN74LS540N LS OCTAL BUFF/LNE DRVR	0.72	858
SN74LS540N OCTAL BUFFER	0.89	735
SN74LS541N LS OCTAL BUFF/LNE DRVR	0.72	858
SN74LS541N OCTAL BUFFER	0.89	735
SN74LS569N LS 4-BIT UP/DN CNTR	1.36	858
SN74LS590N BIBARY COUNTER W/OUTPUT REG	6.11	735
SN74LS592N BINARY COUNTER WITH OUTPUT REG	6.11	735
SN74LS593N BINARY COUNTER W/OUTPUT REG	7.77	735
SN74LS595N 8 BIT SHIFT REGISTER	6.11	735
SN74LS597N SHIFT REGISTER	6.11	735
SN74LS610N MEMORY MAPPER/LATCHED/3 STATE	12.21	735
SN74LS611N MEMORY MAPPER W/LATCH	14.99	735
SN74LS612N MEMORY MAPPER	7.77	735
SN74LS613N MEMORY MAPPER	14.99	735
SN74LS624D VOLTAGE CONTROLLED OSCILLATOR SOIC	1.86	735
SN74LS624N VOLTAGE CONTROLLED OSCILLATOR	1.86	735
SN74LS625N VOLTAGE CONTROLLED OSCILLATOR	2.55	735
SN74LS627N VOLTAGE CONTROLLED OSCILLATOR	5.06	735
SN74LS628N VOLTAGE CONTROLLED OSCILLATOR	1.86	735
SN74LS629N VOLTAGE CONTROLLED OSCILLATOR	2.55	735
SN74LS639N OCTAL BUS TRANSCEIVER	4.36	735
SN74LS640N LS OCTAL BUS TRANSCEIVERS	1.18	858
SN74LS640N OCTAL BUS TRANSCEIVER	1.44	735
SN74LS645-1N OCTAL BUS TRANSCEIVER	3.33	735
SN74LS645N LS OCTAL BUS TRANSCEIVERS	0.82	858
SN74LS645N OCTAL BUS TRANSCEIVER	1.02	735
SN74LS646NT OCTAL BUS TRANSCEIVER	4.33	735
SN74LS647NT OCTAL BUS TRANSCEIVER W/LATCHES	14.88	735
SN74LS648NT OCTAL BUS TRANSCEIVER AND REGISTER	4.33	735
SN74LS649NT OCTAL BUS TRANSCEIVER	14.88	735
SN74LS652NT OCTAL BUS TRANSCEIVER	5.22	735
SN74LS669N 4 BIT DECADE COUNTER SYNC RESET	0.89	735
SN74LS670N 4 BY 4 REGISTER FILE	1.00	735
SN74LS670N LS 4X4 REG FILE W/3ST O/P	0.82	858
SN74LS673N 16 BIT SHIFT REGISTER	26.40	735
SN74LS681N ALU	8.66	735
SN74LS682N 8 BIT MAGNITUDE COMPARATOR	2.00	735
SN74LS682N LS 8-BIT MAG COMPARATORS	1.62	858
SN74LS684N 8 BIT MAGNITUDE COMPARATOR	2.44	735
SN74LS684N LS 8-BIT MAG COMPARATORS	1.98	858
SN74LS688N 8 BIT MAGNITUDE COMPARATOR	1.67	735
SN74LS688N LS 8-BIT MAG COMPARATORS	1.56	858
SN74LS697N SYNC UP/DOWN COUNTER	3.33	735
SN74LS699N SYNC UP/DOWN COUNTER	3.33	735
SN74LS795N LS TRI-ST OCTAL BUFFERS	0.90	858
SN74LS796N LS TRI-ST OCTAL BUFFERS	0.72	858
SN74S00N QUAD 2 INPUT NAND GATE	0.56	735
SN74S02N QUAD 2 INPUT NOR GATE	0.56	735
SN74S04N HEX INVERTER	0.58	735
SN74S05N HEX INVERTER	0.58	735
SN74S08N QUAD 2 INPUT AND GATE	0.56	735
SN74S08N QUAD 2 INPUT AND GATE	0.56	735
SN74S10N TRIPLE 3 INPUT NAND GATE	0.56	735
SN74S11N TRIPLE 3 INPUT AND GATE	0.56	735
SN74S20N DUAL 4 INPUT NAND GATE	0.56	735
SN74S30N 8 INPUT NAND GATE	0.56	735
SN74S32N QUAD 2 INPUT OR GATE	0.58	735
SN74S37N QUAD 2 INPUT NAND BUFFER	1.00	735
SN74S38N QUAD 2 INPUT NAND BUFFER	1.00	735
SN74S51N DUAL AND/OR INVERT GATE	0.56	735
SN74S64N AND/OR/INVERT GATE	0.58	735
SN74S74N DUAL D TYPE FLIP FLOP	0.71	735
SN74S85N 4 BIT MAGNITUDE COMPARATOR	2.00	735
SN74S85N 4 BIT MAGNITUDE COMPARATOR	2.00	735
SN74S86N QUAD 2 INPUT EXCLUSIVE OR GATE	0.75	735
SN74S112AN DUAL JK FLIP FLOP	0.73	735
SN74S113AN DUAL J K FLIP FLOP	0.73	735
SN74S124N DUAL VOLTAGE CONTROLLER OSCILLATOR	3.22	735
SN74S138AN 3 TO 8 LINE DECODER/ DEMULTIPLEXER	1.33	735
SN74S139AN DUAL 1 OF 4 DECODER/ DEMULTIPLEXER	1.33	735
SN74S140N DUAL LINE DRIVER	0.71	735
SN74S151N 8 - 1 DATA SELECTOR/MULTIPLEXER	1.33	735
SN74S153N DUAL 4 - 1 DUAL SELECTOR/ MULTIPLEXER	1.33	735
SN74S157N QUAD 2 - 1 DATA SELECTOR/ MULTIPLEXER	1.33	735
SN74S158N QUAD 2 - 1 DATA SELECTOR/ MULTIPLEXER	1.33	735
SN74S163N 4 BIT BINARY COUNTER	3.33	735
SN74S169N SYNC 4 BIT BINARY COUNTER	5.00	735
SN74S174N HEX D TYPE FLIP FLOP	1.55	735
SN74S175N HEX D TYPE FLIP FLOP	1.55	735
SN74S181N 4 BIT ARITHMETIC LOGIC UNIT	4.33	735
SN74S182N LOOK AHEAD CARRY GENERATOR	1.89	735
SN74S194N UNIVERSAL SHIFT REGISTER	2.00	735
SN74S195N 4 BIT SHIFT REGISTER	2.11	735
SN74S197N 4 BIT BINARY COUNTER	3.77	735
SN74S240N OCTAL BUFFER/LINE DRIVER	2.55	735
SN74S241DW OCTAL 3 INPUT DRIVER/BUFFER SOWB	2.55	735
SN74S241N OCTAL 3 STATE DRIVER/BUFFER	2.55	735
SN74S244N OCTAL BUFFER LINE DRIVER	2.87	735
SN74S251N 8 - 1 DATA SELECTOR MULTIPLEXER	1.44	735
SN74S257N QUAD 2 INPUT MULTIPLEXER	1.33	735
SN74S258N QUAD 2 INPUT MULTIPLEXER	1.33	735
SN74S260N DUAL 5 INPUT NOR GATE	0.78	735
SN74S280N 9 BIT PARITY GENERATOR/CHECKER	2.11	735
SN74S283N 4 BIT FULL ADDER	3.64	735
SN74S299N 8 BIT SHIFT REGISTER	7.77	735
SN74S373N OCTAL D TYPE LATCH	3.00	735
SN74S373N OCTAL D TYPE LATCH	3.00	735
SN74S374N OCTAL D TYPE FLIP FLOP	3.00	735
SN74S381N ALU FUNCTION GENERATOR	6.11	735
SN74S645N OCTAL BUS TRANSCEIVER	2.78	735
SN7400N QUAD 2 INPUT NAND GATE	0.29	735
SN7400N QUAD 2 INPUT POS NAND GATE	0.73	935
SN7401N QUAD 2 INPUT NAND GATE	0.29	735
SN7402N QUAD 2 INPUT NOR GATE	0.49	735
SN7403N QUAD 2 INPUT NAND GATE	0.49	735
SN7404N HEX INVERTER	0.51	735
SN7404N HEX INVERTER	0.84	935
SN7405N HEX INVERTER	0.51	735
SN7406N HEX INVERTER	0.38	735
SN7406N HEX INVERTER BUFFER/DRIVER	1.57	935
SN7407N DRIVER W/OPEN COLL HV OUTLETS	1.57	935
SN7407N HEX INVERTER	0.31	735
SN7408N QUAD 2 INPUT AND GATE	0.49	735
SN7409N QUAD 2 INPUT AND GATE	0.29	735
SN7410N TRIPLE 3 INPUT NAND GATE	0.31	735
SN7410N TRIPLE 3 INPUT POS AND GATE	0.81	935
SN7412N TRIPLE 3 INPUT NAND GATE	0.49	735
SN7413N DUAL NAND SCHMITT TRIGGER	0.58	735
SN7414N HEX SCHMITT TRIGGER	0.69	735
SN7416N 15V HEX INVERTER/DRIVER	0.69	735
SN7417N HEX BUFFER/DRIVER	0.69	735
SN7420N DUAL 4 INPUT NAND GATE	0.49	735
SN7422N DUAL 4 INPUT NAND GATE	0.56	735
SN7423N DUAL 4 INPUT NOR GATE	0.56	735
SN7425N DUAL 4 INPUT NOR GATE	0.49	735
SN7425N DUAL 4 INPUT POS NOR GATE W/STROBE	0.95	935
SN7426N QUAD 2 INPUT NAND GATE	0.49	735
SN7430N 8 INPUT NAND GATE	0.69	735
SN7432N QUAD 2 INPUT OR GATE	0.49	735
SN7432N QUAD 2 INPUT POS OR GATE	1.00	935
SN7433N QUAD 2 INPUT NOR BUFFER	0.58	735
SN7438N QUAD 2 INPUT NAND BUFFER	0.69	735
SN7442AN 1 OF 10 DECODER	0.60	735
SN7445N BCD TO DECIMAL DECODER/DRIVER	1.00	735
SN7446AN BCD TO 7 SEGMENT DECODER	1.11	735
SN7447AN BCD TO 7 SEGMENT DECODER/DRIVER	1.07	735
SN7451N DUAL AND/OR INVERT GATE	0.36	735
SN7454N AND/OR/INVERT GATE	0.49	735
SN7473N DUAL J-K FLIP-FLOP W/CLEAR	1.01	935
SN7474N DUAL D TYPE FLIP FLOP	0.64	735
SN7474N POS EDGE TRIGGERED FLIP-FLOP	1.09	935
SN7475N 4 BIT LATCH	0.42	735
SN7476N DUAL J-K FLIP-FLOP W/RESET AND CLEAR	1.27	935

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Type-Description	Price	Mfg. Code
SN7476N DUAL JK FLIP FLOP	0.42	735
SN7486N QUAD 2 INPUT EXCLUSIVE OR GATE	0.58	735
SN7486N QUAD 2 INPUT EXCLUSIVE OR GATE	0.95	935
SN7490AN DECADE COUNTER	1.28	735
SN7492AN DIVIDE BY 12 COUNTER	0.64	735
SN7493AN 4 BIT BINARY COUNTER	0.62	735
SN7493AN 6 BIT REGISTER DUAL ASYNCHRONOUS RESET	1.81	935
SN7496N 5 BIT SHIFT REGISTER	0.71	735
SN7497N BINARY RATE MULTIPLIER	2.89	735
SN74120N DUAL PULSE SYNC/DRIVER	1.67	735
SN74121N MONOSTABLE MULTIVIBRATOR	1.32	935
SN74121N ONE SHOT MULTIVIBRATOR	0.69	735
SN74122N ONE SHOT MULTIVIBRATOR	0.69	735
SN74123N DUAL MONOSTABLE MULTIVIBRATOR	0.73	735
SN74125N QUAD 3 STATE BUFFER	0.73	735
SN74126N QUAD 3 STATE BUFFER	0.69	735
SN74128N 50 OHM LINE DRIVER	0.64	735
SN74132N QUAD 2 INPUT SCHMITT TRIGGER	0.73	735
SN74136N QUAD 2 INPUT EXCLUSIVE OR GATE	0.78	735
SN74143N 4 BIT LAMP DRIVER	4.44	735
SN74145N BCD TO DECIMAL DECODER/DRIVER	0.98	735
SN74147N 10 TO 1 LINE ENCODER	1.35	735
SN74148N 8 TO 3 LINE ENCODER	1.22	735
SN74150N 16 BIT DATA SELECTOR	1.80	735
SN74151AN 8 - 1 DATA SELECTOR/MULTIPLEXER	0.49	735
SN74154N 4 - 16 LINE ENCODER/DEMULTIPLEXER	1.80	735
SN74156N DUAL 1 OF 4 DECODER	0.78	735
SN74157N QUAD 2 - 1 DATA SELECTOR/ MULTIPLEXER	0.64	735
SN74159N 4 - 16 DECODER	2.00	735
SN74161N 4 BIT SYNC BINARY COUNTER	0.84	735
SN74164N 8 BIT SHIFT REGISTER	0.84	735
SN74165N 8 BIT SHIFT REGISTER	0.91	735
SN74166N 8 BIT SHIFT REGISTER	1.00	735
SN74167N SYNC RATE MULTIPLIER	3.55	735
SN74172N 16 BIT REG FILE	5.55	735
SN74173N QUAD D TYPE REGISTER	1.22	735
SN74174N HEX D TYPE FLIP FLOP	0.78	735
SN74175N HEX D TYPE FLIP FLOP	0.78	735
SN74176N 4 BIT BCD COUNTER	1.07	735
SN74176N 4 BIT BCD COUNTER	1.07	735
SN74177N 4 BIT BINARY COUNTER	1.07	735
SN74178N 4 BIT SHIFT REGISTER	2.74	735
SN74191N SYNC BINARY COUNTER	0.95	735
SN74193N SYNC UP/DOWN COUNTER	0.95	735
SN74195N 4 BIT SHIFT REGISTER	0.95	735
SN74196N 4 BIT BCD COUNTER	1.07	735
SN74198N 8 BIT SHIFT REGISTER	1.67	735
SN74221N DUAL MONOSTABLE MULTIVIBRATOR	1.00	735
SN74247N BCD TO 7 SEGMENT DECODER/DRIVER	3.16	735
SN74259N 8 BIT ADDRESSABLE LATCH	2.44	735
SN74273N OCTAL D TYPE FLIP FLOP	2.44	735
SN74276N QUAD J K FLIP FLOP	2.78	735
SN74278N PRIORITY REGULATOR	3.09	735
SN74279N QUAD SET/RESET LATCH	0.84	735
SN74293N 4 BIT BINARY COUNTER	1.44	735
SN74366AN HEX BUS DRIVER	0.73	735
SN74367N HEX BUS DRIVER	0.73	735
SN74368AN HEX BUS DRIVER	0.73	735
SN74376N QUAD J K FLIP FLOP	1.55	735
SN74390N DUAL 4 BIT DECADE BINARY COUNTER	1.84	735
SN74393N DUAL 4 BIT BINARY COUNTER	1.84	735
SN75107AN DUAL LINE RECEIVER	0.69	735
SN75107BN DUAL LINE RECEIVER	0.69	735
SN75110AN DUAL LINE DRIVER	1.07	735
SN75112N DUAL LINE DRIVER	2.78	735
SN75113N DUAL LINE DRIVER	1.55	735
SN75114N DUAL LINE DRIVER	2.22	735
SN75115N DUAL LINE DRIVER	1.53	735
SN75116N LINE TRANSCEIVER	3.89	735
SN75118N LINE TRANSCEIVER	3.89	735
SN75121N DUAL LINE DRIVER	2.22	735
SN75122N TRIPLE LINE RECIEVER	2.22	735
SN75123N IBM 360 DUAL LINE DRIVER	1.67	735
SN75124N IBM 360 TRIPLE LINE RECEIVER	2.22	735
SN75138N QUAD BUS TRANSCEIVER	2.44	735
SN75140P DUAL LINE RECEIVER	2.22	735
SN75150P RS-232 LINE CIRCUIT	0.71	735
SN75151N RS-422 QUAD LINE DRIVER	3.77	735
SN75154N RS-232 QUAD LINE RECEIVER	0.87	735
SN75158P RS-422 DUAL LINE DRIVER	4.44	735
SN75160BN IEEE-488 OCTAL BUS TRANSCEIVER	5.00	735
SN75172N RS-485/422 QUAD LINE DRIVER	2.44	735
SN75173N RS-485/422/423 QUAD LINE RECEIVER	2.22	735
SN75174N RS-485/422 QUAD LINE DRIVER	2.44	735
SN75175N LIN QD EIA-485 LINE RCVR	2.75	858
SN75175N RS-485/422/423 QUAD LINE RECEIVER	2.22	735
SN75176AP RS-422A DIFF BUS TRANSCEIVER	1.22	735
SN75176BP RS-485/422A DIFF BUS TRANSCEIVER	1.33	735
SN75177BP RS-485/422A DIFF BUS REPEATER	1.44	735
SN75179BP RS-485/422A FULL DUPLEX LINE RECEIVER	2.00	735
SN75182N DUAL RECEIVER	2.20	735
SN75183N DUAL DRIVER	2.20	735

Type-Description	Price	Mfg. Code
SN75188N RS-232 QUAD LINE DRIVER	0.31	735
SN75189AN RS-232 QUAD LINE RECEIVER	0.31	735
SN75189N RS-232 QUAD LINE RECEIVER	0.31	735
SN75372P DUAL NAND GATE INTERFACE	1.67	735
SN75446P DUAL PERIPHERAL DRIVER	1.00	735
SN75447P DUAL PERIPHERAL DRIVER	1.00	735
SN75451BP DUAL PERIPHERAL DRIVER	0.56	735
SN75452BP DUAL PERIPHERAL DRIVER	0.56	735
SN75453BP DUAL PERIPHERAL DRIVER	0.56	735
SN75454BP DUAL PERIPHERAL DRIVER	0.56	735
SN75462P DUAL PERIPHERAL DRIVER	0.89	735
SN75468N TRANSISTOR ARRAY	1.44	735
SN75469N TRANSISTOR ARRAY	1.44	735
SN75472P DUAL PERIPHERAL DRIVER	0.95	735
SN75476P DUAL PERIPHERAL DRIVER	0.82	735
SN75477P DUAL PERIPHERAL DRIVER	0.67	735
T61-C350 SURGE PROTECTOR	3.30	586
T2500D TR1AC 400V 6A TO-220	1.30	858
T2500N TRIAC, 800V, 6A, TO-220	1.55	858
T2800D TRIAC 8A 400V TO220	0.84	858
T6420D TRIAC 40A 400V ISO STUD	6.60	858
T6420M TRIAC,ISO STUD 600V 40A	7.96	858
TIL23 INFRARED EMITTING DIODES	1.93	735
TIL25 INFRARED EMITTING DIODES	1.95	735
TIL103 OPTO COUPLER METAL CAN	8.99	735
TIL111 OPTO TRANSISTOR COUPLER	1.56	858
TIL111 OPTOCOUPLER METAL CAN	0.67	735
TIL112 OPTO COUPLER 6 PIN P-DIP	0.51	735
TIL112 OPTO TRANSISTOR COUPLER	1.56	858
TIL113 OPTOCOUPLER 6 PIN P-DIP	0.71	735
TIL116 OPTO TRANSISTOR COUPLER	0.76	858
TIL117 OPTO COUPLER 6 PIN P-DIP	0.71	735
TIL124 OPTOCOUPLER 6 PIN P-DIP	0.89	735
TIL126 OPTO COUPLER 6 PIN P-DIP	0.93	735
TIL128 OPTO COUPLER 6 PIN P-DIP	0.89	735
TIL157 OPTOCOUPLER 6 PIN P-DIP UL LISTED	0.69	735
TIL302 .27" RED 7 SEGMENT DISPLAY	9.79	735
TIL303 .27" RED 7 SEGMENT DISPLAY	9.79	735
TIL306 TIL307 W/LOGIC AND COUNTER	12.39	735
TIL308 TIL302 W/LOGIC	12.39	735
TIL309 TIL303 WITH LOGIC	12.39	735
TIL311 .37" 4 X 7 R AND LHD HEXIDECIMAL W/LOGIC	12.72	735
TIL311A TIL311 WITH AIR GAP HOUSING	12.72	735
TIL602 PHOTOTRANSISTORS	1.89	735
TIP29 1A 40V TRX NPN PLASTIC TO-220	0.44	735
TIP29 NPN BIPOLAR TRANSISTOR	0.69	902
TIP29 TRANS. PWR 40V 1A NPN TO-220	0.36	858
TIP29A 1A 60V TRANS NPN PLASTIC TO-220	0.49	735
TIP29C 1A 100V TRX NPN PLASTIC TO-220	0.51	735
TIP30 1A 40V TRX PNP PLASTIC TO-220	0.44	735
TIP30 PNP BIPOLAR TRANSISTOR	0.69	902
TIP30 PWR 1A 40V DIS PNP TO220	0.36	858
TIP30A 1A 60V TRX PNP PLASTIC TO-220	0.47	735
TIP30A TRANS. PWR 60V 1A PNP TO-220	0.38	858
TIP30B PWR 1A 80V DIS PNP TO220	0.39	858
TIP30C 1A 100V TRX PNP PLASTIC TO-220	0.51	735
TIP31 3A 40V TRX NPN PLASTIC TO-220	0.47	735
TIP31 NPN BIPOLAR TRA	0.69	902
TIP31 PWR 3A 40V DIS NPN TO220	0.38	858
TIP31A 3A 60V TRX NPN PLASTIC TO-220	0.49	735
TIP31A PWR 3A 60V DIS NPN TO220	0.38	858
TIP31B 3A 80V TRX NPN PLASTIC TO-220	0.51	735
TIP31B NPN BIPOLAR TR	0.69	902
TIP31C 3A 100V TRX NPN PLASTIC TO-220	0.53	735
TIP31C PWR 3A 100V DIS NPN TO220	0.38	858
TIP32 TRANS. PWR 40V 3A PNP TO-220	0.38	858
TIP32A PWR 3A 40V DIS PNP TO220	0.38	858
TIP32C TRANS. PWR 100 3A PNP TO-220	0.38	858
TIP33 10A 40V TRX NPN PLASTIC TO-218	1.07	735
TIP33A 10A 60V TRX NPN PLASTIC TO-218	1.09	735
TIP33B 10A 80V TRX NPN PLASTIC TO-218	1.13	735
TIP33C PW 10A 100V DIS NPN TO220	1.19	858
TIP34 10A 40V TRX PNP PLASTIC TO-218	1.07	735
TIP34C 10A 100V TRX PNP PLASTIC TO-218	1.20	735
TIP35 25A 40V TRX NPN PLASTIC TO-218	1.84	735
TIP35 TRANS. PWR 40V 25A NPN TO-220	1.98	858
TIP35A 25A 60V TRX NPN PLASTIC TO-218	1.89	735
TIP35B 25A 80V TRX NPN PLASTIC TO-218	1.91	735
TIP35C 25A 100V TRX NPN PLASTIC TO-218	1.95	735
TIP36 25A 60V TRX PNP PLASTIC TO-218	1.84	735
TIP36A 25A 60V TRX PNP PLASTIC TO-218	1.89	735
TIP36B 25A 80V TRX PNP PLASTIC TO-218	1.91	735
TIP36C 25A 100V TRX PNP PLASTIC TO-218	1.95	735
TIP41 6A 40V TRANS NPN PLASTIC TO-220	0.58	735
TIP41 NPN BIPOLAR TRA	0.69	902
TIP41A NPN BIPOLAR TR	0.69	902
TIP41B 6A 80V TRX NPN PLASTIC TO-220	0.62	735
TIP41C PWR 6A 100V DIS NPN TO220	0.71	858
TIP42 6A 40V TRX PNP PLASTIC TO-220	0.58	735
TIP42 TRANS. PWR 40V 6A PNP TO-220	0.68	858
TIP42A 6A 60V TRX PNP PLASTIC TO-220	0.60	735
TIP42B 6A 80V TRX PNP PLASTIC TO-220	0.62	735
TIP42C 6A 100V TRX PNP PLASTIC TO-220	0.64	735
TIP47 1A 350V TRX NPN PLASTIC TO-220	0.78	735
TIP47 PWR 1A 250V SM1 NPN TP220	0.59	858

Type-Description	Price	Mfg. Code
TIP48 1A 400V TRX NPN PLASTIC TO-220	0.89	735
TIP49 1A 500V TRX NPN PLASTIC TO-220	1.00	735
TIP50 1A 500V TRX NPN PLASTIC TO-220	1.09	735
TIP50 PWR 1A 400V SM1 NPN TO220	0.72	858
TIP51 3A 350V TRX NPN PLASTIC TO-218	1.86	735
TIP52 3A 400V TRX NPN PLASTIC TO-218	2.02	735
TIP53 3A 450V TRX NPN PLASTIC TO-218	2.15	735
TIP54 3A 500V TRX NPN PLASTIC TO-218	2.31	735
TIP73 15A 50V TRX NPN PLASTIC TO-220	1.13	735
TIP73C 15A 110V TRX NPN PLASTIC TO-220	1.44	735
TIP74 15A 50V TRX PNP PLASTIC TO-220	1.27	735
TIP100 8A 60V DARL NPN PLASTIC TO-220	0.71	735
TIP100 PWR 8A 60V DAR NPN TO220	0.54	858
TIP102 8A 100V DARL NPN PLASTIC TO-220	0.75	735
TIP102 PW 8A 100V DAR NPN TP220	0.56	858
TIP105 8A 60V DARL PNP PLASTIC TO-220	0.71	735
TIP105 PWR 8A 60V DAR PNP TO220	0.54	858
TIP106 8A 80V DARL PNP PLASTIC TO-220	0.73	735
TIP107 8A 100V DARL PNP PLASTIC TO-220	0.80	735
TIP110 2A 60V DARL NPN PLASTIC TO-220	0.51	735
TIP110 PWR 2A 60V DAR NPN TO220	0.47	858
TIP111 2A 80V DARL NPN PLASTIC TO-220	0.53	735
TIP111 PWR 2A 80V DAR NPN TO220	0.54	858
TIP112 2A 100V DARL NPN PLASTIC TO-220	0.56	735
TIP112 PWR 2A 100V DAR NPN TO220	0.51	858
TIP115 PWR 2A 60V DAR PNP TO220	0.49	858
TIP117 2A 100V DARL PNP PLASTIC TO-220	0.58	735
TIP117 TRANS.POWER DA PNP 100V 2A TO220	0.51	858
TIP120 5A 60V DARL NPN PLASTIC TO-220	0.60	735
TIP120 NPN DARLINGTON	0.89	902
TIP120 PWR 8A 60V DAR NPN TO220	0.45	858
TIP121 PWR 5A 80V DAR NPN TO220	0.47	858
TIP122 5A 100V DARL NPN PLASTIC TO-220	0.64	735
TIP122 PWR 8A 100V DAR NPN TO220	0.48	858
TIP125 5A 60V DARL PNP PLASTIC TO-220	0.60	735
TIP126 5A 80V DARL PNP PLASTIC TO-220	0.62	735
TIP127 5A 100V DARL PNP PLASTIC TO-220	0.64	735
TIP127 PWR 8A 100V DAR PNP TO220	0.52	858
TIP140 PWR 10A 60V DAR NPN TO218	1.49	858
TIP142 10A 100V DARL NPN PLASTIC TO-218	1.86	735
TIP145 PWR 10A 60V DAR PNP TO218	1.53	858
TIP146 10A 80V DARL PNP PLASTIC TO-218	1.82	735
TIP146 PWR 10A 80V DAR PNP TP218	1.57	858
TIP147 10A 100V DARL PNP PLASTIC TO-218	1.93	735
TIP150 7A 300V DARL PNP PLASTIC TO-220	1.64	735
TIP151 7A 350V DARL NPN PLASTIC TO-220	1.67	735
TIP161 7A 350V DARL NPN PLASTIC TO-218	2.31	735
TIP640 10A 60V DARL NPN TO-3 METAL CAN	2.46	735
TIP642 10A 100V DARL NPN TO-3 METAL CAN	2.89	735
TIP646 10A 80V DARL PNP TO-3 METAL CAN	2.66	735
TIP647 10A 100V DARL PNP TO-3 METAL CAN	2.91	735
TIP2955 15A 100V TRX PNP PLASTIC TO-218	1.22	735
TIP3055 15A 100V TRX NPN PLASTIC TO-218	1.07	735
TIPL757A 15A 1000V TRX NPN TO-3 METAL CAN	6.66	735
TIPL760 4A 800V TRX NPN PLASTIC TO-220	1.53	735
TIPL760A 4A 1000A TRX NPN PLASTIC TO-220	1.53	735
TISP3290 TRANSIENT SUPPRESSOR	1.89	735
TISP4180 TRANSIENT SUPPRESSOR	1.33	735
TISP4290 TRANSIENT SUPPRESSOR	1.33	735
TL061CP LOW POWER BIFET OP AMP	0.78	735
TL061IP TL061 INDUSTRIAL TEMP	1.09	735
TL062CP LOW POWER BIFET OP AMP	0.56	735
TL062IP TL062 INDUSTRIAL TEMP	1.55	735
TL064CN LOW POWER BIFET OP AMP	0.82	735
TL071ACP LOW NOISE BIFET OP AMP	0.87	735
TL071CP LOW NOISE BIFET OP AMP	0.40	735
TL072ACP LOW NOISE BIFET OP AMP	1.24	735
TL072CP LOW NOISE BIFET OP AMP	0.62	735
TL074ACN LOW NOISE BIFET OP AMP	2.11	735
TL074CN LOW NOISE BIFET OP AMP	0.78	735
TL075CN LOW NOISE BIFET OP AMP	2.78	735
TL081CP G/P BIFET OP AMP	0.40	735
TL081IP TL081 INDUSTRIAL TEPERATURE	0.69	735
TL082ACP G/P BIFET OP AMP	0.93	735
TL082CP G/P BIFET OP AMP	0.40	735
TL083CN G/P BIFET OP AMP	1.44	735
TL084BCN G/P BIFET OP AMP	2.51	735
TL084CN G/P BIFET OP AMP	0.56	735
TL084CN3 G/P BIFET OP AMP PEP3	1.58	735
TL170CLP HALL EFFECT SWITCH	0.56	735
TL173CLP HALL EFFECT SWITCH	1.47	735
TL191CN TWIN DUAL COMPLEMENTARY SPST SWITCH	3.11	735
TL331CP G/P COMPARATOR	0.56	735
TL430CLP SHUNT VOLTAGE REGULATOR	0.71	735
TL431CLP SHUNT VOLTAGE REGULATOR	0.44	735
TL431CP LIN PROGRMBL PRCSN REFRNC	0.71	858
TL431CP SHUNT VOLTAGE REGULATOR	0.82	735
TL493CN SWITCHING VOLTAGE REGULATOR	2.55	735
TL494CN SWITCHING VOLTAGE REGULATOR	1.22	735
TL497ACN SWITCHING VOLTAGE REGULATOR	2.11	735
TL497AIN TL497A INDUSTRIAL TEMPERATURE	3.33	735
TL500CJ ANALOG PROCESSOR 4 1/2 DIGITS	8.30	735
TL501CJ ANALOG PROCESSOR 3 1/2 DIGITS	4.64	735
TL502CN DIGITAL PROCESSOR 4 1/2 DIGITS	7.02	735

Type-Description	Price	Mfg. Code
TL505CN A/D CONVERTER 3 DIGIT ACCURACY	3.89	735
TL592BP VIDEO AMP	1.00	735
TL592P VIDEO AMP	1.00	735
TL780-05CKC 2% VOLTAGE REGULATOR ± 5V TO-220	1.00	735
TL780-12CKC 2% VOLTAGE REGULATOR ± 12V TO-220	1.00	735
TL780-15CKC 2% VOLTAGE REGULATOR ± 15V TO-220	1.00	735
TL783CKC HIGH VOLTAGE POS ADJ VOL REG	2.18	735
TL3103CLU HALL EFFECT SENSOR	1.91	735
TL4810AN 10 BIT VF DISPLAY DRIVER	2.22	735
TL7702ACP 2V SUPPLY SUPERVISOR	1.67	735
TL7705ACP 5V SUPPLY VOLTAGE SUPERVISOR	1.55	735
TL7712ACP 12V SUPPLY VOLTAGE SUPERVISOR	2.00	735
TL7715ACP 15V SUPPLY VOLTAGE SUPERVISOR	2.00	735
TLC10CN UNIVERSAL DUAL SWITCHED CAPACITOR FILTER	5.11	735
TLC27L2CP SI-GATE CMOS LOW BIAS DUAL TLC271	1.02	735
TLC27L4ACN LOW BIAS TLC274A	2.06	735
TLC27L4BCN LOW BIAS TLC274B	2.60	735
TLC27L4CN LOW BIAS TLC274	1.67	735
TLC27M2BCP MED BIAS TLC272B	1.60	735
TLC27M2CP SI GATE CMOS MED BIAS DUAL TLC271	1.02	735
TLC27M4ACN MED BIAS TLC274A	2.06	735
TLC27M4BCN MED BIAS TLC274B	2.60	735
TLC27M4CN MED BIAS TLC274	1.67	735
TLC251ACP SI GATE CMOS LOW OFFSET	3.57	735
TLC251CP SI GATE CMOS LOW VOLTAGE	1.42	735
TLC252CP SI-GATE CMOS LOW VOLTAGE TLC272	2.33	735
TLC271ACP SI GATE CMOS LOW OFFSET TLC271	0.78	735
TLC271BCP SI GATE CMOS VERY LOW OFFSET TLC271	0.98	735
TLC271CP SI GATE CMOS PROG SINGLE OP AMP	0.62	735
TLC271IP TLC271 INSUSTRIAL TEMP	0.78	735
TLC272ACP SI-GATE CMOS LOW OFFSET TLC272	1.27	735
TLC272CP SI-GATE CMOS HIGH BIAS DUAL TLC271	1.02	735
TLC274ACN SI GATE CMOS LOW OFFSET TLC274	2.06	735
TLC274BCN SI-GATE VERY LOW OFFSET TLC274	2.60	735
TLC372CP DUAL LINCMOS COMPARATOR	0.84	735
TLC374CN QUAD LIN CMOS COMPARATOR	1.07	735
TLC541MN 8 BIT SI GATE A/D CONVERTER	5.11	735
TLC548IP TLC548 INDUSTRIAL TEMP	2.78	735
TLC549IP TLC549 INDUSTRIAL TEMP	2.00	735
TLC549MP 8 BIT LIN CMOS A/D CONVERTER	3.00	735
TLC555CP LIN CMOS TIMER (PIN FOR PIN NE555P)	0.56	735
TLC556CN DUAL TLC555P LIN CMOS TIMER	1.20	735
TMS27C128-2JL EPROM 16K X 8 CMOS 200NS 5% VCC	5.22	735
TMS27C256-2JL EPROM 32K X 8 CMOS 200NS 5% VCC	6.22	735
TMS27C256JL EPROM 32K X 8 CMOS 250NS 5% VCC	5.77	735
TMS2732A-35JL EPROM 4K X 8 350NS 5% VCC	5.77	735
TMS4500A-150N 32K/64K DRAM CONTROLLER 150NS 140MA	13.32	735
TMS4500A-200N 32K/63K DRAM CONTROLLER 200NS	12.21	735
TMS9128NL VID DISPLAY PROC RGB MON I/F	11.44	735
TMS9914ANL IEEE-488 BUS CONTROLLER	22.46	735
TMS99531NL DUAL TONE/PULSE DIALER	28.56	735
TMS9995NL-12 8/16 BIT MICROPROCESSOR	54.93	735
TMS34070NL 36 MHZ COLOR PALETTE	24.00	735
UA78L02ACLP 3 TERM VOL REG ± 2V TO-226	0.44	735
UA78L05ACLP 3 TERM VOL REG ± 5V TO-226	0.44	735
UA78L08ACLP 3 TERM VOL REG ± 8V TO-226	0.44	735
UA78L15ACLP 3 TERM VOL REG ± 15 TO-226	0.44	735
UA78M05CKC 3 TERM VOL REG ± 5V TO-220	0.71	735
UA78M06CKC 3 TERM VOL REG ± 6V TO-220	0.80	735
UA78M10CKC 3 TERM VOL REG ± 10V TO-220	0.89	735
UA78M15CKC 3 TERM VOL REG ± 15 TO-220	0.71	735
UA79M05CKC 3 TERM VOL REG – 5V TO-220	0.71	735
UA79M12CKC 3 TERM VOL REG – 12V TO-220	0.71	735
UA723HC LIN VOLT REG (MC1723CL)	1.18	858
UA741CP G/P OP AMP SINGLE	0.44	735
UA7805CKC 3 TERM VOL REG ± 5V TO-220	0.56	735
UA7810CKC 3 TERM VOL REG ± 10V TO-220	1.00	735
UA7812CKC 3 TERM VOL REG ± 12V TO-220	0.56	735
UA7815CKC 3 TERM VOL REG ± 15V TO-220	0.56	735
UA7905CKC 3 TERM VOL REG – 5V TO-220	0.56	735
UA7908CKC 3 TERM VOL REG – 8V TO-220	0.84	735
UA7912CKC 3 TERM VOL REG – 12V TO-220	0.56	735
UA7915CKC 3 TERM VOL REG – 15V TO-220	0.56	735
UA9636ACP DUAL LINE DRIVER	1.38	735
UA9636ACP3 DUAL LINE DRIVER PEP3	1.60	735
UA9637ACP DUAL LINE RECEIVER	1.67	735
UL2004AN TRANSISTOR ARRAY	0.67	735
ULN2003A LIN PERIPHERAL DRVR ARRAY	0.65	858
ULN2003AN TRANSISTOR ARRAY	0.67	735
ULN2004A LIN PERIPHERAL DRVR ARRAY	0.65	858
ULN2068NE PERIPHERAL DRIVER	1.86	735
V8ZA05 MOV	0.67	902
V8ZA1 MOV	0.48	902
V8ZA2 MOV	0.90	902
V12ZA05 MOV	0.67	902
V12ZA1 MOV	0.70	902
V12ZA2 MOV	0.90	902
V18MA1B MOV	0.83	902
V18ZA05 MOV	0.55	902
V18ZA1 MOV	0.30	902
V18ZA2 MOV	0.90	902
V18ZA3 MOV	1.00	902
V18ZA40 MOV	1.25	902
V22MA1B MOV	0.83	902
V22ZA05 MOV	0.55	902
V22ZA1 MOV	0.38	902
V22ZA2 MOV	0.90	902
V22ZA3 MOV	1.00	902
V24ZA50 MOV	2.25	902
V27MA1B MOV	0.83	902
V27ZA05 MOV	0.55	902
V27ZA1 MOV	0.60	902
V27ZA2 MOV	0.90	902
V27ZA4 MOV	1.00	902
V27ZA60 MOV	1.25	902
V33MA1A MOV	0.83	902
V33MA1B MOV	0.83	902
V33ZA05 MOV	0.55	902
V33ZA1 MOV	0.60	902
V33ZA2 MOV	0.90	902
V33ZA5 MOV	0.45	902
V33ZA70 MOV	1.25	902
V36ZA80 MOV	1.25	902
V39MA2A MOV	0.83	902
V39MA2B MOV	0.83	902
V39ZA05 MOV	0.55	902
V39ZA1 MOV	0.25	902
V39ZA3 MOV	0.90	902
V39ZA6 MOV	1.00	902
V47MA2A MOV	0.00	902
V47MA2B MOV	0.83	902
V47ZA05 MOV	0.55	902
V47ZA1 MOV	0.25	902
V47ZA3 MOV	0.90	902
V47ZA7 MOV	0.50	902
V56MA2A MOV	0.83	902
V56MA2B MOV	0.83	902
V56ZA05 MOV	0.55	902
V56ZA2 MOV	0.35	902
V56ZA3 MOV	0.90	902
V56ZA8 MOV	1.00	902
V68MA3A MOV	0.83	902
V68MA3B MOV	0.83	902
V68ZA05 MOV	0.55	902
V68ZA2 MOV	0.32	902
V68ZA3 MOV	0.90	902
V68ZA10 MOV	1.00	902
V82MA3A MOV	0.83	902
V82MA3B MOV	0.83	902
V82ZA05 MOV	0.55	902
V82ZA2 MOV	0.60	902
V82ZA4 MOV	0.90	902
V82ZA12 MOV	1.00	902
V100MA4A MOV	0.83	902
V100MA4B MOV	0.83	902
V100ZA05 MOV	0.55	902
V100ZA3 MOV	0.60	902
V100ZA4 MOV	0.90	902
V100ZA15 MOV	1.00	902
V120MA1A MOV	0.83	902
V120MA2B MOV	0.83	902
V120ZA05 MOV	0.55	902
V120ZA1 MOV	0.60	902
V120ZA4 MOV	0.90	902
V120ZA6 MOV	1.00	902
V130LA1 MOV	0.55	902
V130LA2 MOV	0.38	902
V130LA5 MOV	1.00	902
V130LA10A MOV	0.89	902
V130LA20A MOV	0.98	902
V130LA20B MOV	1.12	902
V140LA2 MOV	0.62	902
V140LA5 MOV	1.00	902
V140LA10A MOV	1.03	902
V150LA1 MOV	0.55	902
V150LA2 MOV	0.34	902
V150LA5 MOV	1.00	902
V150LA10A MOV	0.89	902
V150LA20A MOV	0.98	902
V150LA20B MOV	0.73	902
V150MA1A MOV	0.83	902
V150MA2B MOV	0.83	902
V150ZA05 MOV	0.55	902
V150ZA1 MOV	0.60	902
V150ZA4 MOV	0.90	902
V150ZA8 MOV	1.00	902
V175LA2 MOV	0.62	902
V175LA10 MOV	1.03	902
V180MA1A MOV	0.83	902
V180MA3B MOV	0.83	902
V180ZA05 MOV	0.55	902
V180ZA1 MOV	0.60	902
V180ZA5 MOV	0.90	902
V180ZA10 MOV	1.00	902
V220MA2A MOV	0.83	902
V220MA4B MOV	0.83	902
V220ZA05 MOV	0.55	902
V230LA4 MOV	0.62	902
V230LA10 MOV	1.03	902
V230LA20A MOV	1.03	902
V250LA2 MOV	0.55	902
V250LA4 MOV	0.62	902
V250LA10 MOV	1.03	902
V250LA20A MOV	0.66	902
V250LA40A MOV	1.50	902
V250LA40B MOV	1.65	902
V270MA2A MOV	0.83	902
V270MA4B MOV	0.83	902
V270ZA05 MOV	0.55	902
V275LA2 MOV	0.55	902
V275LA4 MOV	0.62	902
V275LA10 MOV	1.03	902
V275LA20A MOV	0.55	902
V275LA40A MOV	1.50	902
V275LA40B MOV	1.65	902
V300LA2 MOV	0.55	902
V300LA4 MOV	0.62	902
V320LA20A MOV	1.30	902
V320LA40B MOV	0.95	902
V330MA2A MOV	0.83	902
V330MA5B MOV	0.83	902
V330ZA05 MOV	0.55	902
V390MA3A MOV	0.83	902
V390MA6B MOV	0.83	902
V390ZA05 MOV	0.55	902
V420LA10 MOV	1.03	902
V420LA20A MOV	2.65	902
V420LA40B MOV	4.40	902
V430MA3A MOV	0.83	902
V430MA7B MOV	0.83	902
V430ZA05 MOV	0.55	902
V480LA40A MOV	2.65	902
V480LA80B MOV	2.65	902
V510LA40A MOV	2.65	902
V510LA80B MOV	4.40	902
V575LA40A MOV	2.65	902
V575LA80B MOV	4.40	902
V660LA50A MOV	2.65	902
V660LA100B MOV	4.40	902
V1000LA80A MOV	4.20	902
V1000LA160B MOV	7.00	902
W005M BRIDGE 50V 1.5A ROUND	0.40	925
W005M BRIDGE RECTIFIER 600V 10A	2.01	950
W01M BRIDGE 100V 1.5A ROUND	0.42	925
W01M BRIDGE RECTIFIER 100V 1.5A	2.19	950
W02M BRIDGE 200V 1.5A ROUND	0.44	925
W02M BRIDGE RECTIFIER 200V 1.5A	2.37	950
W04M BRIDGE 400V 1.5A ROUND	0.46	925
W04M BRIDGE RECTIFIER 400V 1.5A	2.55	950
W06M BRIDGE RECTIFIER 600V 1.5A	2.74	950
W08M BRIDGE RECTIFIER 800V 1.5A	3.10	950
W10M BRIDGE RECTIFIER 1000V 1.5A	3.65	950
X24C01P EEPROM SERIAL 128 X 8 100KHZ 8 PIN P-DIP	2.50	899
X24C04P EEPROM SERIAL 512 X 8 100KHZ 8 PIN P-DIP	6.13	899
X24C16P EEPROM SERIAL 512 X 8 100KHZ 8 PIN P-DIP	12.25	899
X24LC01P EEPROM SERIAL 128 X 8 100KHZ 8 PIN P-DIP	3.00	899
X24LC04P EEPROM SERIAL 512 X 8 100KHZ 8 PIN P-DIP	7.35	899
X24LC16P EEPROM SERIAL 512 X 8 100KHZ 8 PIN P-DIP	14.70	899
X28C64P 64K EEPROM 8192 X 8 300NS 28 PIN P-DIP	24.99	899
X28C64P-20 64K EEPROM 8192 X 8 200NS 28 PIN P-DIP	38.22	899
X28C64P-25 64K EEPROM 8192 X 8 250NS 28 PIN P-DIP	29.40	899
X28C256BP-150 256K EEPROM 32768 X 8 150NS 28 PIN P-DIP	139.27	899
X28C256BP-180 256K EEPROM 32768 X 8 180NS 28 PIN P-DIP	121.10	899
X28C256P 256K EEPROM 32768 X 8 300NS 28 PIN P-DIP	90.83	899
X28C256P-20 256K EEPROM 32768 X 8 200NS 28 PIN P-DIP	109.42	899
X28C256P-25 256K EEPROM 32768 X 8 250NS 28 PIN P-DIP	95.15	899
X28C256P-35 256K EEPROM 32768 X 8 350NS 28 PIN P-DIP	86.50	899
X2001P NOVRAM 128 X 8 300NS 24 PIN P-DIP	9.19	899
X2001P-20 NOVRAM 128 X 8 200NS 24 PIN P-DIP	10.56	899
X2001P-25 NOVRAM 128 X 8 250NS 24 PIN P-DIP	9.64	899
X2004D NOVRAM 512 X 8 300NS 28 PIN CERDIP	21.04	899
X2004D-20 NOVRAM 512 X 8 200NS 28 PIN CERDIP	26.31	899

13

Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

Type-Description	Price	Mfg. Code
X2004D-25 NOVRAM 512 X 8 250NS 28 PIN CERDIP	24.20	899
X2210P NOVRAM 1024 X 1 300NS 18 PIN P-DIP	5.26	899
X2212P NOVRAM 256 X 4 300NS 18 PIN P-DIP	8.77	899
X2402P EEPROM SERIAL 256 X 8 100KHZ 8 PIN P-DIP	4.68	899
X2404P EEPROM SERIAL 512 X 8 100KHZ 8 PIN P-DIP	5.35	899
X2444P NOVRAM SERIAL 16 X 16 1 MHZ 8 PIN P-DIP	2.81	899
X2804AP 4K EEPROM 512 X 8 300NS 24 PIN P-DIP	9.60	899
X2804AP-25 4K EEPROM 512 X 8 250NS 24 PIN P-DIP	12.01	899
X2804AP-35 4K EEPROM 512 X 8 350NS 24 PIN P-DIP	8.64	899
X2804AP-45 4K EEPROM 512 X 8 450NS 24 PIN P-DIP	8.16	899
X2816BP 16K EEPROM 2048 X 8 300NS 24 PIN P-DIP	10.81	899
X2816BP-25 16K EEPROM 2048 X 8 250NS 24 PIN P-DIP	10.73	899
X2816CP-20 16K EEPROM 2048 X 8 200NS 24 PIN P-DIP	5.45	899
X2864AP 64K EEPROM 8192 X 8 300NS 28 PIN P-DIP	19.56	899
X2864AP-25 64K EEPROM 8192 X 8 250NS 28 PIN P-DIP	22.49	899
X2864AP-35 64K EEPROM 8192 X 8 350NS 28 PIN P-DIP	17.60	899
X2864AP-45 64K EEPROM 8192 X 8 450NS 28 PIN P-DIP	16.63	899
X2864BP-120 64K EEPROM 8192 X 8 120NS 28 PIN P-DIP	32.18	899
X2864BP-150 64K EEPROM 8192 X 8 150NS 28 PIN P-DIP	24.75	899

Type-Description	Price	Mfg. Code
X2864BP-180 64K EEPROM 8192 X 8 180NS 28 PIN P-DIP	23.14	899
X2864HP-70 64K EEPROM 8192 X 8 70NS 28 PIN P-DIP	64.35	899
X2864HP-90 64K EEPROM 8192 X 8 90NS 28 PIN P-DIP	49.50	899
X9102P EE POTENTIOMETER 8 PIN P-DIP	3.53	899
X9103P EE POTENTIOMETER 8 PIN P-DIP	3.53	899
X9104P EE POTNETIOMETER 8 PIN P-DIP	3.53	899
X9503P EE POTENTIOMETER 8 PIN P-DIP	3.53	899
X28256P 256K EEPROM 32768 X 8 300NS 28 PIN P-DIP	71.72	899
X28256P-25 256K EEPROM 32768 X 8 250NS 28 PIN P-DIP	78.24	899
X28256P-35 256K EEPROM 32768 X 8 350NS 28 PIN P-DIP	65.20	899
Z130LA2 METAL OXIDE VARISTOR	0.64	702
Z130LA5 METAL OXIDE VARISTOR	0.62	702
Z130LA10A METAL OXIDE VARISTOR	0.69	702
Z130LA20A METAL OXIDE VARISTOR	0.86	702
Z130LA20B METAL OXIDE VARISTOR	0.95	702
Z140LA5 METAL OXIDE VARISTOR	0.53	702
Z150LA2 METAL OXIDE VARISTOR	0.64	702
Z150LA5 METAL OXIDE VARISTOR	0.53	702
Z150LA10A METAL OXIDE VARISTOR	0.69	702
Z150LA20A METAL OXIDE VARISTOR	0.86	702
Z150LA20B METAL OXIDE VARISTOR	0.95	702

Type-Description	Price	Mfg. Code
Z230LA10 METAL OXIDE VARISTOR	0.69	702
Z250LA4 METAL OXIDE VARISTOR	0.64	702
Z250LA10 METAL OXIDE VARISTOR	0.69	702
Z250LA20A METAL OXIDE VARISTOR	0.79	702
Z250LA40A METAL OXIDE VARISTOR	1.02	702
Z250LA40B METAL OXIDE VARISTOR	1.11	702
Z275LA4 METAL OXIDE VARISTOR	0.64	702
Z275LA10 METAL OXIDE VARISTOR	0.53	702
Z275LA20A METAL OXIDE VARISTOR	0.79	702
Z275LA40A METAL OXIDE VARISTOR	1.02	702
Z275LA40B METAL OXIDE VARISTOR	1.11	702
Z300LA4 METAL OXIDE VARISTOR	0.64	702
Z320LA15A METAL OXIDE VARISTOR	0.79	702
Z320LA40A METAL OXIDE VARISTOR	1.02	702
Z320LA40B METAL OXIDE VARISTOR	1.11	702
Z420LA20A METAL OXIDE VARISTOR	1.77	702
Z420LA40B METAL OXIDE VARISTOR	2.94	702
Z480LA40A METAL OXIDE VARISTOR	2.67	702
Z480LA80A METAL OXIDE VARISTOR	3.60	702
Z480LA80B METAL OXIDE VARISTOR	3.82	702
Z510LA40A METAL OXIDE VARISTOR	2.80	702
Z510LA80A METAL OXIDE VARISTOR	3.93	702
Z510LA80B METAL OXIDE VARISTOR	4.32	702
Z550LA80A METAL OXIDE VARISTOR	3.93	702
Z550LA80B METAL OXIDE VARISTOR	4.32	702
Z575LA40A METAL OXIDE VARISTOR	2.80	702
Z575LA80A METAL OXIDE VARISTOR	3.93	702

Mfg. Code Log

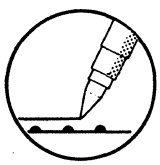
294 Semiconductor, Inc.
586 Siemens Components, Inc.
587 Siemens Opto, Inc.
671 Dallas Semiconductor
702 CKE
735 T.I. Semiconductor Products
858 Motorola Semiconductor Products, Inc.
899 Xicor
902 GE
902 RCA Special Products Division
925 Collmer
935 NTE, Inc.
950 General Instrument

586 587 SIEMENS 671 DALLAS SEMICONDUCTOR 702 CKE 735 TEXAS INSTRUMENTS
858 MOTOROLA 899 XICOR 902 902 RCA
925 Collmer Semiconductor, Inc. 935 NTE 950 GENERAL INSTRUMENT

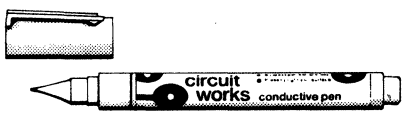
Circuit Works Conductive Pen

Draw conductive silver traces, with a pen

13



New Product



circuit works
conductive pen

Features

- **Makes instant conductive silver traces**
- **Dries in minutes at room temperature**
- **Valved pen tip for easy application**
- **Can be soldered at low temperatures**
- **Use where conductive traces are needed**
- **Lower the cost of PCB fabrication and repair**
- **Speed prototype and design of PCBs**
- **Cut rework time and materials**

Circuit Works brings together valved pen and conductive polymer technologies. This pen applies solderable electronic traces, jumpers and shielding as easy as writing.

Draw from point to point and in minutes have highly conductive silver traces. Use Circuit Works pens on printed circuit boards (PCBs) to link components, repair defective traces, make smooth jumpers and shield delicate electronics. Professionals and hobbyists alike are finding ways to save time and money with their Circuit Works Pens.

Electrical Engineers and printed circuit board developers, designers and manufacturers in particular will find Circuit Works pens cut rework time and speed project completion.

Circuit Works liquid conductor is a specially formulated silver bearing thermoplastic polymer designed to make low cost shielding, terminations and traces. Circuit Works conductor dries in minutes at room temperature and adheres to all printed circuit board materials.

Solderable terminations are possible using a 250°F cure for fifteen to twenty minutes after application. Tin, lead, or silver solder can be used but should not exceed 350°F for more than five seconds. Hand soldering is not recommended.

Each Circuit Works pen comes filled with enough silver conductor for 100 feet of shielding, traces and connections. Normal writing pressure opens the valve tip and the liquid conductor flows easily. When not in use the spring loaded tip closes to prevent drying.

974-0001. 2200. Conductive Pen ..... **EACH 12.95**

1990 IC Master
A Hard Copy, Interactive Data Base of Integrated Circuits and Related Products

Volume One

► **New Categories on RISC Processors and Microcontrollers**

► **New Power Supply Circuits Section**

► **New Categories on NVRAMs and EPROMs**

► **New Breakdowns on RAMs Including Cache, Multiport, Video Devices, and Modules**

Contains Master Selection Guides to over 80,000 commercially available integrated circuits. Arranged in a parametric search format, these guides provide sufficient data to lead you to the precise IC needed to solve a design problem. The selection guides are listed by functional categories including digital, microprocessor, interface, linear and memory ICs. Also contains a Military Parts Directory that lists MIL-38510 QPL products by function and provides a three-way commercial/M38510/DESC drawing cross reference index. Other valuable sections include a basic part number index, part numbering guide for each manufacturer, application notes, and an Alternate Source Directory to over 150,000 pin-for-pin replacement ICs.

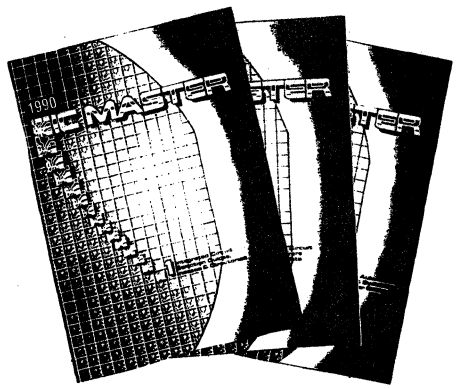
Volume Two

Contains hundreds of detailed manufacturer-supplied spec sheets and other technical data listed alphabetically by advertiser. An Advertisers Product Index refers you to both the IC listing in Volume One and the manufacturer-supplied data pages in Volume Two. In addition, a Manufacturers Directory provides a listing of all IC companies, including addresses and phone numbers. For advertisers, it also includes a listing of all Sales Offices and Representatives & Distributors.

Volume Three

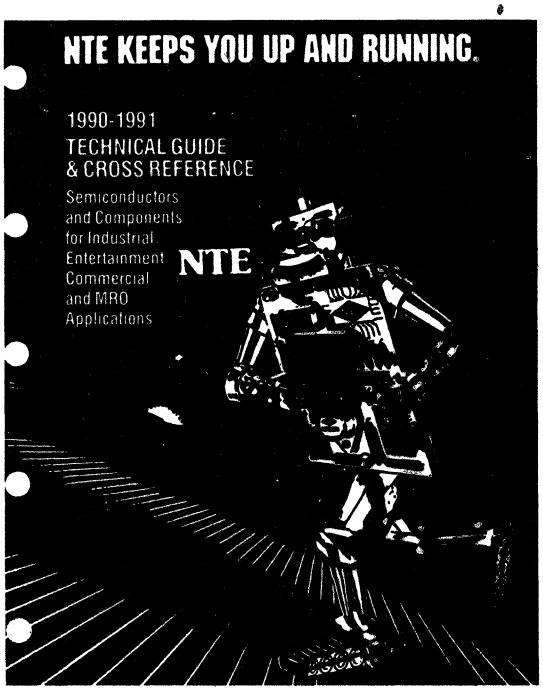
► **New Section on Programmable Logic Devices with Expanded Data**

This systems-level volume contains detailed directories of custom and semicustom ICs, including gate arrays, cell-based ASICs, and a greatly expanded section on Programmable Logic Devices. A Design Automation Section provides you with a guide to the CAE and CAD tools you need for custom ASIC and systems-level design. Also included are sections on microcomputer boards and microprocessor development systems. Manufacturer-supplied data sheets and other technical information relating to these products and systems are also included in this volume.



504-1000. 52F1010. 3 Volume Set .....**EACH 145.00**

NTE Selection Guide



► **Over 250,000 Devices Replaced with 3500 NTE Numbers**

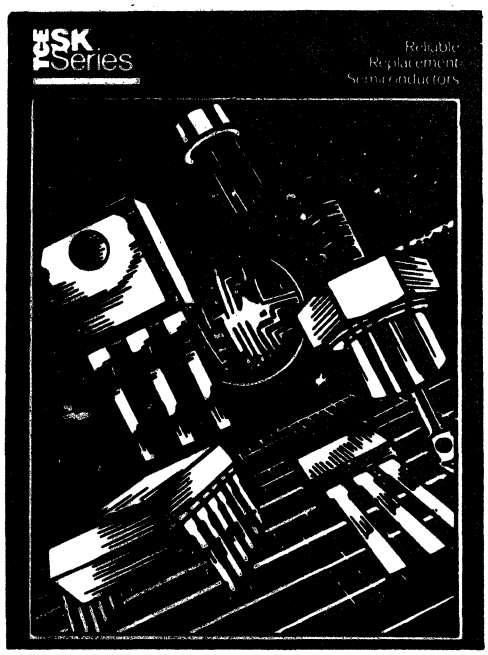
This guide contains 3500 NTE devices which replace over 250,000 parts. Tested for use specifically as replacements for solid state devices in original equipment. Each NTE transistor, TRIAC, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components.

The easy to use cross reference section enables you to locate the exact replacement needed for over 250,000 solid state devices.

935-0001 .....**EACH 3.25**

NTE Products Found On Pages 488 — 492

Thomson Consumer Electronics SK Replacement Guide



► **Quick and Easy Source to Find Semiconductor Parts and Hardware**
► **Almost 220,000 Solid State Devices**
► **Replaced with Only 3,000 SK Numbers**

This guide contains 3,000 SK devices which replace almost 220,000 parts. Tested for use specifically as replacements for solid state devices in original equipment. Each SK transistor, TRIAC, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components. The easy to use cross reference section enables you to locate the exact replacement needed for almost 220,000 solid state devices.

902-5600. SKG202F .....**EACH 4.00**

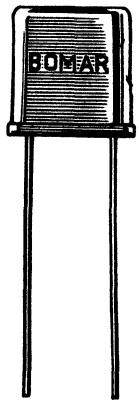
SK Products Found On Page 499

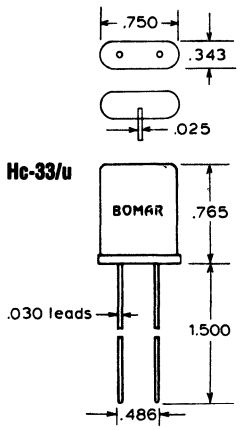
Microprocessor Crystals

All essential parameters are controlled for normal applications. Frequencies from 1.0000 MHz to 100 MHz can be supplied. Standard holders available are HC18/U and HC33/U; frequencies below 2.000 MHz are available in HC33/U size only. Standard crystals below 8.0000 MHz are supplied with a 20 pf load calibration; crystals at 8.0000 MHz and above are calibrated at series-resonance.

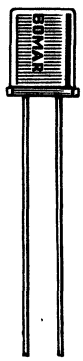
In assessing system frequency tolerance requirements, full consideration must be given to the frequency effects of the oscillator circuit as well as the crystal tolerance. Part to part and lot to lot variations of ICs, PC boards and discrete components all contribute to establishing the frequency of the systems. Digital oscillator circuits comprised of gates or inverters can cause the crystal to operate either above or below series-resonance, depending on circuit configuration. The amount of frequency deviation from series-resonance is usually a function of frequency because of the frequency dependent nature of most ICs. These factors must be considered in specifying the required load for frequency calibration.

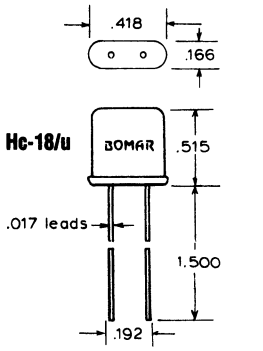
Specifications. Holder: HC18/U or HC33/U. **Frequency Tolerance @ 25°C:** +.005%. **Frequency Stability:** −20°C +70°C — +.01% of 25°C value. **Maximum Series Resistance** — See frequency listing. **Oscillation Mode:** 1.00-24.00 MHz Fundamental; 20.00-60.00 MHz Third Overtone.





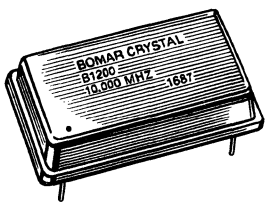
Stock No.	Mfr.'s Type	Freq. MHz	Max. Series Res. Ohms	Uses	EACH 1-49	50-99	100-Up
994-0005	HC33/U	1.0000	500	6800, S-6800, 2650	**7.67**	**6.67**	**5.67**
994-0010	HC33/U	1.8432	220	MC-14410, MC-14411	**5.09**	**4.67**	**4.31**
994-0175	HC18/U	2.0000	300	3859, 6508, CMOS-6800, SBP9900	**4.18**	**3.83**	**3.54**
994-0180	HC18/U	2.4576	300	34702, IM-6100A, Bit. Rate Generator	**4.18**	**3.83**	**3.54**
994-0185	HC33/U	2.5000	150	IM-6100, Z-80, 2650A, 2650A-1	**4.18**	**3.83**	**3.54**
994-0205	HC18/U	3.0000	150	MCS-48, TMS9900, SBP0400	**3.44**	**3.15**	**2.91**
994-0235	HC18/U	3.5795	100	MM5396, PPS4, PPS8, 3870, TV Color Burst	**3.44**	**3.15**	**2.91**
994-0345	HC18/U	3.6864	100	Various MPUs and Special Applications	**3.44**	**3.15**	**2.91**
994-0060	HC18/U	4.0000	75	Intel 4040, 4004, 4201; Pace, TMS1000, 1200; Z-80A, Z-80, EA-9002, 6800, 3870	**3.44**	**3.15**	**2.91**
994-0070	HC18/U	4.9152	50	COM5026, 5046, Z-80, Standard Clock Freq.	**4.40**	**3.10**	**2.58**
994-0075	HC18/U	5.0000	50	Z-80, CP1600, Non-Standard Clock Frequency	**4.40**	**3.10**	**2.58**
994-0080	HC18/U	5.0688	50	COM5016, 5016T; 5031, Dual Baud Rate Generator	**4.40**	**3.10**	**2.58**
994-0280	HC18/U	5.7143	50	Pace, National Semiconductor	**4.40**	**3.10**	**2.58**
994-0355	HC18/U	5.7600	50	Various MPUs and Special Applications	**4.40**	**3.10**	**2.58**
994-0095	HC18/U	6.0000	50	CP1600, 8048, 8085, 8747, 8748, MCS48	**4.40**	**3.10**	**2.58**
994-0100	HC18/U	6.1440	50	Intel 8085, 8748, CP-1600	**4.40**	**3.10**	**2.58**
994-0115	HC18/U	8.0000	50	IM-6100, CP-1600, TMS-9980	**4.15**	**3.00**	**2.65**
994-0120	HC18/U	10.0000	30	CP-1600A, TTL Macrologic, Non-Standard Clock Freq.	**4.15**	**3.00**	**2.65**
994-0300	HC18/U	12.0000	30	Various MPUs and Special Applications	**4.15**	**3.00**	**2.65**
994-0385	HC18/U	14.3180	30	Various MPUs and Special Applications	**4.15**	**3.00**	**2.65**
994-0135	HC18/U	18.0000	25	Intel 8008, 8080, 8085, 8224	**4.40**	**3.10**	**2.96**
994-0140	HC18/U	18.4320	20	Intel 8008, 8080, 8080A, 8224, AM-9080	**4.40**	**3.10**	**2.96**
994-0145	HC18/U	20.0000	20	Intel 8008, 8080, 8224	**4.40**	**3.10**	**2.96**
994-0390	HC18/U	24.0000	20	Various MPUs and Special Applications	**3.44**	**3.15**	**2.91**

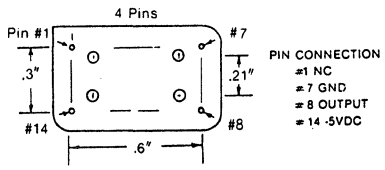


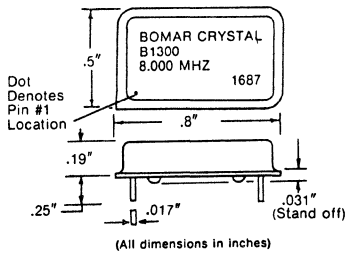


Optional lead length to 1.5

TTL Crystal Clock Oscillators







(All dimensions in inches)

Specifications. Frequency Range: 250 KHz to 70 MHz. **Frequency Stability:** ±0.01% over operating temperatures and voltage. **Operating Temperature Range:** 0°C to 70°C. **Storage Temperature Range:** −55°C to 125°C. **Input Voltage:** +5 VDC ±0.5 V. **Input Current (Max. at 25°C):** 250 KHz to 3.199 MHz — 70mA; 3.200 to 25.000 MHz — 30mA; 25.000 to 70.000 MHz — 50mA. **Input Current (Max. over Operating Temp.):** 250 KHz to 3.199 MHz — 90mA; 3.200 to 25.000 MHz — 40mA; 25.000 to 70.000 MHz — 70mA. **TTL Output (0-70°C):** Shorted—100mA max.; Symmetry—60/40% to 40/60% 1.4 VDC. **Rise and Fall Times (0.4-2.4 VDC Level):** 250 KHz to 8.999 MHz — 15nS max; 9.000 to 31.999 MHz — 10nS max.; 32.000 to 70.000 MHz — 6nS max. **"0" Level:** +0.4 V max. 250 KHz to 31.999 MHz. **"0" Level:** +0.5 V max. 32.000 to 70.000 MHz. **"1" Level:** +2.4 V min. 250 KHz to 70.000 Mhz. **"0" Sink Current:** 16mA min. 250 KHz to 20.000 MHz; (1.6mA/Gate); 20mA min., 20.000 to 70.000 MHz; (2.0mA/Gate). **"1" Source Current:** −0.4mA min. 250 KHz to 20.000 MHz; −0.5mA min. 20.000 to 70.000 MHz. **Output Load:** 1 to 10 TTL Gate. **Environmental Test: Temperature Cycle:** ±6 ppm max. 0°C. to 120°C. 3 cycles, 2 hours max. each, 25 ±2°C. reference. **Humidity:** 85% relative humidity, 85°C. 250 hours. **Mechanical Test. Gross Leak Test:** At units 100% leak tested in deionized H_2O. **Hermetical Sealed:** Leak rate less than 2×10^6 atom, cc/sec of helium. **Seal Strength:** 20 lbs. max. force perpendicular to top and bottom. **Bend Test:** Will withstand max. bend of 90° reference to base for 2 bends. **Marking Ink:** Epoxy heat cured. **Solvent Resistance:** Isopropyl-alcohol, tricholorethane. **HCMOS and MOS Crystal Clock Oscillators also available.**

Stock No.	Freq. (MHz)	EACH 1-99	100-249	250-Up
994-1015	1.8432	**5.80**	**5.40**	**5.00**
994-1025	2.4576	**5.80**	**5.40**	**5.00**
994-1030	3.6864	**5.80**	**5.40**	**5.00**
994-1035	4.0000	**4.25**	**3.80**	**3.40**
994-1050	5.0688	**4.25**	**3.80**	**3.40**
994-1060	7.3728	**4.25**	**3.80**	**3.40**
994-1065	8.0000	**4.25**	**3.80**	**3.40**
994-1070	9.8304	**4.25**	**3.80**	**3.40**
994-1075	10.0000	**4.25**	**3.80**	**3.40**
994-1085	16.0000	**4.25**	**3.80**	**3.40**
994-1105	20.0000	**4.25**	**3.80**	**3.40**
994-1110	24.0000	**4.25**	**3.80**	**3.40**
994-1130	40.0000	**4.80**	**4.35**	**3.60**

Series CG, CG2 and PMT3 (310)

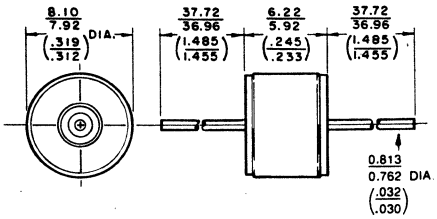
- **Fastest surge arresting response.**
- **High peak surge current capability.**
- **Lowest interelectrode capacitance.**
- **Rugged ceramic construction.**
- **Available on tape and reel for automatic insertion for some product types.**
- **Hermetically sealed.**
- **Meets the requirements of REA PE-80, IEEE 587 and CCITT K12.**
- **UL recognition on some products.**

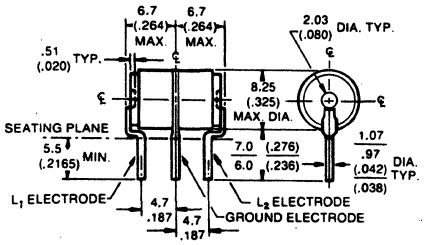
Clare surge arrestors protect personnel and equipment from damaging high-voltage surges from lightning. Inductive switching, nuclear electromagnetic generation, or electrostatic discharge. Through ongoing research and engineering improvements, Clare has developed a family of surge arrestors that offer impressive characteristics for a variety of applications.

Engineering Specifications	CG/CG2	PMT 3 (310)
Surge Life (No. of Operations) 10 A 10/1000 surge life 500 A 10/1000 surge life .002 μF, 100 (Ohms)	 2500 1000 N/A	 N/A 100 N/A
Surge Current 8/20 (kA)	20	20
AC Current 10 operations 60 Hz for 1 sec, with 3 minute intervals	20	N/A
AC Current 11 cycles 60 Hz (A)	20	180
Insulation Resistance 100 VDC, except 50 VDC for units with DC breakdown less than 150 V (MOhms)	10000	10000
Temperature-Stabilize at temp for 1 hour then measure DC, IR, Impulse Minimum operating temp Maximum operating temp	 – 65°C + 125°C	 – 65°C + 125°C
Weight	1.0g	2.0g

Fig. 1

Fig. 2





Stock No.	Mfr.'s Type	Fig. No.	DC Breakdown Voltage			Impulse Breakdown @ (100 V/μs) Maximum Voltage	Maximum Capacitance Between Electrodes @ 1 MHz (pF)	EACH		
			Nominal Voltage (VDC)	Min. Volts	Max. Volts			1-24	25-49	50-99
681-0122	CG75L	1	75	60	90	400	1.0	**3.15**	**2.75**	**2.25**
681-0123	CG90L	1	90	72	108	400	1.0	**3.15**	**2.75**	**2.25**
681-0124	CG110L	1	110	88	132	450	1.0	**3.15**	**2.75**	**2.25**
681-0125	CG2-145L	1	145	116	174	500	1.0	**3.15**	**2.75**	**2.25**
681-0126	CG2-230L	1	230	195	265	600	1.0	**3.15**	**2.75**	**2.25**
681-0127	CG2-300L	1	300	255	345	700	1.0	**3.15**	**2.75**	**2.25**
681-0128	CG2-350L	1	350	297	403	750	1.0	**3.15**	**2.75**	**2.25**
681-0129	CG2-470L	1	470	400	540	850	1.0	**3.15**	**2.75**	**2.25**
681-0130	CG2-600L	1	600	510	690	1000	1.0	**3.80**	**3.25**	**2.75**
681-0131	CG2-800L	1	800	680	920	1200	1.0	**3.80**	**3.25**	**2.75**
681-0132	CG2-1000L	1	1000	850	1150	1500	1.0	**3.80**	**3.25**	**2.75**
681-0133	PMT3(310)25010	2	250	200	350	600	1.0	**6.30**	**4.50**	**3.50**
681-0134	PMT3(310)40010	2	400	300	500	750	1.0	**6.30**	**4.50**	**3.50**

Application	Protected Equipment	Clare Part No.
CATV	Trunk Amplifier Cable Extender Splitter Grounding Block Converter Box 30, 60 VAC Power Supply	CG2-145L CG2-230L
AC Line Protection	117 VAC Line 220 VAC Line All AC Loads	CG2-300L CG2-600L
Communication	Modem Antenna Connected Equipment	CG2-350L PMT3(310)40010 CG2-145L CG90L & CG2-230L
Power Supplies	Voltage Doubler Capacitors Voltage Regulator Rectifier Diodes	CG2-230L, CG2-470L
Computer	Data Lines	CG90L, CG2-230L, PMT3 (310) 40010

Application	Protected Equipment	Clare Part No.
Test Equipment	Meter Inputs	CG75L, CG2-300L
CRT Terminal	Focus Electrode	CG2-800L, CG3-7.5L
Capacitive Discharge	Ignition Circuit Components Pulse Generator Components	CG2-230L, CG2-350L
Signal Lines (single ended)	Alarm Circuits	CG75L
Signal Lines (balanced)	Alarm Circuits Paging Systems	PMT3 (310) 40010 PMT3 (310) 25010
Telephone Line (simultaneous common mode & normal mode protection)	Telephone Interace Cards Telephone Line Cards Repeaters In-Line & Remote Phone Line Test Equipment Center Office Protector Modules	PMT3 (310) 40010
Medical Electronics	Defibrillator	CG2-800L, CG75L
Process Control (24MA Signal Loop)	Instrumentation Circuits	CG75L, CG90L

13

Packages

Dimensions mm/(inch)

Fig. 1

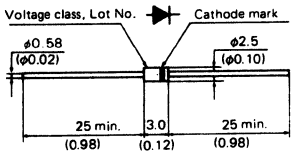


Fig. 2

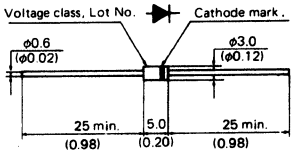


Fig. 3

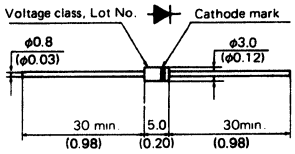


Fig. 4

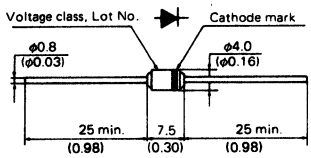


Fig. 5

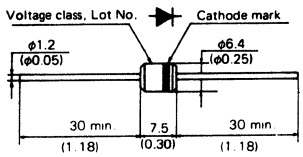


Fig. 6

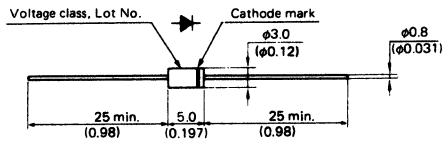


Fig. 7

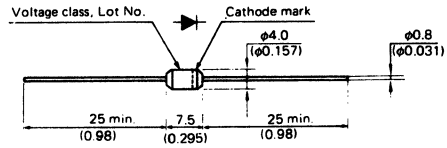


Fig. 8

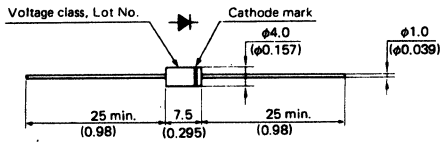


Fig. 9

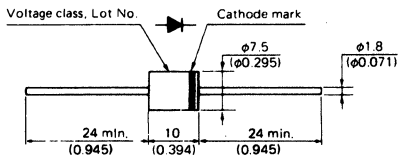


Fig. 10

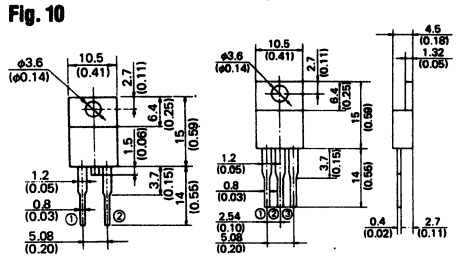


Fig. 11

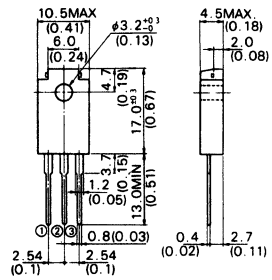


Fig. 12

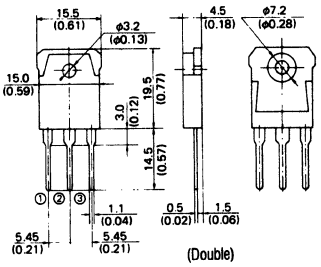


Fig. 13

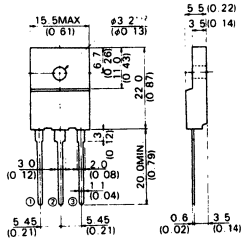
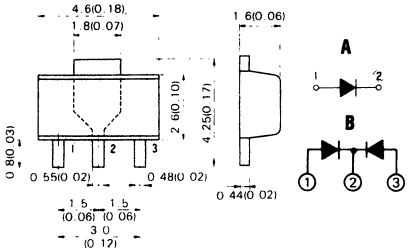


Fig. 14



Schottky Barrier Rectifiers

Stock No.	Mfr.'s Type	Maximum Ratings V_{RRM} Volts	Maximum Ratings I_o*1 Amps	I_{FSM}*2 Amps	Thermal Ratings T_j and T_{stg} °C	Characteristics (T_a = 25°C) V_{FM} Max. Volts	I_{RRM}*3 Max. mA	Dimensions Fig. No.	Competitive Part Numbers	EACH
925-0002	ERA82-004	45	0.6 (T_a = 60°C)	25	−40 to +125	0.55 (I_F = 0.6A)	1.0	1	—	**0.32**
925-0004	ERA81-004	45	1.0 (T_a = 25°C)	50	−40 to +125	0.55 (I_F = 1.0A)	2.0	2	1N5817-10, VSK120, VSK130-140, SB140	**0.42**
925-0006	ERA84-009	90	1.0 (T_a = 25°C)	30	−40 to +125	0.90 (I_F = 1.0A)	1.0	2	—	**0.54**
925-0010	ERB81-004	45	2.0 (T_a = 25°C)	100	−40 to +125	0.55 (I_F = 2.0A)	5.0	4	SB140	**0.58**
925-0012	ERB84-009	90	2.0 (T_a = 25°C)	60	−40 to +125	0.90 (I_F = 2.0A)	2.0	4	—	**0.84**
925-0014	ERC81-004	45	3.0 (T_a = 25°C)	120	−40 to +125	0.55 (I_F = 3.0A)	5.0	5	1N5820-21, VSK320, VSK330-340, SB340	**2.14**
925-0016	ERC81S-004	45	5.0 (T_a = 25°C)	120	−40 to +125	0.55 (I_F = 3.0A)	5.0	5	VSK520, VSK530-540, SB540	**1.88**
925-0018	ERC84-009	90	3.0 (T_j = 85°C)	80	−40 to +125	0.8 (I_F = 3.0A)	5.0	5	—	**1.54**
925-0020	ERC80-004	45	5.0 (T_c = 102°C)	120	−40 to +125	0.55 (I_F = 5.0A)	5.0	10	VSK64, SBL540	**2.14**
925-0022	ERC88-009	90	5.0 (T_c = 95°C)	80	−40 to +125	0.90 (I_F = 4.0A)	5.0	10	—	**2.68**
925-0024	ERC62-004	45	10.0 (T_c = 110°C)	250	−40 to +125	0.60 (I_F = 10A)	2.0	10	VSK1045, MBR1045	**3.64**
925-0026	ERD80-004	45	15.0 (T_c = 100°C)	250	−40 to +125	0.55 (I_F = 12.5A)	10.0	12*	—	**4.58**
925-0028	ESAB82-004	45	5.0 (T_c = 103°C)	100	−40 to +125	0.55 (I_F = 2.0A)	5.0	10	SBL540CT	**2.58**
925-0030	ESAB82M-004	45	5.0 (T_c = 103°C)	100	−40 to +125	0.55 (I_F = 2.0A)	5.0	11	—	**1.60**
925-0032	ESAB85-009	90	5.0 (T_c = 95°C)	60	−40 to +125	0.90 (I_F = 2.0A)	2.0	10	—	**3.22**
925-0034	ESAC82-004K	45	15.0 (T_c = 97°C)	120	−40 to +125	0.55 (I_F = 4.0A)	5.0	10	VSK14, SBL1040CT	**3.00**
925-0036	ESAC82M-004	45	10.0 (T_c = 95°C)	120	−40 to +125	0.55 (I_F = 4.0A)	5.0	11	—	**2.14**
925-0038	ESAC85-009	90	10.0 (T_c = 92°C)	80	−40 to +125	0.90 (I_F = 4.0A)	5.0	10	—	**4.30**
925-0040	ESAC87-009	90	16.0 (T_c = 90°C)	100	−40 to +125	0.90 (I_F = 6.0A)	10.0	12	—	**7.50**
925-0042	ESAC83-004	45	20.0 (T_c = 95°C)	120	−40 to +125	0.55 (I_F = 8.0A)	15.0	12	SBL1640PT	**6.76**
925-0044	ESAC63-004	45	20.0 (T_c = 92°C)	120	−40 to +125	0.60 (I_F = 10A)	15.0	10	VSK2045, MBR2045CT	**5.48**
925-0046	ESAD85-009	90	25 (T_c = 90°C)	150	−40 to +125	0.90 (I_F = 10A)	20.0	12	—	**9.98**
925-0048	ESAD83-004K	45	30.0 (T_c = 90°C)	250	−40 to +125	0.55 (I_F = 12.5A)	20.0	12	SBL3040PT	**5.80**
925-0050	ESAE83-004	45	60.0 (T_c = 84°C)	500	−40 to +125	0.55 (I_F = 25A)	50.0	12	—	**9.06**
925-0051	SE014	40	1.0 (T_c = 25°C)	10	−40 to +125	0.55 (I_F = 1.0A)	2.0	14A	—	**0.46**
925-0053	SE024	40	.95 (T_c = 25°C)	5	−40 to +125	0.55 (I_F = 0.3A)	2.0	14B	—	**0.46**

NOTES: ( ) indicates conditions. Other conditions: *1Square wave duty 1/2. *2Sine wave, 10 ms. *3$V_R = V_{RRM}$. *4T_j = 125°C. *Single. **Additional full molded packages available.**

Fast Recovery Rectifiers

Stock No.	Mfr.'s Type	Maximum Ratings V_{RRM} Volts	Maximum Ratings I_o*1 Amps	I_{FSM}*2 Amps	Thermal Ratings T_j and T_{stg} °C	Characteristics (T_a = 25°C) V_{FM} Max. Volts	Characteristics (T_a = 25°C) I_{RRM}*3 Max. μA	t_{rr} μs	Dimensions Fig. No.†	Competitive Part Numbers	EACH
925-0054	ERB43-06	600	0.5 (T_a = 40°C)	10	– 40 to + 140	1.20 (I_F = 0.5A)	10	0.400 (I_F = I_R = 0.1A)	6	BA158GP	0.40
925-0056	ERB38-04	400	0.8 (T_a = 25°C)	20	– 40 to + 150	2.50 (I_F = 0.8A)	50	0.050 (I_F = 0.1A, I_R = 0.2A)	6	—	0.44
925-0058	ERA32-01	100	1.0 (T_a = 40°C)	40	– 40 to + 150	0.92 (I_F = 1.0A)	10	0.100 (I_F = I_R = 0.1A)	6	EGP10B	0.18
925-0060	ERB91-02	200	1.0 (T_a = 50°C)	20	– 40 to + 150	0.95 (I_F = 1.0A)	50	0.035 (I_F = 0.1A, I_R = 0.2A)	6	EGP10D	0.48
925-0062	ERB35-02	200	1.0 (T_a = 25°C)	30	– 40 to + 150	1.10 (I_F = 1.0A)	10	0.100 (I_F = I_R = 0.1A	7	EGP10D	0.44
925-0064	ERB44-02	200	1.0 (T_a = 40°C)	30	– 40 to + 140	1.10 (I_F = 1.0A)	10	0.400 (I_F = I_R = 0.1A)	6	1N4935	0.32
925-0066	ERB44-04	400	1.0 (T_a = 40°C)	30	– 40 to + 140	1.10 (I_F = 1.0A)	10	0.400 (I_F = I_R = 0.1A)	6	1N4936	0.36
925-0068	ERB44-06	600	1.0 (T_a = 40°C)	30	– 40 to + 140	1.10 (I_F = 1.0A)	10	0.400 (I_F = I_R = 0.1A)	6	1N4937	0.36
925-0070	ERB44-08	800	1.0 (T_a = 40°C)	30	– 40 to + 140	1.10 (I_F = 1.0A)	10	0.400 (I_F = I_R = 0.1A)	6	SRP100K	0.36
925-0072	ERC38-04	400	1.0 (T_a = 25°C)	40	– 40 to + 150	2.50 (I_F = 1.0A)	50	0.050 (I_F = 0.1A, I_R = 0.2A)	5	—	0.62
925-0074	ERB06-15	1500	1.0 (T_a = 40°C)	50	– 40 to + 150	1.50 (I_F = 4.0A)	10	4.000 (I_F = I_R = 0.1A	6	—	0.40
925-0076	ERC30-01	100	1.5 (T_a = 40°C)	60	– 40 to + 150	0.92 (I_F = 1.5A)	10	0.100 (I_F = I_R = 0.1A)	8	EGP20B	0.24
925-0078	ERB93-02	200	1.5 (T_a = 40°C)	25	– 40 to + 150	0.95 (I_F = 1.5A)	100	0.035 (I_F = 0.1A, I_R = 0.2A)	8	VHE205, VHE220, FE2D	0.82
925-0080	ERD38-04	400	1.5 (T_a = 25°C)	80	– 40 to + 150	2.50 (I_F = 1.5A)	100	0.050 (I_F = 0.1A, I_R = 0.2A)	5	VHE240	0.82
925-0082	ERD38-05	500	1.5 (T_a = 25°C)	80	– 40 to + 150	2.50 (I_F = 1.5A)	100	0.050 (I_F = 0.1A, I_R = 0.2A)	5	VHE250	0.82
925-0084	ERD38-06	600	1.5 (T_a = 25°C)	80	– 40 to + 150	2.50 (I_F = 1.5A)	100	0.050 (I_F = 0.1A, I_R = 0.2A)	5	—	0.88
925-0086	ERD28-04	400	1.5 (T_a = 25°C)	70	– 40 to + 125	1.10 (I_F = 1.5A)	10	0.400 (I_F = I_R = 0.1A	5	RGP15G	1.08
925-0088	ERD28-06	600	1.5 (T_a = 25°C)	70	– 40 to + 125	1.10 (I_F = 1.5A)	10	0.400 (I_F = I_R = 0.1A	5	RGP15J	1.12
925-0090	ERC06-15	1500	1.5 (T_a = 40°C)	50	– 40 to + 150	1.50 (I_F = 4.0A)	10	4.000 (I_F = I_R = 0.1A)	5	DG1	0.62
925-0092	ERD33-02	200	2.0 (T_a = 25°C)	80	– 40 to + 125	1.20 (I_F = 2.0A)	200	0.100 (I_F = I_R = 0.1A)	9	—	1.78
925-0094	ERD29-02	200	2.5 (T_a = 25°C)	70	– 40 to + 125	1.10 (I_F = 2.5A)	10	0.400 (I_F = I_R = 0.1A)	9	SRP300D	1.02
925-0096	ERD29-04	400	2.5 (T_a = 25°C)	70	– 40 to + 125	1.10 (I_F = 2.5A)	10	0.400 (I_F = I_R = 0.1A)	9	SRP300G	1.02
925-0098	ERD29-06	600	2.5 (T_a = 25°C)	70	– 40 to + 125	1.10 (I_F = 2.5A)	10	0.400 (I_F = I_R = 0.1A)	9	SRP300J	1.02
925-0100	ERD32-01	100	3.0 (T_a = 25°C)	150	– 40 to + 150	0.92 (I_F = 3.0A)	10	0.100 (I_F = I_R = 0.1A)	5	FE3B	0.78
925-0102	ERD32-02	200	3.0 (T_a = 25°C)	150	– 40 to + 150	0.92 (I_F = 3.0A)	50	0.100 (I_F = I_R = 0.1A)	5	FE3D	0.80
925-0104	ERC91-02	200	3.0 (T_a = 25°C)	50	– 40 to + 150	0.95 (I_F = 3.0A)	100	0.035 (I_F = 0.1A, I_R = 0.2A)	5	VHE605, VHE620, FE6D	1.14

NOTES: ( ) indicates conditions. Other conditions: *1Single phase, sine half wave. *2½ cycle, 50 Hz. *3V_R = V_{RRM}. †Fig. No.—Refer to drawing on previous page. Additional full molded packages available.

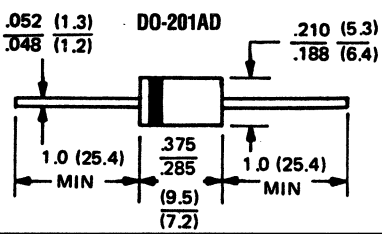
Stock No.	Mfr.'s Type	Maximum Ratings V_{RRM} Volts	Maximum Ratings I_o*1 Amps	I_{FSM} Amps	Thermal Ratings T_j and T_{stg} °C	Characteristics (T_a = 25°C) V_{FM} Max. Volts	Characteristics (T_a = 25°C) I_{RRM}*2 Max. mA	t_{rr}*3 μs	Dimensions Fig. No.†	Competitive Part Numbers	EACH
925-0105	ERC90-02	200	5 (T_C = 125°C)	50	– 40 to + 150	0.95 (I_F = 5A)	0.1	0.035*4	10	VHE1401-4, GI1401-4	1.86
925-0106	ERC90-02B	200	8 (T_C = 120°C)	50	– 40 to + 150	0.98 (I_F = 8A)	0.1	0.035	10	—	1.99
925-0108	ERC20-06	600	5 (T_C = 125°C)	70	– 40 to + 150	1.50 (I_F = 5A)	0.05	0.4	10	—	1.58
925-0110	ESAB92-02	200	5 (T_C = 120°C)	25	– 40 to + 150	0.95 (I_F = 2.5A)	0.1	0.035*4	10	—	1.76
925-0112	ESAC33-02C*	200	8 (T_C = 98°C)	30	– 40 to + 150	1.40 (I_F = 2A)	0.5	0.1	10	—	1.92
925-0114	ESAC33-02N*	200	8 (T_C = 98°C)	30	– 40 to + 150	1.40 (I_F = 2A)	0.5	0.1	10	—	1.92
925-0116	ESAC33M-02C	200	8 (T_C = 95°C)	30	– 40 to + 150	1.40 (I_F = 2A)	0.5	0.1	11	—	1.84
925-0118	ESAC33M-02N	200	8 (T_C = 95°C)	30	– 40 to + 150	1.40 (I_F = 2A)	0.5	0.1	11	—	1.84
925-0120	ESAC31-01C*	100	10 (T_C = 113°C)	80	– 40 to + 150	1.25 (I_F = 5A)	0.05	0.3	10	—	1.92
925-0122	ESAC31-01N*	100	10 (T_C = 113°C)	80	– 40 to + 150	1.25 (I_F = 5A)	0.05	0.3	10	—	1.92
925-0124	ESAC31-02C*	200	10 (T_C = 113°C)	80	– 40 to + 150	1.25 (I_F = 5A)	0.05	0.3	10	—	1.92
925-0126	ESAC31-02N*	200	10 (T_C = 113°C)	80	– 40 to + 150	1.25 (I_F = 5A)	0.05	0.3	10	—	1.92
925-0128	ESAC92-02	200	10 (T_C = 125°C)	50	– 40 to + 150	0.95 (I_F = 5A)	0.1	0.035*4	10	VHE2401-4, GI2401-4	2.86
925-0129	ESAC92-02B	200	16 (T_C = 105°C)	50	– 40 to + 150	0.98 (I_F = 8A)	0.1	0.035	10 (Dual)	—	2.99
925-0130	ESAC33-02CS*	200	10 (T_C = 103°C)	50	– 40 to + 150	1.40 (I_F = 5A)	0.1	0.1	10	FEP6DT	3.06
925-0132	ESAC34M-02C	200	10 (T_C = 110°C)	50	– 40 to + 150	1.40 (I_F = 5A)	0.1	0.1	11	—	2.48
925-0134	ESAC25-04C*	400	10 (T_C = 100°C)	70	– 40 to + 150	1.30 (I_F = 2.5A)	0.05	0.4	10	—	2.16
925-0136	ESAC25-04N*	400	10 (T_C = 100°C)	70	– 40 to + 150	1.30 (I_F = 2.5A)	0.05	0.4	10	—	2.16
925-0138	ESAC25M-02C	200	10 (T_C = 95°C)	70	– 40 to + 150	1.30 (I_F = 2.5A)	0.05	0.4	11	—	1.76
925-0140	ESAC25M-02N	200	10 (T_C = 95°C)	70	– 40 to + 150	1.30 (I_F = 2.5A)	0.05	0.4	11	—	1.76
925-0142	ESAC25M-04C	400	10 (T_C = 95°C)	70	– 40 to + 150	1.30 (I_F = 2.5A)	0.05	0.4	11	—	1.76
925-0144	ESAC25M-04N	400	10 (T_C = 95°C)	70	– 40 to + 150	1.30 (I_F = 2.5A)	0.05	0.4	11	—	1.76
925-0146	ESAD33-02C	200	15 (T_C = 88°C)	80	– 40 to + 150	1.50 (I_F = 5A)	1.0	0.1	12	—	4.46
925-0148	ESAD33-02N	200	15 (T_C = 88°C)	80	– 40 to + 150	1.50 (I_F = 5A)	1.0	0.1	12	—	4.46
925-0150	ESAD25-04C	400	15 (T_C = 88°C)	80	– 40 to + 150	1.50 (I_F = 5A)	1.0	0.1	12	—	4.46
925-0152	ESAD25-04N	400	15 (T_C = 88°C)	80	– 40 to + 150	1.50 (I_F = 5A)	1.0	0.1	12	—	4.46
925-0154	ESAD25-02C	200	15 (T_C = 100°C)	120	– 40 to + 150	1.30 (I_F = 8A)	0.1	0.4	12	—	3.44
925-0156	ESAD25-02N	200	15 (T_C = 100°C)	120	– 40 to + 150	1.30 (I_F = 8A)	0.1	0.4	12	—	3.44
925-0158	ESAD33-02CS	200	20 (T_C = 100°C)	80	– 40 to + 150	1.25 (I_F = 5A)	0.5	0.1	12	FEP30DP	3.74
925-0160	ESAD75-01	100	16 (T_C = 110°C)	200	– 40 to + 150	0.95 (I_F = 8A)	1.5 (T_j = 150°C)	0.3	14	RP30BP	16.04
925-0162	ESAD75-02	200	16 (T_C = 110°C)	200	– 40 to + 150	0.95 (I_F = 8A)	1.5 (T_j = 150°C)	0.3	14	RP30DP	16.20
925-0163	ESAD92-02B	200	30 (T_C = 98°C)	100	– 40 to + 150	0.98 (I_F = 15A)	0.2	0.04	12	—	3.99

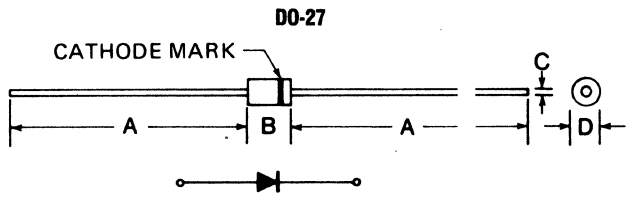
NOTES: ( ) indicates conditions. Other conditions: *1 50 Hz, Sine wave. *2V_R = V_{RRM}. *3I_F = I_R = 0.1A. *4I_F = 0.1A, I_R = 0.2A. C = Common Cathode. N = Common Anode. * = Dual Chip TO-220. †Fig. No.—Refer to drawings on previous page. Doubler circuit available by adding "– D" to C or N suffixes.

13

3 Amp Silicon Rectifiers

Dimensions—Inches and (millimeters)





DIM	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
A	1.000	—	25.04	—
B	0.285	0.375	7.24	9.53
C	0.048	0.052	1.22	1.32
D	0.190	0.210	4.83	5.33

Stock No.	Mfr.'s Type	V_{RM} V_{RRM} V_{RWM}	V_R (RMS)	I_o	I_{FSM}	T_{RR} nSec	Package	Competitive Part Numbers	EACH
925-0164	1N5400	50V	35V	3.0A	200A	—	DO-201AD	V330, V350, GP30A, P300A	0.14
925-0166	1N5401	100V	70V	3.0A	200A	—	DO-201AD	V331, V351, RGP308, P300B	0.15
925-0168	1N5402	200V	140V	3.0A	200A	—	DO-201AD	V332, V352, GP30D, P300D	0.15
925-0170	1N5404	400V	280V	3.0A	200A	—	DO-201AD	V334, V354, GP30G, P300G	0.16
925-0172	1N5406	600V	420V	3.0A	200A	—	DO-201AD	V336, V356, GP30J, P300J	0.16
925-0174	1N5408	1000V	700V	3.0A	200A	—	DO-201AD	V3510, P300M	0.17
925-0176	PR3001	50V	35V	3.0A	200A	150	DO-27	V330X, RGP30A	0.13
925-0178	PR3002	100V	70V	3.0A	200A	150	DO-27	V331X, GP308	0.14
925-0180	PR3003	200V	140V	3.0A	200A	150	DO-27	V332X, RGP30D	0.14
925-0182	PR3004	400V	250V	3.0A	200A	150	DO-27	V334X, RGP30G	0.14
925-0184	PR3005	600V	420V	3.0A	200A	200	DO-27	V336X, RGP30J	0.16

T_J T_{STG}— – 65 to + 175°C. 6 Amp standard and fast recovery rectifiers also available.

Silicon Bridge Rectifiers

Dimensions—Inches and (millimeters)

Fig. 1

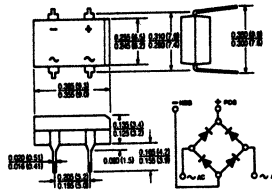


Fig. 2

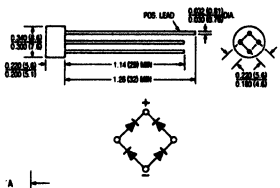
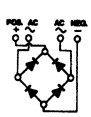


Fig. 3



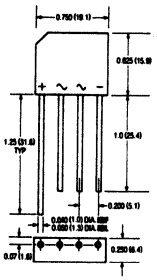


Fig. 4

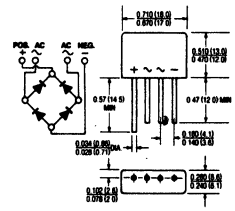


Fig. 5

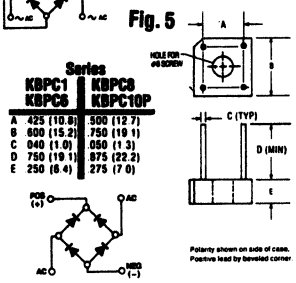


Fig. 6

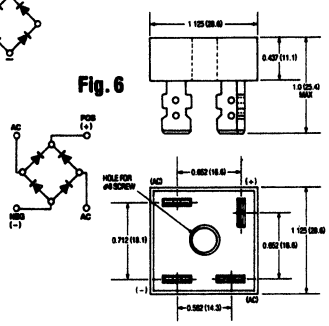
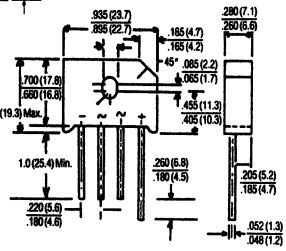


Fig. 7



Stock No.	Mfr.'s Type	V_{RM} V_{RRM} V_{RWM}	V_R (RMS)	I_{FSM}	I_O	T_J	T_{RR} nSec	V_{FM}	I_{RM} $T_A = 100°C$	Package	Competitive Part Numbers	EACH
925-0208	DF005	50V	25V	50A	1.0A	– 55 to + 125°C	—	1.1V	0.5mA	1	VM08, DF005M	0.42
925-0210	RDF005	50V	35V	30A	1.0A	– 55 to + 125°C	200	1.3V	0.5mA	1	VM08X, RDF005M	0.88
925-0212	DF01	100V	70V	50A	1.0A	– 55 to + 125°C	—	1.1V	0.5mA	1	VM18, DF01M	0.44
925-0214	RDF01	100V	70V	30A	1.0A	– 55 to + 125°C	200	1.3V	0.5mA	1	VM18X, RDF01M	0.96
925-0216	DF02	200V	140V	50A	1.0A	– 55 to + 125°C	—	1.1V	0.5mA	1	VM28, DF02M	0.48
925-0218	RDF02	200V	140V	30A	1.0A	– 55 to + 125°C	200	1.3V	0.5mA	1	VM28X, RDF02M	1.04
925-0220	DF04	400V	280V	50A	1.0A	– 55 to + 125°C	—	1.1V	0.5mA	1	VM48, DF04M	0.52
925-0222	RDF04	400V	280V	30A	1.0A	– 55 to + 125°C	200	1.3V	0.5mA	1	VM48X, RDF04M	1.12
925-0224	DF06	600V	420V	50A	1.0A	– 55 to + 125°C	—	1.1V	0.5mA	1	VM68, DF06M	0.56
925-0226	RDF06	600V	420V	30A	1.0A	– 55 to + 125°C	300	1.3V	0.5mA	1	VM68X, RDF06M	1.24
925-0228	DF10	1000V	700V	50A	1.0A	– 55 to + 125°C	—	1.1V	0.5mA	1	VM108, DF10M	0.62
925-0230	W005M	50V	35V	50A	1.5A	– 55 to + 125°C	—	1.0V	1.0mA	2	VE08, W005M	0.40
925-0232	W01M	100V	70V	50A	1.5A	– 55 to + 125°C	—	1.0V	1.0mA	2	VE18, W01M	0.42
925-0234	RW01M	100V	70V	40A	1.5A	– 55 to + 125°C	200	1.3V	1.0mA	2	VE18X, RW01M	0.92
925-0236	W02M	200V	140V	50A	1.5A	– 55 to + 125°C	—	1.0V	1.0mA	2	VE28, W02M	0.44
925-0238	RW02M	200V	140V	40A	1.5A	– 55 to + 125°C	200	1.3V	1.0mA	2	VE28X, RW02M	0.96
925-0240	W04M	400V	280V	50A	1.5A	– 55 to + 125°C	—	1.0V	1.0mA	2	VE48, W04M	0.46
925-0242	RW04M	400V	280V	40A	1.5A	– 55 to + 125°C	200	1.3V	1.0mA	2	VE48X, RW04M	1.04
925-0244	KBP01	100V	70V	50A	1.5A	– 55 to + 125°C	—	1.0V	1.0mA	3	—	0.44
925-0246	KBP04	400V	280V	50A	1.5A	– 55 to + 125°C	—	1.0V	1.0mA	3	—	0.46
925-0248	KBL01	100V	70V	200A	4.0A	– 55 to + 125°C	—	1.2V	1.0mA	4	—	1.08
925-0250	KBL04	400V	280V	200A	4.0A	– 55 to + 125°C	—	1.2V	1.0mA	4	—	1.16
925-0252	KBL08	800V	560V	200A	4.0A	– 55 to + 125°C	—	1.2V	1.0mA	4	—	1.28
925-0254	KBPC1005	50V	25V	50A	3.0A	– 55 to + 125°C	—	1.2V	1.0mA	5	VS048, KBPC1005	0.80
925-0256	KBPC101	100V	70V	50A	3.0A	– 55 to + 125°C	—	1.2V	1.0mA	5	VS148, KBPC101	0.84
925-0258	KBPC102	200V	140V	50A	3.0A	– 55 to + 125°C	—	1.2V	1.0mA	5	VS248, KBPC102	0.96
925-0260	KBPC104	400V	280V	50A	3.0A	– 55 to + 125°C	—	1.2V	1.0mA	5	VS448, KBPC104	1.04
925-0262	KBPC106	600V	420V	50A	3.0A	– 55 to + 125°C	—	1.2V	1.0mA	5	VS648, KBPC106	1.16
925-0264	KBPC110	1000V	700V	50A	3.0A	– 55 to + 125°C	—	1.2V	1.0mA	5	VS1048, KBPC110	1.34
925-0266	KBPC6005	50V	35V	125A	6.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VH048, KBPC6005	1.12
925-0268	RKBPC6005	50V	35V	125A	6.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VH048X, RKBPC6005	2.12
925-0270	KBPC601	100V	70V	125A	6.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VH148, KBPC601	1.16
925-0272	RKBPC601	100V	70V	125A	6.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VH148X, RKBPC601	2.18
925-0274	KBPC602	200V	140V	125A	6.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VH248, KBPC602	1.16
925-0276	RKPBC602	200V	140V	125A	6.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VH248X, RKBPC602	2.28
925-0278	KBPC604	400V	280V	125A	6.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VH448, KBPC604	1.20
925-0280	RKBPC604	400V	280V	125A	6.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VH44BX, RKBPC604	2.34
925-0282	KPBC606	600V	420V	125A	6.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VH648, KBPC606	1.24
925-0284	RKBPC606	600V	420V	125A	6.0A	– 55 to + 125°C	300	1.3V	1.0mA	5	VH648X, RKBPC606	2.44
925-0286	KBPC610	1000V	700V	125A	6.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VH1048, KBPC610	1.40
925-0288	RKBPC801	100V	70V	125A	8.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VJ14BXM	2.30
925-0290	RKBPC802	200V	140V	125A	8.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VJ248XM	2.36
925-0292	RKBPC804	400V	280V	125A	8.0A	– 55 to + 125°C	200	1.3V	1.0mA	5	VJ448XM	2.44
925-0294	RKBPC806	600V	420V	125A	8.0A	– 55 to + 125°C	300	1.3V	1.0mA	5	VJ648XM	2.60
925-0296	KBPC1001P	100V	70V	150A	10.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VJ148M	1.86
925-0298	KBPC1002P	200V	140V	150A	10.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VJ248M	1.92
925-0300	KBPC1004P	400V	280V	150A	10.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VJ448M	1.98
925-0302	KBPC1006P	600V	420V	150A	10.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VJ648M	2.18
925-0304	KBPC1008P	800V	560V	150A	10.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VJ848M	2.28
925-0306	KBPC1010P	1000V	700V	150A	10.0A	– 55 to + 125°C	—	1.1V	1.0mA	5	VJ1048M	2.40
925-0308	KBPC2501	100V	70V	300A	25.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	—	2.84
925-0310	KBPC2502	200V	140V	300A	25.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	—	2.88
925-0312	KBPC2504	400V	280V	300A	25.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	—	3.00
925-0336	KBPC2506	600V	420V	300A	25.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	—	3.10
925-0338	KBPC2508	800V	560V	300A	25.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	—	3.30
925-0314	KBPC35005	50V	35V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK048, KBPC35005	2.98
925-0316	KBPC3501	100V	70V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK148, KBPC3501	3.04
925-0318	RKBPC3501	100V	70V	400A	35.0A	– 55 to + 125°C	200	1.3V	1.0mA	6	VK148X, RKBPC3501	5.32
925-0320	KBPC3502	200V	140V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK248, KBPC3502	3.20
925-0322	RKBPC3502	200V	140V	400A	35.0A	– 55 to + 125°C	200	1.3V	1.0mA	6	VK248X, RKBPC3502	5.56
925-0324	KBPC3504	400V	280V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK448, KBPC3504	3.36
925-0326	RKBPC3504	400V	280V	400A	35.0A	– 55 to + 125°C	200	1.3V	1.0mA	6	VK448X, RK8PC3504	5.56
925-0328	KBPC3506	600V	420V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK648, KBPC3506	3.52
925-0330	RKBPC3506	600V	420V	400A	35.0A	– 55 to + 125°C	300	1.2V	1.0mA	6	VK648X, RKBPC3506	5.70
925-0330	KBPC3508	800V	560V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK868, KBPC3508	3.78
925-0334	KBPC3510	1000V	700V	400A	35.0A	– 55 to + 125°C	—	1.2V	1.0mA	6	VK1048, KBPC3510	4.00
925-0340	KBU8005	50V	35V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	1.50
925-0342	KBU801	100V	70V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	1.58
925-0344	KBU802	200V	140V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	1.66
925-0346	KBU804	400V	280V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	1.74
925-0348	KBU806	600V	420V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	1.82
925-0350	KBU808	800V	560V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	1.90
924-0352	KBU810	1000V	700V	300A	8.0A	– 55 to + 125°C	—	1.0V	1.0mA	7	—	2.16

T_{STG} = – 55 to + 150°C. Recovery Test Conditions—I_F = 0.5A, I_R = – 1.0A, I_{RR} = – .25A. Controlled Avalanche available on above bridges, contact Allied for information.

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Standard Recovery—3 Phase Full Wave Bridges

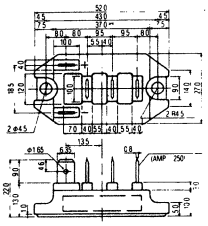


Fig. 1

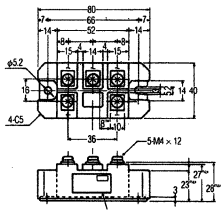


Fig. 2

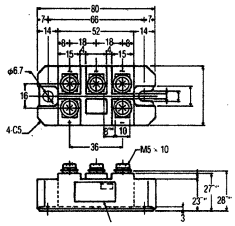


Fig. 3

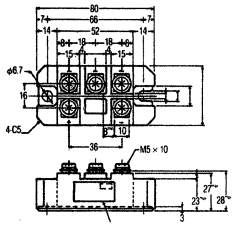


Fig. 4

► Glass Passivation Chip ► Ideal For Inverters, DC Motors and Battery Chargers

Stock No.	Mfr.'s Type	Ratings and Characteristics							Fig.	Competitive Part Numbers	EACH
		Rated Voltage (V)	Rated Current (A)	Surge Current (A)	Junction Temperature (°C)	Insulation Voltage (V)	Forward Voltage (V)	Thermal Resistance (°C/W)			
925-0412	6RI30E-060	600	30	360	150	2000	1.10	0.80	1	PT3010, SKD30/02-16, ME100603	**16.00**
925-0414	6RI50E-060	600	50	480	150	2000	1.20	0.42	2	PT518, SKD50/02-16, ME20(06-16)05	**30.00**
925-0416	6RI75E-060	600	75	1000	150	2000	1.15	0.30	3	PT768, ME30(06-16)A7	**39.00**
925-0418	6RI100E-060	600	100	1200	150	2000	1.15	0.22	4	PT1018, SKD100/04-16, ME30(06-16)10	**58.00**

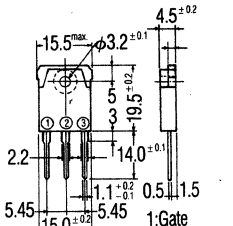
800, 1200 and 1600 Volt Versions also available.

N-Channel Silicon Power MOS-FET

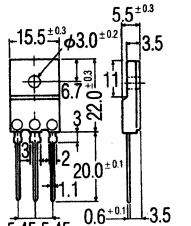
► High Speed Switching
► Low On-Resistance
► Low Driving Power

► Useful in Switching Regulators, UPS, DC-DC Converters and General Purpose Power Amplifiers

Stock No.	Mfr.'s Type	Ratings			Characteristics (Tc = 25°C)				Package	EACH
		V_{DSS} (V)	I_D (A)	P_D (W)	$R_{DS(ON)}$ (Ω)	g_{fs} (S)	t_{on} (ns)	t_{off} (ns)		
925-0420	2SK905	50	45	125	0.03	25	160	550	TO3P	**10.27**
925-0422	2SK1134	50	45	80	0.03	25	170	550	TO3PF	**7.38**
925-0424	2SK906	100	32	125	0.06	20	120	470	TO3P	**9.64**
925-0354	2SK900	250	12	80	0.30	9	75	260	TO220	**7.52**
925-0356	2SK947	250	12	40	0.30	9	75	260	TO220F	**4.30**
925-0358	2SK948	250	12	100	0.30	9	75	260	TO3P	**4.28**
925-0360	2SK901	250	20	125	0.15	15	100	520	TO3P	**10.52**
925-0362	2SK902	250	30	150	0.10	20	200	1000	TO3P	**16.20**
925-0364	2SK949	500	6	40	1.20	7	65	260	TO220F	**3.86**
925-0366	2SK950	500	6	80	1.20	7	65	260	TO220	**3.82**
925-0368	2SK723	500	7	125	1.20	7	65	260	TO3P	**5.24**
925-0372	2SK724	500	10	100	0.67	10	130	440	TO3P	**7.28**
925-0374	2SK1099	500	10	80	0.67	10	130	430	TO3PF	**6.06**
925-0378	2SK725	500	15	125	0.38	16	130	440	TO3P	**11.82**
925-0380	2SK899	500	18	125	0.33	16	130	440	TO3P	**10.52**
925-0382	2SK897	550	4	40	1.50	5	65	240	TO220F	**4.28**
925-0384	2SK903	800	3	40	4.00	4	60	210	TO220F	**5.40**
925-0386	2SK904	800	3	80	4.00	4	60	210	TO220	**3.82**
925-0388	2SK954	800	3	100	4.00	4	60	210	TO3P	**7.84**
925-0390	2SK1105	800	3	80	4.00	4	60	210	TO3PF	**4.28**
925-0392	2SK955	800	5	125	2.00	6	110	420	TO3P	**9.96**
925-0394	2SK960	900	3	40	5.00	4	60	210	TO220F	**4.24**
925-0396	2SK961	900	3	80	5.00	4	60	210	TO220	**3.82**
925-0398	2SK726	900	3	100	5.00	4	60	210	TO3P	**6.82**
925-0400	2SK727	900	5	125	2.50	6	110	420	TO3P	**9.96**



TO-3P 1:Gate 2:Drain 3:Source



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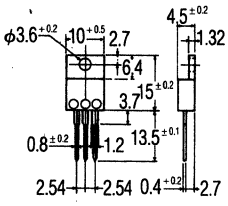
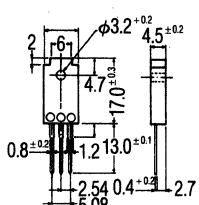


TO-220 1:Gate 2:Drain 3:Source



TO-220F 1:Gate 2:Drain 3:Source

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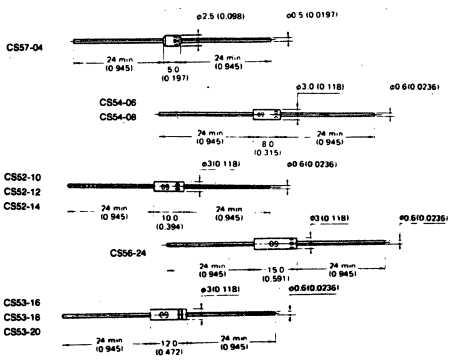


Fast Recovery High Voltage Silicon Rectifiers

Stock No.	Mfr.'s Type†	Repetitive Peak Reverse Voltage V_{RRM}	Average Forward Current I_O*	Non-Repetitive Peak Surge Current I_{FSM}**	Maximum Forward Voltage Drop (at 10 mA, Ta = 25°C) V_{FM}	Maximum Reverse Current, Repetitive (at V_{RRM}, Ta = 25°C I_{RRM}	EACH
		kV	mA	A	Volts	μA	
925-0186	CS57-04	4	25	1.0	12.5	1	**0.74**
925-0188	CS54-06	6	25	1.0	20.0	1	**0.80**
925-0190	CS54-08	8	25	1.0	25.0	1	**0.82**
925-0192	CS52-10	10	10	0.5	30.0	1	**0.86**
925-0194	CS52-12	12	10	0.5	37.5	1	**1.04**
925-0196	CS52-14	14	10	0.5	42.5	1	**1.12**
925-0198	CS53-16	16	10	0.5	50.0	1	**1.22**
925-0200	CS53-18	18	10	0.5	55.0	1	**1.28**
925-0202	CS53-20	20	10	0.5	62.5	1	**1.50**
925-0206	CS56-24	24	10	0.5	75.0	1	**1.56**

Notes: *Single phase; half sine wave at ambient temperature 25°C. **1/2 cycle, 50Hz at full load. †Epoxy Package. Reverse Recovery Time: Ta = 25°C, IF = 2mA, IR = 1 mA, 100 nsec max. Maximum Junction Capacitance: V = 0, Ta = 25°C, @ 1MHz, 2pF. Storage and Operating Junction Temperature, Tj: −65°C to +150°C

X-Ray, Microwave and Power Supply Diodes

Stock No.	Mfr.'s Type	V_{RRM} (KV)	I_O (mA)	VF (V)	T_{rr} (μsec)	Pkg. L (in.)	Pkg. Dia. (in.)	Wire Dia. (in.)	EACH
925-0402	ESJC04-05	5	420	8.4	1.0	.394	.236	.047	**2.70**
925-0404	ESJC01-09B	9	350	12.0	—	.866	.295	.047	**2.54**
925-0406	ESJC03-09	9	280	18.0	1.0	.591	.177	.031	**2.26**
925-0408	ESJC01-12B	12	350	12.0	—	.866	.295	.047	**1.86**
925-0410	ESJC030-08	8	300	16.0	0.3	.860	.290	.047	**1.98**

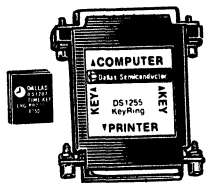
Nonvolatile Static RAM

- Data retention in the absence of Vcc
- Data is automatically protected during power loss
- Directly replaces SRAM or EEPROM
- Unlimited write cycles
- CMOS — low power operation

Stock No.	Mfr.'s Type	Density	Speed (Max.)	Package	EACH		
					1-24	25-99	100-999
671-0100	DS1220Y	2K × 8	200	24-Pin DIP	8.30	7.40	6.70
671-0070	DS1225AD-170	8K × 8	170	28-Pin DIP	16.05	14.30	13.00
671-0073	DS1235ABW-120	32K × 8	120	28-Pin DIP	53.05	47.10	42.95
671-0075	DS1235YW-120	32K × 8	120	28-Pin DIP	36.85	32.80	29.85

Security Products

DS1255C Software Authorization Cookbook Kit



- DS1207 Time Key
- DS1204U Electronic Key
- DS1255 Key Ring
- Cookbook 1 and 2 floppy disks
- DS1207 data sheet
- Application note 12

Software Authorization Kit DS1255C locks up PC application software in less than four hours with Electronic Key and "Cookbook." The kit permits rapid evaluation of Dallas Semiconductor's Electronic Key and provides a Key Ring, the DS1255, that fits into any IBM PC, XT or AT. This user-insertable key fits into the KeyRing, which is inserted into a PC's parallel port without interfering with the printer's operation. The "Cookbook", stored on a floppy disk, holds the "recipes" for hardware-based software authorization.

617-0012. DS1255C.....EACH 60.00

Integrated Battery Backup

Nonvolatile Controller

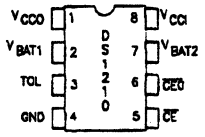
- Converts CMOS RAM into nonvolatile memory
- Unconditionally write protects when Vcc is out of tolerance
- Automatically switches to battery when power fail occurs
- Consumes less than 100 nA of battery current
- Tests battery condition on power up
- Provides for redundant batteries
- Selectable 5% or 10% power fail detection

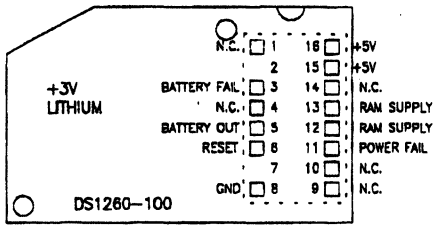
Stock No.	Mfr.'s Type	EACH		
		1-24	25-99	100-999
671-0202	DS1210 8-Pin DIP	3.70	3.25	2.95

Smart Battery

- Encapsulated lithium energy cell with shelf life over 10 years
- Energy capability of 1000 mAH @ 3 Volts
- Plugs into standard 16-pin DIP
- Lithium cell electrically disconnects from exposed pins upon command: automatically reconnects when Vcc is applied
- Vcc fail signal interrupts processor or write protects memory
- Exhausted energy cell warning signal
- Uninterruptible supply for CMOS and portable devices

Stock No.	Mfr.'s Type	Energy Capacity	EACH		
			1-24	25-99	100-999
671-0204	DS1260-100	1000 mAH	15.00	13.25	12.00





DS1213C SmartSocket 64/256K

Accepts standard 8K × 8 and 32K × 8 CMOS SRAMs; Embedded lithium energy cell retains RAM data; Self-contained circuitry safeguards data; Data retention time is greater than 10 years with the proper RAM selection: Less than 1 μA standby.

Stock No.	Mfr.'s Type	Organ.	EACH		
			1-24	25-99	100-999
671-0206	DS1213C	8K/32K × 8	10.00	8.85	8.00

Processor Supervision

Power Monitor

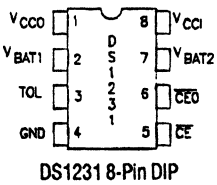
- Warns processor of an impending power failure
- Provides time for an orderly shutdown
- Prevents processor from destroying nonvolatile memory during power transients
- Automatically restarts processor after power is restored

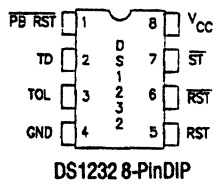
Stock No.	Mfr.'s Type	EACH		
		1-24	25-99	100-999
671-0208	DS1231-20 8-Pin DIP	3.70	3.25	2.95

Micro Monitor

- Halts and restarts an out-of-control microprocessor
- Holds microprocessor in check during power transients
- Automatically restarts microprocessor after power failure
- Monitors pushbutton for external override
- Selectable 5% or 10% microprocessor power supply monitoring
- Eliminates the need for discrete components

Stock No.	Mfr.'s Type	EACH		
		1-24	25-99	100-999
671-0210	DS1232 8-Pin DIP	3.70	3.25	2.95





Timekeeping

DS1216E SmartWatch

With a SmartWatch any system can tell time and report the year, month, day and hour down to the hundredth of a second. What's even more amazing is its simplicity. The DS1216E fits into existing systems by sandwiching between an EPROM and the printed circuit board.

Stock No.	Mfr.'s Type	Organ.	EACH		
			1-24	25-99	100-999
671-0004	DS1216C	8K/32K × 8 28-Pin DIP	17.90	15.80	14.35
671-0006	DS1216E	8K/32K × 8 28-Pin DIP	17.90	15.80	14.35

DS1286 Watchdog Timekeeper

Keeps track of hundredths of seconds, seconds, minutes, hours, days, date of the month, months and years; Watchdog Timer restarts an out-of-control processor; Alarm function schedules real time related activities; Embedded lithium energy cell maintains time, Watchdog, user RAM and alarm information; Greater than 10 years of timekeeping in the absence of Vcc; 50 bytes of user NV RAM.

Stock No.	Mfr.'s Type	EACH		
		1-24	25-99	100-999
671-0220	DS1286 28-Pin DIP	17.50	15.00	13.75

DS1287 RealTime Clock

Drop-in replacement for IBM AT computer clock/calendar; Pin compatible with the MC146818A; Totally nonvolatile with over 10 years of operation in the absence of power; Self-contained subsystem includes lithium, quartz and support circuitry.

Stock No.	Mfr.'s Type	EACH		
		1-24	25-99	100-999
671-0010	DS1287 24-Pin DIP	14.20	12.50	11.35

Soft Microcontrollers with Timekeeping

- Compatible with industry standard 8051 instruction set and pinout
- 8 or 32K bytes of high performance nonvolatile RAM for program and/or data memory storage
- Capable of modifying its own program and/or data memory in end use
- Maintains all nonvolatile memory for 10 years in the absence of Vcc
- Orchestrates orderly shutdown and automatic restart on power-up/down
- Executes encrypted software to prevent unauthorized disclosure
- Incorporates real-time clock/calendar
- DS5000TK Evaluation Kit allows immediate evaluation of DS5000T in existing application; interfaces to PC serial port; includes demonstration software.

Stock No.	Mfr.'s Type	Program/Data RAM (bytes)	Speed (MHz)	EACH		
				1-24	25-99	100-999
671-0062	DS5000T-32-12 40-Pin DIP	32K	12	90.70	80.00	72.50
671-0060	DS5000T-8-12 40-Pin DIP	8K	12	71.00	62.60	56.80
671-0065	DS5000TK Kit	32K	16	160.00	—	—

Teleservicing Modems

DS2245 Soft Modem SipStik™

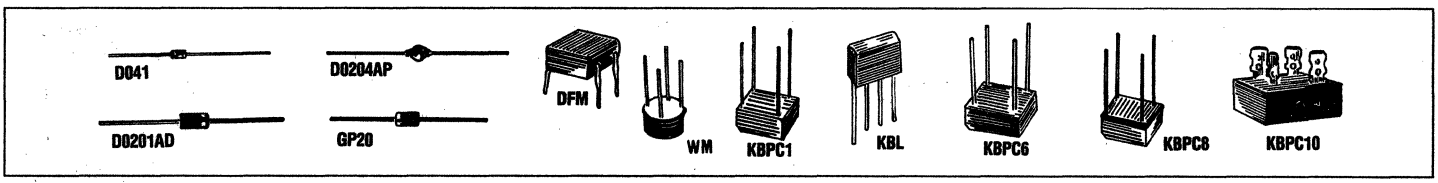
Reprogrammable modem subsystem: DS2245-12 is 1200 bps version and DS2245-24 is 2400 bps version; Bell 212A/103 and CCITT V.22bis/22/21 compatible; Parallel interface connects to PC/XT/AT bus; FCC registered when used with DS2249 DAA; Companion device to DS2249 DAA SipStik; Implements standard AT command set; "Softness" allows program upgrades without replacing expensive EPROMs; Non-volatile parameter storage; DTMF generation and detection; Employs popular JEDEC standard 30-pin SIMM connection scheme; Single + 5 volt supply operation; 30-Pin SIMM board.

Stock No.	Mfr.'s Type	EACH		
		1-24	25-99	100-999
671-0214	DS2245-12U	88.35	77.95	70.70
671-0216	DS2245-24	130.00	114.70	104.60

DS2249 Data Access Arrangement (DAA) SipStik™

Interfaces voice/data to the public switched telephone network; FCC Part 68 compatible with 1500 VDC isolation and 800 volt surge protection; Companion device to DS2245; Employs popular JEDEC standard 30-pin SIMM connection scheme; Single + 5 volt supply operation; Ring detection; 2- to 4-wire connector; Audio monitor output; 30-Pin SIMM board.

671-0218	DS2249	42.00	37.05	33.60



Silicon Rectifiers

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	Package Type	EACH
950-0002	1N4001	50	1.0	30	DO41	0.33
950-0004	1N4002	100	1.0	30	DO41	0.36
950-0006	1N4003	200	1.0	30	DO41	0.38
950-0008	1N4004	400	1.0	30	DO41	0.40
950-0010	1N4005	600	1.0	30	DO41	0.45
950-0012	1N4006	800	1.0	30	DO41	0.50
950-0014	1N4007	1000	1.0	30	DO41	0.57

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	Package Type	EACH
950-0016	1N5400	50	3.0	200	DO201AD	0.72
950-0018	1N5401	100	3.0	200	DO201AD	0.80
950-0020	1N5402	200	3.0	200	DO201AD	0.88
950-0024	1N5404	400	3.0	200	DO201AD	1.04
950-0028	1N5406	600	3.0	200	DO201AD	1.20
950-0032	1N5408	1000	3.0	200	DO201AD	1.52
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Schottky Recifiers

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	Package Type	EACH
950-0044	1N5817	20	1.0	25	DO41	0.61
950-0046	1N5818	30	1.0	25	DO41	0.70
950-0048	1N5819	40	1.0	25	DO41	0.79

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	Package Type	EACH
950-0050	1N5820	20	3.0	80	DO201AD	0.96
950-0052	1N5821	30	3.0	80	DO201AD	1.05
950-0054	1N5822	40	3.0	80	DO201AD	1.14

Fast Recovery Silicon Rectifiers

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	T_{rr} (nS)	Package Type	EACH
950-0036	1N4934	100	1.0	25	150-500	DO204AP	0.53
950-0038	1N4935	200	1.0	25	150-500	DO204AP	0.55

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	T_{rr} (nS)	Package Type	EACH
950-0040	1N4936	400	1.0	25	150-500	DO204AP	0.61
950-0042	1N4937	600	1.0	25	150-500	DO204AP	0.68

Single Phase Bridge Rectifiers

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	T_{rr} (nS)	Package Type	EACH
950-0056	DF005M	50	1.0	50	—	DFM	1.66
950-0058	DF01M	100	1.0	50	—	DFM	1.81
950-0060	DF02M	200	1.0	50	—	DFM	1.96
950-0062	DF04M	400	1.0	50	—	DFM	2.11
950-0064	DF06M	600	1.0	50	—	DFM	2.26
950-0066	DF08M	800	1.0	50	—	DFM	2.41
950-0068	DF10M	1000	1.0	50	—	DFM	2.71
950-0070	W005M	50	1.5	50	—	WM	2.01
950-0072	W01M	100	1.5	50	—	WM	2.19
950-0074	W02M	200	1.5	50	—	WM	2.37
950-0076	AW02M	200	1.5	50	200-500	WM	3.89
950-0078	W04M	400	1.5	50	—	WM	2.55
950-0080	AW04M	400	1.5	50	200-500	WM	4.53
950-0082	W06M	600	1.5	50	—	WM	2.74
950-0084	AW06M	600	1.5	50	200-500	WM	5.18
950-0086	W08M	800	1.5	50	—	WM	3.10
950-0088	AW08M	800	1.5	50	200-500	WM	5.83
950-0090	W10M	1000	1.5	50	—	WM	3.65
950-0092	KBPC1005	50	3.0	50	—	KBPCI	4.00
950-0094	KBPC101	100	3.0	50	—	KBPCI	4.32
950-0096	KBPC102	200	3.0	50	—	KBPCI	4.55
950-0098	KBPC104	400	3.0	50	—	KBPCI	5.00
950-0100	KBPC106	600	3.0	50	—	KBPCI	5.55
950-0102	KBPC108	800	3.0	50	—	KBPCI	6.33
950-0104	KBPC110	1000	3.0	50	—	KBPCI	7.33
950-0106	KBL005	50	4.0	200	—	KBL	4.41
950-0108	KBL01	100	4.0	200	—	KBL	4.84
950-0110	KBL02	200	4.0	200	—	KBL	5.40
950-0112	KBL04	400	4.0	200	—	KBL	5.97
950-0114	KBL06	600	4.0	200	—	KBL	6.54

Stock No.	Mfr.'s Type	V_{RRM}	I_F (A)	Surge (A)	T_{rr} (nS)	Package Type	EACH
950-0116	KBL08	800	4.0	200	—	KBL	7.68
950-0118	KBL10	1000	4.0	200	—	KBL	9.81
950-0120	KBPC6005	50	6.0	125	—	KBPC6	6.90
950-0122	RKBPC6005	50	6.0	125	200-500	KBPC6	7.99
950-0124	KBPC601	100	6.0	125	—	KBPC6	7.39
950-0126	RKBPC601	100	6.0	125	200-500	KBPC6	8.66
950-0128	KBPC602	200	6.0	125	—	KBPC6	7.88
950-0130	RKBPC602	200	6.0	125	200-500	KBPC6	9.10
950-0132	KBPC604	400	6.0	125	—	KBPC6	8.87
950-0134	RKBPC604	400	6.0	125	200-500	KBPC6	9.99
950-0136	KBPC606	600	6.0	125	—	KBPC6	9.85
950-0138	RKBPC606	600	6.0	125	200-500	KBPC6	11.10
950-0140	KBPC608	800	6.0	125	—	KBPC6	12.32
950-0142	RKBPC608	800	6.0	125	200-500	KBPC6	12.66
950-0144	KBPC610	1000	6.0	125	—	KBPC6	13.96
950-0146	RKBPC610	1000	6.0	125	200-500	KBPC6	13.99
950-0148	KBPC8005	50	8.0	125	—	KBPC8	7.13
950-0150	KBPC801	100	8.0	125	—	KBPC8	7.69
950-0152	KBPC802	200	8.0	125	—	KBPC8	8.39
950-0154	KBPC804	400	8.0	125	—	KBPC8	8.95
950-0156	KBPC806	600	8.0	125	—	KBPC8	10.21
950-0158	KBPC808	800	8.0	125	—	KBPC8	11.89
950-0160	KBPC810	1000	8.0	125	—	KBPC8	13.29
950-0162	KBPC10005	50	10	200	—	KBPC10	11.56
950-0164	KBPC10-01	100	10	200	—	KBPC10	12.16
950-0166	KBPC10-02	200	10	200	—	KBPC10	12.77
950-0168	KBPC10-04	400	10	200	—	KBPC10	13.38
950-0170	KBPC10-06	600	10	200	—	KBPC10	14.60
950-0172	KBPC10-08	800	10	200	—	KBPC10	16.42
950-0174	KBPC10-10	1000	10	200	—	KBPC10	20.68

1500 Watt Transient Voltage Suppressors

Stock No.	Device Type	Breakdown Voltage V(BR) Volts Nom.	Breakdown Voltage @ IT mA	Working Peak Rev. Voltage (VRWM) Volts	Max. Rev. Leakage at VRWM (Ir) microamps	Max. Peak Rev. Surge Curent (IRSM) Amp	Max. Clamp Voltage at IRSM (VRSM) Volt	Package Type	EACH
950-0176	1.5KE6.8A	6.8	10	5.50	1000	139.00	10.8	GP-20	4.46
950-0178	1.5KE7.5A	7.5	10	6.05	500	128.00	11.7	GP-20	4.46
950-0180	1.5KE10A	10	1.0	8.10	10	100.00	15.0	GP-20	4.46
950-0182	1.5KE12A	12	1.0	9.72	5	87.00	17.3	GP-20	3.31
950-0184	1.5KE18A	18	1.0	14.50	5	56.50	26.5	GP-20	3.31
950-0186	1.5KE24CA	24	1.0	19.40	5	43.00	34.7	GP-20	4.61
950-0188	1.5KE27A	27	1.0	21.80	5	38.50	39.1	GP-20	3.31
950-0190	1.5KE30A	30	1.0	24.30	5	34.50	43.5	GP-20	3.31
950-0192	1.5KE36A	36	1.0	29.10	5	29.00	52.0	GP-20	3.31
950-0194	1.5KE39A	39	1.0	31.60	5	26.50	56.4	GP-20	3.31
950-0196	1.5KE43CA	43	1.0	34.80	5	24.00	61.9	GP-20	4.61

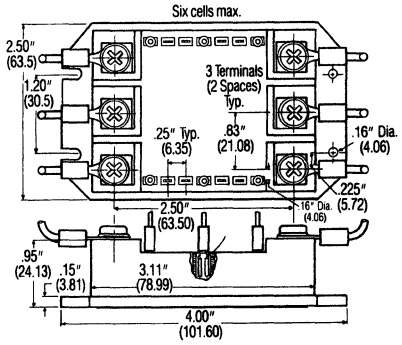
Stock No.	Device Type	Breakdown Voltage V(BR) Volts Nom.	Breakdown Voltage @ IT mA	Working Peak Rev. Voltage (VRWM) Volts	Max. Rev. Leakage at VRWM (Ir) microamps	Max. Peak Rev. Surge Curent (IRSM) Amp	Max. Clamp Voltage at IRSM (VRSM) Volt	Package Type	EACH
950-0198	1.5KE47A	47	1.0	38.10	5	22.20	67.8	GP-20	3.31
950-0200	1.5KE51CA	51	1.0	41.30	5	20.40	73.5	GP-20	4.61
950-0202	1.5KE75A	75	1.0	80.70	5	13.90	108.0	GP-20	3.31
950-0204	1.5KE91C	91	1.0	73.70	5	11.40	131.0	GP-20	4.17
950-0206	1.5KE130A	130	1.0	105.00	5	8.00	187.0	GP-20	4.89
950-0208	1.5KE180A	180	1.0	146.00	5	5.80	258.0	GP-20	4.89
950-0210	1.5KE200CA	200	1.0	162.00	5	5.20	287.0	GP-20	5.76
950-0212	1.5KE220CA	220	1.0	175.00	5	4.30	344.0	GP-20	5.76
950-0214	1.5KE250CA	250	1.0	202.00	5	4.17	360.0	GP-20	5.76
950-0216	1.5KE350A	350	1.0	284.00	5	2.98	504.0	GP-20	4.89
—	—	—	—	—	—	—	—	—	—

Std. breakdown voltage: ± 10% tolerance. "A" suffix: ± 5%. "C" suffix: Bi-directional.

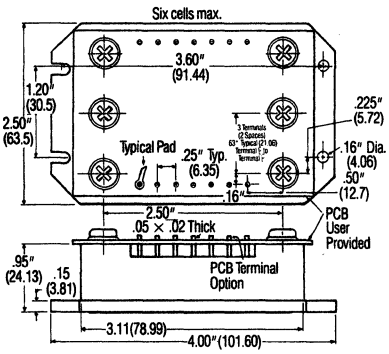
Power MOSFETs, SCR, TRIAC, Diode Bridges, DC Motor Speed Controls and Solid State Relays

The patented Powertherm® manufacturing process expands conventional current-carrying limits of a single structure hybrid to those of the semiconductor. Copper-alloy lead frame provides a non-stop method of connecting to the exterior and to the power-generating semiconductors while providing heat diffusion; acts as a path for high currents including surges while serving as a base for semiconductors.

EF with PCB Terminals



EF with Faston Terminals



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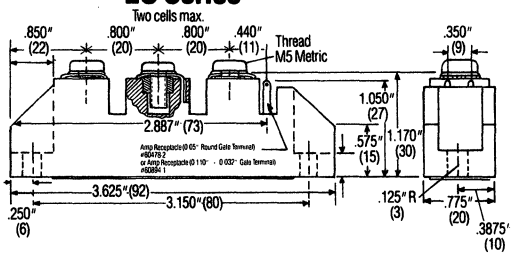
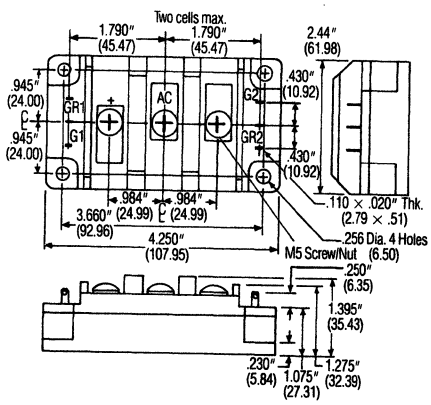
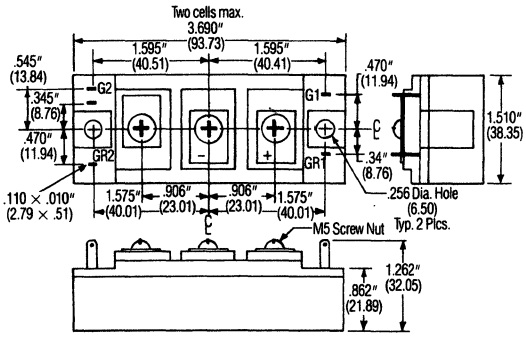


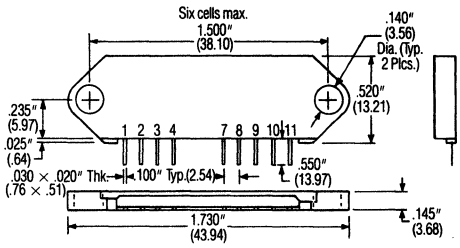
W-4 Series



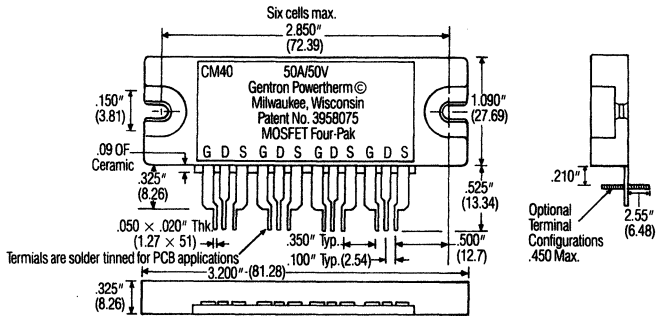
W-3 Series



A Series



C Series



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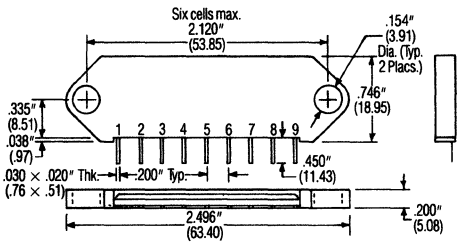

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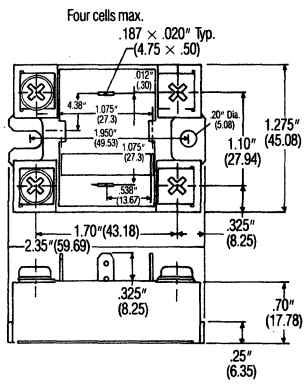

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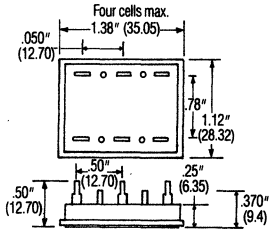
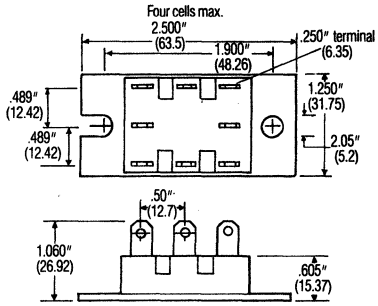


T & B-2T Series



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Power Hybrid MOSFETs, IGBTs

These Power Hybrid MOSFET and IGBT modules are designed for high power applications that demand superior performance, quality, and reliability. This is insured by Gentron's patented Fused-Copper™ Process, which allows metals to be fused to ceramics without intermediate materials or solders. These compact packages allow for simple installation, reduced EMI, and low inductance paths to semiconductors. The following MOSFET and IGBT module index covers an individual item or series of items having a common circuit but different current and voltage ratings. Standard voltage ratings are 100V, 200V, 400V, 500V, 800V, and 1000V.

Stock No.	Mfr.'s Type	Sch.*	V_{DS} (V)	I_D (A)	R_{DS} (Ω)	EACH
722-3300	AM099-M244	WW	500	13	0.300	43.25
722-3302	AM119-M244	WW	400	15	0.250	43.25
722-3304	AM139-M244	WW	200	30	0.070	43.25
722-3306	AM159-M244	WW	100	40	0.050	43.25
722-3308	AM759-M244	WW	800	8	1.200	76.25
722-3310	AM959-M244	WW	1000	6	2.000	109.25
722-3312	CHM07T-M157	AAA	100	27	0.090	27.25
722-2424	CHM01T-M155	JJ	500	8	0.850	27.25
722-2416	CHM03T-M155	JJ	400	10	0.550	27.25
722-2408	CHM05T-M155	JJ	200	18	0.180	27.25
722-2400	CHM07T-M155	JJ	100	27	0.090	27.25
722-2428	CHM09T-M155	JJ	500	13	0.400	31.50
722-2420	CHM11T-M155	JJ	400	15	0.300	31.50
722-2412	CHM13T-M155	JJ	200	30	0.090	31.50
722-2404	CHM15T-M155	JJ	100	40	0.060	31.50
722-2436	CHM75T-M155	JJ	800	8	1.000	72.75
722-2444	CHM95T-M155	JJ	1000	5	2.000	72.75
722-3314	CM439-M112	BBB	100	12	2.000	85.00
722-2448	CM01	C	500	8	0.850	115.38
722-2450	CM03	C	400	10	0.550	110.00
722-2452	CM05	C	200	18	0.180	110.00
722-2454	CM07	C	100	28	0.077	110.00
722-2456	CM09	C	500	13	0.340	118.75
722-2458	CM11	C	400	15	0.300	118.75
722-2460	CM13	C	200	30	0.090	118.75
722-2462	CM15	C	100	40	0.060	118.75
722-3316	CM40	C	50	51	0.028	124.50
722-2466	CM75	C	800	6	1.400	270.00
722-2470	CM95	C	1000	5	2.000	270.00
722-3004	CM099R-M107	XX	500	26	0.200	325.75
722.3006	CM119R-M107	XX	400	30	0.150	325.75
722-3318	CM159R-M107	XX	100	80	0.030	325.75
722-3320	DM019-M258	E	500	8	0.850	104.75
722-3322	DM039-M258	E	400	10	0.530	104.75
722-3324	DM049-M258	E	400	8	0.800	104.75
722-3326	DM059-M258	E	200	18	0.180	104.75
722-3328	DM079-M258	E	100	27	0.085	104.75
722-2594	EFM093R-M18	A	500	13	0.400	250.00
722-2592	EFM113R-M18	A	400	15	0.300	250.00
722-2590	EFM133R-M18	A	200	30	0.090	250.00
722-2588	EFM153R-M18	A	—	—	—	250.00
722-2596	EFM753R-M18	A	800	8	1.200	342.75
722-2598	EFM953R-M18	A	1000	6	2.000	435.50
722-3330	EFM099-M160	D	500	156	0.025	409.25
722-2542	EFM099-M76	D	500	150	0.044	372.75
722-3332	EFM0994-M160	D	500	312	0.013	740.00
722-2528	EFM119-M160	D	400	180	0.021	409.25
722-2540	EFM119-M53	D	400	120	0.031	372.75
722-3334	EFM119R-M160	D	400	360	0.010	740.00
722-3012	EFM139-M160	D	200	360	0.006	409.25
722-2538	EFM139-M75	D	200	240	0.009	372.75
722-3336	EFM1394-M160	D	200	360	0.003	740.00
722-2524	EFM159-M160	D	100	360	0.004	409.00
722-2536	EFM159-M74	D	100	320	0.006	372.75
722-3338	EFM1594-M160	D	100	360	0.002	740.00
722-2544	EFM759-M130	D	800	48	0.180	573.75
722-2532	EFM759-M160	D	800	72	0.117	634.50
722-3340	EFM7594-M160	D	800	144	0.058	1654.00
722-2546	EFM959-M131	D	1000	40	0.250	631.25
722-2534	EFM959-M160	D	1000	60	0.167	840.00
722-3342	EFM9594-M160	D	1000	120	0.083	2568.00
722-3344	EFM091-M171	GGG	500	26	0.150	197.00
722-3346	EFM099R-M177	HHH	500	65	0.060	297.00
722-3348	EFM119R-M177	HHH	400	75	0.050	297.00
722-3350	EFM139-M177	HHH	200	150	0.080	297.00
722-3352	EFM159R-M177	HHH	100	150	0.010	297.00
722-3354	EFM759R-M177	HHH	800	30	0.028	523.75
722-3356	EFM959R-M177	HHH	1000	25	0.400	1864.00
722-3010	EFM099-M99	JJ	500	52	0.100	409.25
722-3358	EFM159-M99	JJ	100	160	0.020	247.50
722-3360	EFM099R-M88	KKK	500	13	0.300	183.00
722-3362	EFM119R-M87	KKK	400	15	0.250	183.00
722-3364	EFM139R-M26	KKK	200	30	0.070	183.00
722-3366	EFM159R-M86	KKK	100	40	0.050	183.00
722-3368	EFM759R-M124	KKK	800	6	1.400	286.25
722-3370	EFM959R-M125	KKK	1000	5	2.000	389.75
722-2554	EFM099R-M79	QQ	500	13	0.350	254.00
722-2552	EFM119R-M78	QQ	400	15	0.300	254.00
722-2550	EFM139R-M22	QQ	200	30	0.120	254.00
722-2548	EFM159R-M77	QQ	100	40	0.090	254.00
722-2556	EFM759R-M122	QQ	800	6	1.400	348.50
722-2558	EFM959R-M123	QQ	1000	5	2.000	442.75
722-3372	EFM019-M115	W	500	32	0.250	257.50
722-3374	EFM049-M46	W	400	32	0.230	257.50
722-3376	EFM059-M114	W	200	32	0.160	257.50
722-3378	EFM079-M113	W	100	32	0.140	257.50
722-3380	EFM749-M144	W	800	32	0.300	450.50
722-3382	EFM949-M145	W	1000	32	0.380	643.50
722-3018	EFM839-M31	YY	450	4.5	1.800	146.00
722-3020	ESM012R-M24	FFF	500	8	0.850	115.50
722-3384	ESM032R-M85	FFF	400	10	0.550	115.50
722-3386	ESM052R-M84	FFF	200	18	0.180	115.50
722-3388	ESM072R-M83	FFF	100	27	0.090	115.50
722-3390	ESM092R-M25	FFF	500	13	0.300	187.25
722-3392	ESM112R-M82	FFF	200	15	0.250	187.25
722-3394	ESM132R-M81	FFF	400	30	0.700	187.25
722-3396	ESM152R-M80	FFF	100	40	0.050	187.25
722-3398	ESM742R-M136	FFF	800	6	1.400	186.00
722-3400	ESM752R-M138	FFF	800	6	1.400	327.50
722-3402	ESM942R-M137	FFF	1000	5	2.000	256.50
722-3404	ESM952R-M139	FFF	1000	5	2.000	468.00
722-3406	ESM159-M224	III	100	160	0.010	194.00
722-3408	ESM159-M45	JJJ	100	40	0.050	119.75
722-3024	EUM119-M33	D	400	45	0.100	118.00
722-3410	EUM091-M97	DDD	500	13	0.300	111.25
722-3412	EUM111-M96	DDD	400	15	0.250	111.25
722-3414	EUM131-M95	DDD	200	30	0.070	111.25
722-3416	EUM151-M1	DDD	100	40	0.050	111.25
722-3418	EUM751-M140	DDD	800	6	1.400	174.50
722-3420	EUM951-M141	DDD	1000	5	2.000	237.00
722-3422	EUM091-M94	EEE	500	13	0.400	111.25
722-3424	EUM111-M93	EEE	400	15	0.300	111.25
722-3426	EUM131-M14	EEE	200	30	0.100	111.25
722-3428	EUM151-M92	EEE	100	40	0.060	111.25
722-3430	EUM751-M142	EEE	800	6	1.400	195.00
722-3432	EUM951-M143	EEE	1000	5	2.000	275.00
722-2492	EUM099-M220	F	500	80	0.050	165.00
722-2490	EUM119-M220	F	400	90	0.042	165.00
722-2488	EUM139-M220	F	200	180	0.012	165.00
722-2486	EUM159-M220	F	100	240	0.008	165.00
722-2494	EUM759-M220	F	800	36	0.250	291.00
722-2496	EUM959-M220	F	1000	30	0.330	417.50
722-3434	EUM099-M265	H	500	50	0.080	150.75
722-3436	EUM119-M265	H	400	60	0.060	150.75
722-3438	EUM139-M265	H	200	120	0.019	150.75
722-3440	EUM159-M265	H	100	160	0.011	150.75
722-3442	EUM759-M265	H	800	24	0.380	266.00
722-3444	EUM959-M265	H	1000	20	0.500	381.50
722-2516	EUM099-M33	JJ	500	40	0.140	118.00
722-3026	EUM139-M33	JJ	200	90	0.030	118.00

*Schematic on following page.

MOSFETs

Stock No.	Mfr.'s Type	Sch.	V_{DS} (V)	I_D (A)	R_{DS} (Ω)	EACH
722-3446	EUM159-M33	JJ	100	90	0.020	**119.25**
722-2522	EUM1592-M33	JJ	100	90	0.020	**118.00**
722-2518	EUM759-M33	JJ	800	18	0.670	**225.00**
722-3448	EUM099-M221	OO	500	40	0.140	**187.25**
722-3450	EUM119-M221	OO	400	45	0.120	**187.25**
722-3452	EUM139-M221	OO	200	90	0.100	**187.25**
722-2498	EUM159-M221	OO	100	120	0.040	**187.25**
722-3454	EUM759-M221	OO	800	18	0.500	**293.00**
722-3456	EUM959-M221	OO	1000	15	0.670	**396.50**
722-3458	TM099-M161	D	500	78	0.050	**186.50**
722-3460	TM119-M161	D	400	90	0.040	**186.50**
722-3270	TM139-M161	D	200	90	0.010	**186.50**
722-3462	TM159-M161	D	100	90	0.008	**186.50**

Stock No.	Mfr.'s Type	Sch.	V_{DS} (V)	I_D (A)	R_{DS} (Ω)	EACH
722-3464	TM759-M161	D	800	36	0.230	**294.50**
722-3466	TM959-M161	D	1000	30	0.670	**401.75**
722-3268	TM099-M48	UU	500	39	0.250	**288.50**
722-3468	TM159R-M48	UU	100	80	0.020	**183.00**
722-3470	WM301R-3	K	500	50	0.100	**449.50**
722-3472	WM311R-3	K	400	60	0.070	**449.50**
722-3474	WM321R-3	K	800	30	0.300	**703.25**
722-3476	WM331R-3	K	1000	27	0.350	**956.75**
722-3478	WM351R-4	K	500	85	0.050	**213.50**
722-3480	WM361R-4	K	200	120	0.020	**213.50**
722-3482	WM371R-4	K	400	100	0.035	**213.50**
722-3484	WM381R-4	K	800	50	0.150	**334.00**
722-3486	WM391R-4	K	1000	38	0.250	**454.00**

IGBT Modules

Stock No.	Mfr.'s Type	Sch.	V_{DS} (V)	I_D (A)	V_{CE}	EACH
722-3488	CHMT618T-M156	RR	400	18	2.7	**29.00**
722-3490	CHMT618T-M158	RR	400	18	2.7	**29.00**
722-3492	CHMT622T-M156	RR	400	32	2.4	**43.75**
722-3494	CHMT622T-M158	RR	400	32	2.4	**43.75**
722-3496	CHMT718T-M156	RR	500	18	2.7	**29.00**
722-3498	CHMT718T-M158	RR	500	18	2.7	**29.00**
722-2584	CHMT722T-M156	RR	500	32	2.4	**97.31**
722-3500	CHMT722T-M158	RR	500	32	2.4	**53.75**
722-2512	CMT613-M106	SS	400	18	2.7	**222.75**
722-2510	CMT623-M106	SS	400	32	2.4	**245.00**

Stock No.	Mfr.'s Type	Sch.	V_{DS} (V)	I_D (A)	V_{CE}	EACH
722-2506	CMT713-M106	SS	500	18	2.7	**262.69**
722-2614	CMT723-M106	SS	500	32	2.4	**222.75**
722-3502	EFMT723-M159	SS	500	32	2.4	**254.00**
722-3266	TMT719-M181	VV	500	54	2.7	**118.50**
722-3504	TMT729-M181	VV	500	96	2.4	**93.00**
722-3506	WMT731R-3	G	500	200	4.0	**1123.50**
722-3508	WMT741R-3	G	1000	100	4.0	**1348.25**
722-3510	WMT761R-4	G	500	400	5.0	**1685.25**
722-3512	WMT771R-4	G	1000	200	5.0	**2022.50**
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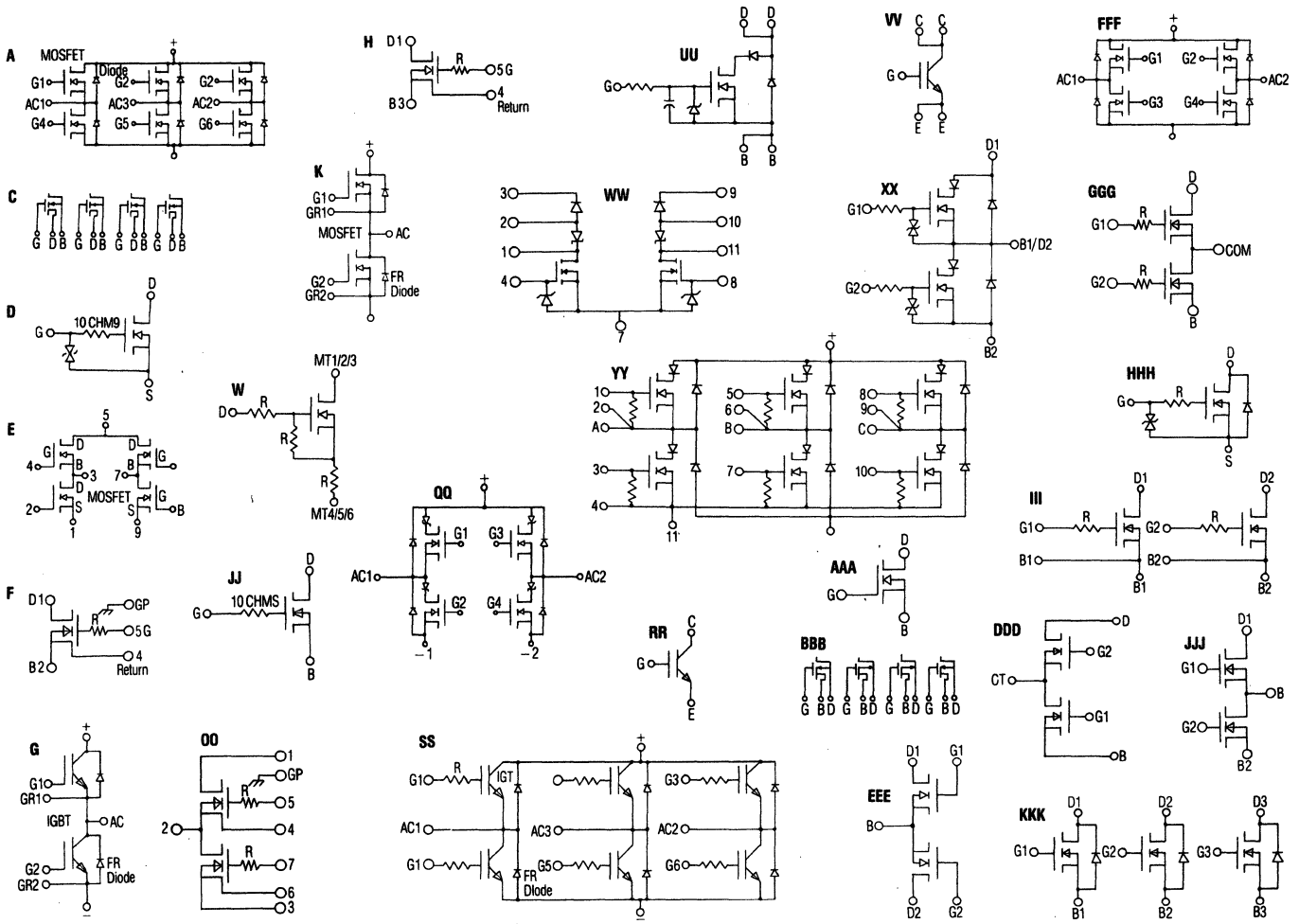
Schematics



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Powertherm® Products

The patented Powertherm® manufacturing process expands conventional current-carrying limits of a single structure hybrid to those of the semiconductor. Copper alloy leadframe provides a non-stop method of connecting to the exterior and to the power-generating semiconductors while providing heat diffusion; acts as a path for high currents including surges while serving as a base for semiconductors.

Stock No.	Mfr.'s Type	Sch.*	V_{DS} (V)	I_D (A)	R_{DS} (Ω)	EACH
722-3034	B411F	M	120	15	100	**39.50**
722-3036	B411F-2	M	120	15	100	**39.00**
722-0045	B412F	M	240	15	100	**38.75**
722-3038	B412FS	M	240	15	100	**42.75**
722-3040	B413FSE	M	280	15	100	**45.00**
722-3042	B414F-2	M	480	15	100	**47.25**
722-3044	B414SE-2NG	M	480	15	100	**45.00**
722-3046	B422F-2	T	240	15	100	**41.25**
722-3048	B442S-2	Z	240	15	100	**51.00**
722-3050	B443-2	Z	280	15	100	**51.75**
722-3052	B444-2-Y104	Z	480	15	100	**54.00**
722-3054	B452-2	AA	240	15	100	**33.00**
722-3056	B482G-2	PP	550	35	—	**34.50**
722-3058	B483C-2	O	240	35	—	**26.25**
722-3060	B484F-2	N	480	35	—	**36.75**
722-3062	B485C-2	S	240	35	—	**36.75**
722-3064	B485D-2	S	280	35	—	**39.00**
722-0055	B485F-2	S	480	35	—	**49.50**
722-3066	B485G-2	S	550	35	—	**46.50**
722-0511	B511F	M	120	25	100	**30.75**
722-0056	B11F-2	M	120	25	100	**30.75**
722-3068	B511F-2T	M	120	25	100	**39.00**
722-2305	B512F	M	240	25	100	**33.75**
722-0065	B512F-2	M	240	25	100	**35.25**
722-1940	B512F-2-YEC	M	240	25	15	**36.75**
722-3272	B512F-2T	M	240	25	100	**43.50**
722-1905	B512FSE	M	240	25	100	**46.50**
722-0060	B512S	M	240	25	100	**35.00**
722-3070	B512S-2T	M	240	25	100	**46.50**
722-2310	B513F-2	M	280	25	100	**45.00**
722-3072	B521F-2	T	120	25	100	**34.50**
722-0072	B521F-2	T	120	25	100	**36.75**
722-3074	B522-2	T	240	25	100	**39.00**
722-2315	B522F-2	T	240	25	100	**42.00**
722-0075	B522FS-2	T	240	25	100	**43.50**
722-3076	B533-2	BB	280	25	100	**41.25**
722-3078	B541-2	Z	120	25	100	**48.00**
722-0070	B542-2	Z	240	25	100	**50.25**
722-3080	B543-2	Z	280	25	100	**51.75**
722-3082	B552-2	AA	240	25	100	**32.25**
722-3084	B552-2-YC	AA	240	25	100	**32.25**
722-3086	B553-2	AA	280	25	100	**38.25**
722-3088	B554-2-Y13	AA	480	25	60	**40.50**
722-3090	B561	R	120	25	100	**40.50**
722-3092	B611F-2	M	120	42	100	**51.00**
722-3094	B611F-2T	M	120	42	100	**54.75**
722-3096	B612-2T	M	240	42	100	**55.50**
722-2320	B612F-2	M	240	42	100	**54.00**
722-3098	B612FS-2T	M	240	42	100	**55.50**
722-3100	B613F-2	M	280	42	100	**57.75**
722-3102	B622-2T	T	280	42	100	**55.50**
722-3104	B634-2T	BB	480	42	100	**52.50**
722-3106	B652-AX2	AA	240	42	100	**39.75**
722-3108	B654-2	AA	480	42	100	**48.00**
722-3028	BW511F	M	120	25	100	**45.75**
722-3030	BW511F-YE	M	120	25	40	**49.75**
722-3032	BW512F-YE	M	240	25	40	**45.75**
722-3110	EFC16F	I	480	35	100	**102.75**
722-3112	EFC18F	Q	480	35	100	**98.25**
722-3114	EFC19F	J	480	35	100	**104.25**
722-3116	EFD18F	Q	480	50	100	**116.25**
722-3118	EFD20F	P	480	50	100	**105.75**
722-3120	EFE01CFSE	M	240	75	100	**96.00**
722-3122	EFE01DF	M	280	75	100	**102.75**
722-3124	EFF15FF	S	480	100	120	**137.25**
722-3126	EFF18F	Q	480	100	120	**177.75**
722-3132	EFF19C	J	240	100	120	**175.50**
722-3128	EFF19DF	J	280	100	120	**153.00**
722-3130	EFF19F	J	480	100	120	**187.50**
722-3134	EFG01FF	M	480	125	150	**156.75**
722-3136	EFG13E	O	280	125	150	**106.50**
722-3138	EFG15G	S	550	125	150	**136.50**
722-3140	EFG18F	Q	480	125	150	**224.75**
722-3142	EFG18G	Q	550	125	150	**211.50**
722-3144	EFG19FF	J	480	125	150	**180.00**
722-2622	EIPC71	ZZ	120	25	300	**87.00**
722-2626	EIPC72	ZZ	240	25	300	**105.00**
722-2630	EIPC82	ZZ	240	30	600	**105.00**
722-2634	EIPC92	ZZ	240	50	1000	**114.00**
722-2620	EISC71	ZZ	120	25	300	**324.00**
722-2624	EISC72	ZZ	240	25	300	**360.00**
722-2628	EISC82	ZZ	240	30	600	**235.38**
722-2632	EISC92	ZZ	240	50	1000	**411.00**
722-2325	ES483F	O	480	65	—	**66.75**
722-3146	ES485D	S	280	65	—	**71.25**
722-0090	ES485F	S	480	65	—	**78.00**
722-3148	ES512F	M	240	25	100	**72.75**
722-3150	ES542C-Y79	Z	240	25	40	**90.00**
722-3152	ES554SE	AA	480	25	100	**63.75**
722-3154	ES581A	KK	70	100	—	**46.50**
722-3156	ES585C	S	120	100	—	**97.50**
722-2330	ES585F	S	480	100	—	**106.50**
722-3158	ES585G	S	550	100	—	**112.50**
722-2335	ES612F	M	240	42	100	**81.00**
722-0035	ES612FSE	M	240	42	100	**83.25**
722-3160	ES613	M	280	42	100	**78.00**
722-2340	ES613F	M	280	42	100	**78.00**
722-3162	ES613FSC	M	280	42	100	**81.00**
722-3164	ES614F	M	480	42	100	**84.75**
722-3166	ES614FSC	M	480	42	100	**89.25**
722-3168	ES622FSE	T	240	42	100	**86.25**
722-3170	ES632	BB	240	42	100	**83.25**
722-3172	ES641	Z	120	42	100	**87.75**
722-3174	ES642SE	Z	240	42	100	**93.00**
722-3176	ES644	Z	480	42	100	**99.75**
722-3178	ES752SE	AA	240	50	120	**90.00**
722-3180	ES912F	M	240	80	150	**112.50**
722-3182	ES913F	M	280	80	150	**118.50**
722-3184	ES954SE	AA	480	80	150	**108.75**
722-0095	EU181FT	CC	480	18	160	**56.25**
722-3194	EU253FT	GG	480	25	160	**55.50**
722-3196	EU255D	DD	280	25	—	**39.00**
722-3198	EU255F	DD	480	25	—	**45.75**
722-0401	EU401FT	CC	480	40	160	**63.00**
722-3200	EU551At	CC	70	55	300	**72.00**
722-3202	EU552CP	EE	240	55	300	**72.00**
722-3204	EU552CT	EE	240	55	300	**72.00**
722-3206	EU552FT	EE	480	55	300	**78.75**
722-3208	EU554D	FF	280	55	—	**60.75**
722-3210	EU901AT	CC	70	90	300	**96.00**
722-3212	EU901DP	CC	280	90	300	**106.50**
722-3214	EU901ET	CC	280	90	300	**111.00**
722-1901	EU901FT	CC	480	90	300	**114.00**
722-2345	EU901GT	CC	550	90	300	**120.00**
722-3216	EU902FT	EE	480	90	300	**83.25**
722-3218	EU903GP	GG	550	90	300	**81.75**
722-3220	EU904D	FF	280	90	—	**54.75**
722-3222	EU904F	FF	480	90	—	**60.75**
722-3186	EUS682	PP	45	125	—	**58.50**
722-3188	EUS682B	PP	45	125	—	**64.50**
722-3192	EUS682D	PP	45	125	—	**70.50**
722-3280	FC16FF-Y41	I	480	35	100	**139.50**
722-3276	FE01CFSE	M	480	75	100	**111.00**
722-3274	FE01FSE	M	480	75	100	**130.50**
722-3278	FE19FF	J	480	75	100	**126.75**
722-3224	L311F	M	120	13	100	**23.25**
722-2350	L312F	M	240	13	100	**27.00**
722-3226	L313F	M	280	13	100	**33.00**
722-3228	L314F	M	480	13	100	**33.75**
722-3230	L332F	BB	240	13	100	**33.00**
722-3232	L411F	M	120	20	100	**25.50**
722-3234	L411F-YD	M	120	20	20	**25.50**
722-3236	L412	M	240	20	100	**28.50**
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*Schematics on following page.

Power MOSFETs, SCR, TRIAC, Diode Bridges, DC Motor Speed Controls

Stock No.	Mfr.'s Type	Sch.	V_{DS} (V)	I_D (A)	R_{DS} (Ω)	EACH
722-2355	L412F	M	240	20	100	**30.00**
722-3238	L413F	M	280	20	100	**36.00**
722-3240	L431	BB	120	20	100	**29.25**
722-3242	L432	BB	240	20	100	**32.25**
722-3244	L441	Z	120	20	100	**45.75**
722-3246	L511F	M	120	25	100	**27.00**
722-2360	L512F	M	240	25	100	**31.50**
722-3248	L513F	M	280	25	100	**35.25**
722-3250	L654	AA	480	42	100	**45.75**
722-3252	R40C-2	II	240	40	100	**49.50**
722-0400	S634SE	BB	480	42	100	**50.65**
722-3254	T483D	O	280	50	100	**40.50**
722-3256	T484C-Y121	N	240	50	100	**39.00**
722-3258	T485F	S	480	50	100	**60.00**

Stock No.	Mfr.'s Type	Sch.	V_{DS} (V)	I_D (A)	R_{DS} (Ω)	EACH
722-0512	T512F	M	240	25	100	**58.50**
722-0020	T512FS	M	240	25	100	**60.00**
722-3260	T513F	M	280	25	100	**61.50**
722-0025	T514F	M	480	25	100	**67.50**
722-0522	T522F	T	240	25	100	**55.50**
722-3262	T541	Z	120	25	100	**55.50**
722-0542	T542	Z	240	25	100	**58.50**
722-0031	T612F	M	240	42	100	**63.00**
722-3286	T613FSE	M	280	42	100	**69.00**
722-2365	T614F-YE	M	480	42	100	**81.68**
722-3264	T621F	T	120	42	100	**49.50**
722-3284	T652-AX2	AA	240	42	100	**55.50**
722-2300	V40F-3	HH	480	40	200	**107.69**
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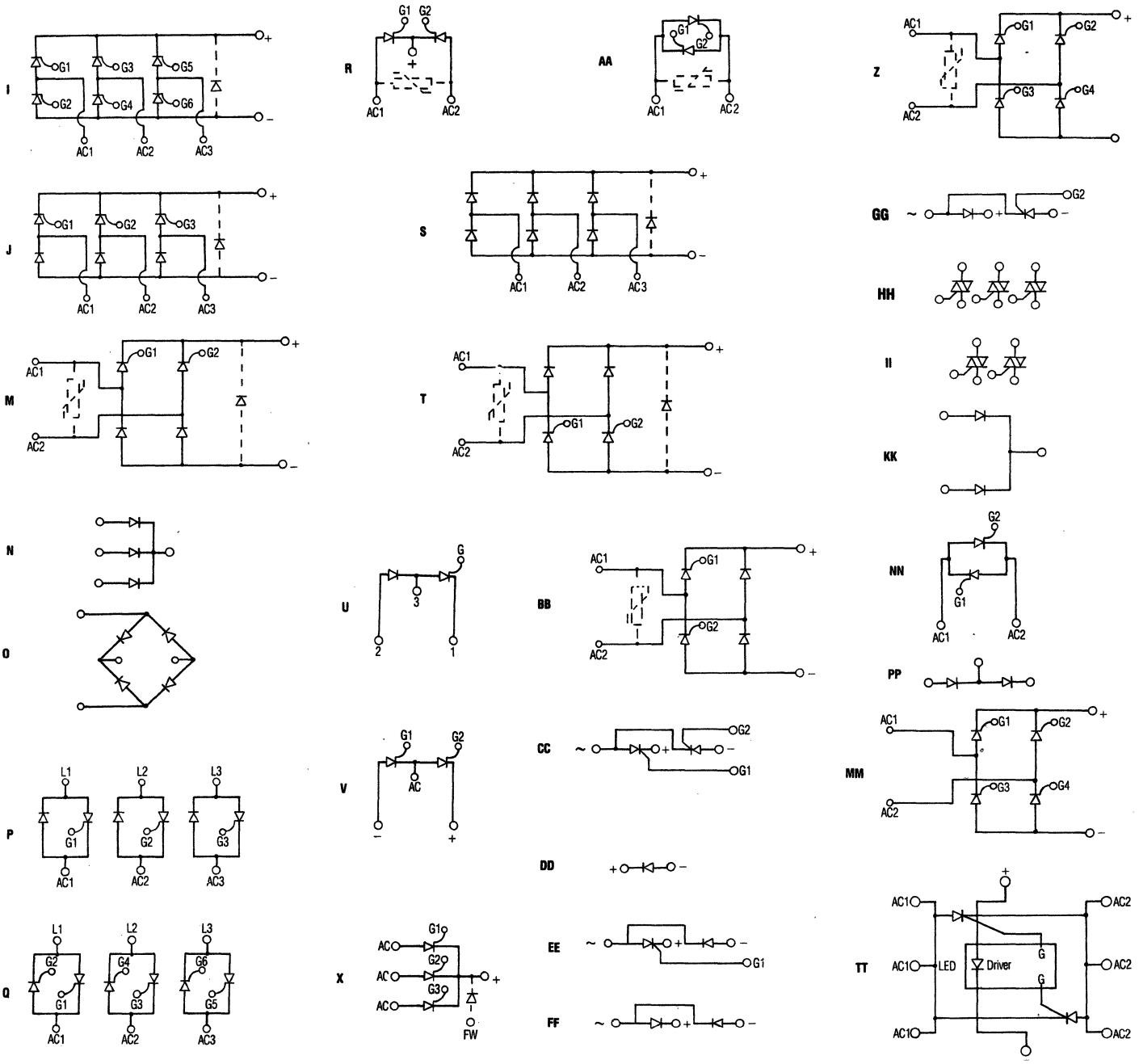
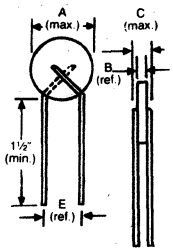
Schematics



Precision Thermistors ±0.2°C from 0°C to 75°C

Keystone precision units are the designers' choice for low cost, close-tolerance temperature measurement. These ultrastable thermistors are accurate to ±0.2°C from 0°C to 75°C. They are widely used in OEM applications because they offer close-tolerance temperature measurement without requiring individual calibration. A protective coating is standard for all precision thermistors listed in the table below. In applications where the coating is not necessary, the A,B, and C dimensions can be reduced by 0.050″ (1.40 mm).



Stock No.	Mfr.'s Type	Ro @ 25°C Ω	α @ 25°C (%/°C)	Material	A		B		C		D	E		ϑ (mW/°C)	τ (sec.)	EACH	
					In.	mm	In.	mm	In.	mm	AWG	In.	mm			1-99	100-249
837-5100	RL2007-1310-97-SP	2252	−4.4	P97	.0270	6.86	0.12	3.05	0.210	5.33	24	0.156	3.96	6.5	30	5.00	4.29
837-5105	RL2006-1600-103-SP	2786	−4.5	P103	.0270	6.86	0.11	2.79	0.200	5.08	24	0.156	3.96	6.5	30	5.00	4.29
837-5110	RL1003-1746-97-SP	3K	−4.4	P97	0.160	4.06	0.08	2.03	0.160	4.06	26	0.100	2.54	2.5	9	5.00	4.29
837-5115	RL1005-2910-97-SP	5K	−4.4	P97	0.160	4.06	0.10	2.54	0.180	4.57	26	0.100	2.54	2.5	10	5.00	4.29
837-5120	RL1005-5744-103-SP	10K	−4.5	P103	0.160	4.06	0.10	2.54	0.180	4.57	26	0.100	2.54	2.5	10	5.00	4.29

NTC Thermistors

Negative temperature coefficient thermistors decrease in resistance as temperature increases. Temp. coefficients range from −2%/°C to −5%/°C @ 25°C. **Max. oper. temp.:** 125°C.

Stock No.	Mfr.'s Type	Ro @ 25°C (Ω)	Tol. (±%)	Resist. Ratio*	Max. Dia. In.	EACH	
						1-99	100-249
837-1000	RL1004-65.6-59-D1	100	20	5.6	0.11	2.80	2.10
837-1005	RL1003-312-73-D1	500	10	6.9	0.11	2.80	2.10
837-1010	RL1007-624-73-D1	1000	10	6.9	0.11	2.80	2.10
837-1046	RL1003-1157-95-D1	2000	10	9.2	0.11	2.80	2.10
837-1015	RL1003-1746-97-D1	3000	10	9.1	0.11	2.80	2.10
837-1020	RL1004-2910-97-D1	5000	10	9.1	0.11	2.80	2.10
837-1025	RL1009-5820-97-D1	10K	10	9.1	0.11	2.80	2.10
837-1047	RL1005-5744-103-D1	10K	10	9.6	0.11	2.80	2.10
837-1030	RL1007-13.8K-120-D1	25K	10	11.4	0.11	2.80	2.10
837-1045	RL1003-26.7K-140-D1	50K	10	12.9	0.11	2.80	2.10
837-1035	RL1006-53.4K-140-D1	100K	10	12.9	0.11	2.80	2.10
837-1040	RL1004-104.7K-155-D1	200K	10	13.8	0.11	2.80	2.10
837-1048	RL1006-135.2K-138-D1	250K	10	12.1	0.11	2.80	2.10
837-2000	RL2004-16.4-59-D1	25	20	5.6	0.22	1.95	1.45
837-2045	RL2007-32.8-59-D1	50	20	5.6	0.22	1.95	1.45
837-2005	RL2003-62.4-73-D1	100	10	6.9	0.22	1.95	1.45
837-2010	RL2006-125-73-D1	200	10	6.9	0.22	1.95	1.45
837-2015	RL2008-187-73-D1	300	10	6.9	0.22	1.95	1.45
837-2020	RL2003-289-95-D1	500	10	9.2	0.22	1.95	1.45
837-2050	RL2004-582-97-D1	1K	10	9.2	0.22	1.95	1.45
837-2055	RL2007-1164-97-D1	2K	10	9.1	0.22	1.95	1.45
837-2011	RL2006-1600-103-D1	2786	10	9.6	0.22	1.95	1.45
837-2012	RL2005-2203-120-D1	4K	10	11.4	0.22	1.95	1.45
837-2065	RL2006-2753-120-D1	5K	10	11.4	0.22	1.95	1.45
837-2035	RL2012-5506-120-D1	10K	10	11.4	0.22	1.95	1.45
837-2070	RL2006-13.3K-140-D1	25K	10	12.9	0.22	1.95	1.45
837-2013	RL2005-27K-138-D1	50K	10	12.1	0.22	1.95	1.45
837-2040	RL2008-52.3K-155-D1	100K	10	13.8	0.22	1.95	1.45
837-3060	RL3004-6.56-59-D1	10	20	5.6	0.32	1.99	1.48
837-3065	RL3504-31.2-73-D1	50	10	6.9	0.37	1.99	1.48
837-3051	RL3006-59.4-85-D1	100	10	8.4	0.32	1.99	1.48
837-3046	RL3004-144-95-D1	250	10	9.2	0.32	1.99	1.48
837-3078	RL3004-291-97-D1	500	10	9.1	0.32	1.99	1.48
837-3006	RL3005-574-103-D1	1000	10	9.6	0.32	1.99	1.48

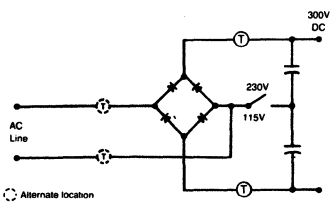
*Resistance Ratio—ratio of zero power resistance @ 0°C to zero power resistance @ 50°C.

13 Inrush Current Limiters

► **Protect against high peak inrush current, especially in AC/DC switching power supplies.**

► **All resistances ±25% @ 25°C.**

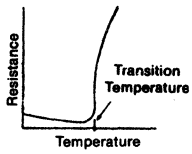
► **All parts are insulated with a protective coating.**



Stock No.	Mfr.'s Type	Ro @ 25°C ±25% (ohms)	Max. Steady State Current (amps)	Approx. Resist. @ 1 Max. (Ω)	Max. Dia. In.	EACH	
						1-99	100-249
837-0010	CL-10	0.7	12.0	.03	0.770	2.75	2.05
837-0020	CL-20	1.3	8.0	.04	0.550	2.30	1.70
837-0030	CL-30	2.5	8.0	.06	0.770	2.75	2.05
837-0040	CL-40	5.0	6.0	.11	0.770	2.75	2.05
837-0050	CL-50	7.0	5.0	.16	0.770	2.80	2.10
837-0060	CL-60	10.0	5.0	.18	0.770	2.75	2.05
837-0070	CL-70	16.0	4.0	.27	0.770	2.75	2.05
837-0080	CL-80	47.0	3.0	.49	0.770	2.75	2.05
837-0090	CL-90	120.0	2.0	1.18	0.930	3.59	2.68
837-0100	CL-100	0.5	16.0	.02	0.930	3.59	2.68
837-0105	CL-110	10.0	3.2	.18	0.400	2.19	1.60
837-0120	CL-120	10.0	1.7	.34	0.400	2.19	1.60
837-0125	CL-130	50.0	1.6	.76	0.450	2.19	1.60
837-0140	CL-140	50.0	1.1	.89	0.450	2.19	1.60
837-0145	CL-150	5.0	4.7	.11	0.550	2.27	1.69
837-0160	CL-160	5.0	2.8	.20	0.550	2.27	1.69
837-0165	CL-170	16.0	2.7	.33	0.550	2.27	1.69
837-0180	CL-180	16.0	1.7	.49	0.550	2.27	1.69
837-0185	CL-190	25.0	2.4	.41	0.550	2.27	1.69
837-0200	CL-200	25.0	1.7	.49	0.550	2.27	1.69

PTC Thermistors

Positive temperature coefficient thermistors are characterized by an extremely large resistance change in a small temperature span. Temperature at which resistance begins to increase rapidly is referred to as the transition temperature (°C).



Stock No.	Mfr.'s Type	Oper. Volt Vop	Ro @ 25°C ±30% (Ω)	Transition Temp. TTR (°C)	Max. Dia. In.	EACH	
						1-99	100-249
837-4017	RL5505-1-120-12-PTO	12	1	120	0.58	2.87	2.10
837-4016	RL5305-2-120-12-PTO	12	2	120	0.56	2.87	2.10
837-2077	RL3005-10-120-12-PTO	12	10	120	0.32	2.39	1.78
837-2076	RL3005-25-120-12-PTO	12	25	120	0.32	2.39	1.78
837-3000	RL3006-50-30-25-PTO	25	50	30	0.32	2.39	1.89
837-3005	RL3006-50-40-25-PTO	25	50	40	0.32	2.39	1.89
837-3010	RL3006-50-50-25-PTO	25	50	50	0.32	2.39	1.89
837-3015	RL3006-50-60-25-PTO	25	50	60	0.32	2.39	1.89
837-3020	RL3006-50-70-25-PTO	25	50	70	0.32	2.39	1.89
837-3025	RL3006-50-80-25-PTO	25	50	80	0.32	2.39	1.89
837-3030	RL3006-50-90-25-PTO	25	50	90	0.32	2.39	1.89
837-3035	RL3006-50-100-25-PTO	25	50	100	0.32	2.39	1.89
837-3040	RL3006-50-110-25-PTO	25	50	110	0.32	2.39	1.89
837-3050	RL3006-50-120-25-PTO	25	50	120	0.32	2.39	1.89
837-4018	RL5506-10-110-50-PTO	50	10	110	0.58	2.87	2.25
837-5011	RL5510-20-110-50-PTO	50	20	110	0.58	2.87	2.25
837-4001	RL4010-50-110-50-PTO	50	50	110	0.43	2.87	2.25
837-6500	RL7510-10-120-120-PTO	120	10	120	0.80	3.55	2.65
837-5022	RL6010-20-120-120-PTO	120	20	120	0.63	2.95	2.20
837-5005	RL5510-25-65-120-PTO	120	25	65	0.58	2.95	2.20
837-4002	RL4510-50-120-120-PTO	120	50	120	0.48	2.87	2.25
837-5021	RL5515-50-65-240-PTO	240	50	65	0.58	3.10	2.30
837-5023	RL6015-100-120-240-PTO	240	100	120	0.63	3.10	2.30
837-2078	RL3020-1500-100-240-PTO	240	1500	100	0.32	3.10	2.30

PTC Resettable Fuses

Minimum Limit Current: The minimum amount of current required by the PTC to guarantee switching at the minimum ambient temperature. **Maximum Limit Current:** The maximum amount of current the PTC must be able to pass without switching at the maximum ambient temperature.

Stock No.	Mfr.'s Type	Oper. Volt Vop	No Load Resist. @ 25°C (±20%) (Ω)	Min. Limit Current (amps)		Max. Limit Current (amps)		Max. Dia. (In.)	EACH	
				0°C	20°C	30°C	55°C		1-99	100-249
837-4025	RL5305-1-110-12-PTF	12	1	1.30	1.20	0.80	0.60	0.60	2.95	2.20
837-4003	RL4005-5-110-12-PTF	12	5	0.44	0.37	0.29	0.20	0.45	2.70	2.20
837-2079	RL3005-10-110-12-PTF	12	10	0.33	0.30	0.20	0.16	0.35	2.50	1.95
837-2080	RL2505-25-110-12-PTF	12	25	0.23	0.19	0.13	0.09	0.32	2.50	1.95
837-5001	RL5506-5-110-50-PTF	50	5	0.55	0.50	0.30	0.25	0.60	2.95	2.25
837-4004	RL4006-10-110-50-PTF	50	10	0.30	0.27	0.18	0.16	0.45	2.70	2.20
837-4019	RL5310-50-110-50-PTF	50	50	0.23	0.20	0.11	0.10	0.60	2.89	2.20
837-3066	RL3810-100-110-50-PTF	50	100	0.10	0.09	0.06	0.05	0.42	2.50	1.95
837-6001	RL7510-10-110-120-PTF	120	10	0.39	0.36	0.25	0.17	0.80	3.67	2.70
837-4020	RL4510-50-110-120-PTF	120	50	0.16	0.15	0.09	0.07	0.50	2.89	2.29
837-3067	RL3510-100-110-120-PTF	120	100	0.09	0.08	0.06	0.04	0.40	2.87	2.10

Cryogenic Thermistors

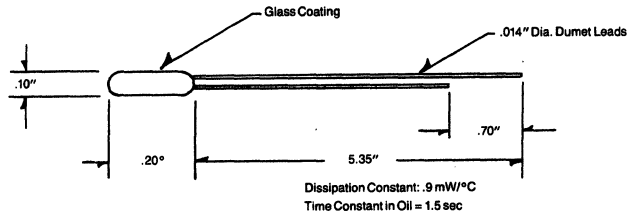
Keystone cryogenic thermistors are extremely useful for liquid level detection in various cryogenic liquids. In this application, the thermistor is slightly self-heated by passing a small current through the unit. The heat generated in the unit is more easily dissipated when the thermistor is immersed in cryogenic fluid than when the fluid level falls below the thermistor. the resulting change in thermistor temperature is easily detected by the change in resistance.

Dissipation Constant in mW/°K

Electrical Input (mW)	O_2	N_2
1.0	2-4	2-7
10.0	5-15	4-14

Stock No.	Mfr.'s Type	For Operation in Liquid	Nominal Resistance (Ω)	Approximate Temperature Coeffiecient (%/°K)	EACH	
					1-99	100
837-5150	RL1004-10K-0-S1	Oxygen (90°K)	10.0K	− 8.4	27.00	23.75
		Nitrogen (77°K)	31.5K	− 10.4		
837-5155	RL060628-31.7K-0-S1	Oxygen (90°K)	31.7K	− 8.4	27.00	23.75
		Nitrogen (77°K)	100.0K	− 10.4		

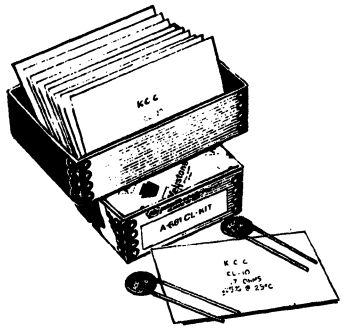
High Temperature Thermistors



- Stable high-temperature characteristics
- High temperature coefficient provides high temperature detection accuracy
- Short thermal time constant
- Rugged design

Stock No.	Mfr.'s Type	Resistance	Beta (°K) ±3%	Maximum Operating Temperature	EACH 1-249
837-0923	A-923	2260Ω ±5% @ 250°C	4870°K 200°C to 300°C	400°C	5.10
837-0924	A-924	8020Ω ±5% @ 250°C	5250°K 200°C to 300°C	450°C	5.10
837-0925	A-925	25KΩ ±10% @ 300°C	5100°K 250°C to 300°C	550°C	7.00

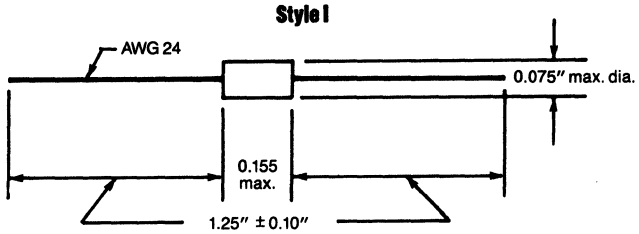
Special Thermistor Kits Available



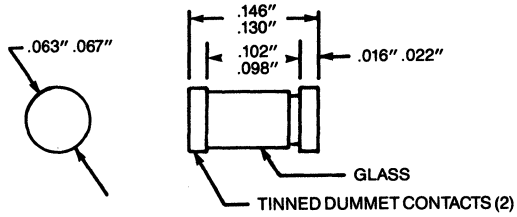
837-9990. A-787. NTC Thermistor Kit ..... **EACH 41.43**
837-0681. A-681. Inrush Limiter Kit ..... **EACH 42.00**
837-9995. PTC-32. Thermistor Kit ..... **EACH 41.43**
837-9980. PTC-33. Resettable Fuse Kit ..... **EACH 42.00**

Glass Encapsulated Thermistors

Style I



Style II (Surface Mount)*



- Temperature Range: −50°C to +204°C
- Dissipation Constant: 2.0 mW/°C
- Time Constant: 3 sec.
- Tolerance: ±10% @ 25°C

Keystone glass encapsulated NTC thermistors are tiny pellets of thermistor material hermetically sealed in glass bodies. The hermetic seal makes these parts extremely stable in applications up to 204°C (400°F).

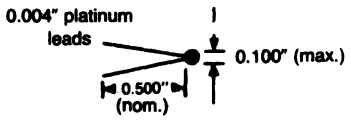
Stock No.	Mfr.'s Type	Resistance (Ω) −25°C	0°C	25°C	50°C	75°C	100°C	150°C	204°C	Temp. Coef. @25°C (%/°C)	EACH 1-99	EACH 100-249
837-5185	AL03006-624-73-G1	10.11K	2888.00	1K	403.9	185.60	94.40	31.00	12.10	−3.83	1.40	1.17
837-5190	AL03006-1248-73-G1	20.22K	5776.00	2K	807.8	371.20	188.80	62.00	24.20	−3.83	1.40	1.17
837-5191	AL03006-1847-76-G1	30.54K	8697.00	3K	1201.0	543.30	272.00	86.25	32.46	−3.85	1.40	1.17
837-5192	AL03006-2463-76-G1	40.72K	11.60K	4K	1602.0	724.40	362.70	115.00	43.30	−3.85	1.40	1.17
837-5193	AL03006-3079-76-G1	50.90K	14.50K	5K	2002.0	905.50	453.40	143.80	54.10	−3.85	1.40	1.17
837-5195	AL03006-5818-97-G1	133.30K	32.96K	10K	3577.0	1469.00	671.20	182.00	59.90	−4.41	1.40	1.17
837-5200	AL03006-11.7K-98-G1	253.00K	64.16K	20K	7234.0	2966.00	1356.00	361.20	115.90	−4.34	1.40	1.17
837-5202	AL03006-17.53K-98-G1	379.50K	96.20K	30K	10.8K	4449.00	2034.00	541.80	173.80	−4.34	1.40	1.17
837-5205	AL03006-29.1K-97-G1	625.00K	160.00K	50K	18.2K	7510.00	3431.00	918.50	293.20	−4.32	1.40	1.17
837-5210	AL03006-58.2K-97-G1	1.25M	319.90K	100K	36.4K	15.02K	6862.00	1837.00	586.40	−4.32	1.59	1.25
837-5220	AL03006-269.8K-138-G1	8.91M	1.92M	500K	155.7K	55.85K	22.64K	4943.00	1329.00	−4.99	1.59	1.25
837-5225	AL03006-535K-145-G1	18.72M	3.90M	1Meg	305.3K	106.90	42.47K	8946.00	2329.00	−5.07	1.59	1.25

Note: For KCC type for Style II Delete AL prefix and add G100 suffix. *Not stocked at Allied.

13

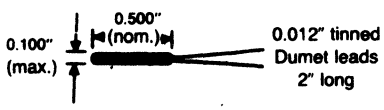
Glass Beads and Glass Probes

GLASS BEAD (Model G1)



Time Constant 16 sec. Dissipation Constant 0.75 mW/°C

GLASS PROBE (Model G15)



Maximum Operating Temperature = 260°C
Time Constant 17 sec. Dissipation Constant 1.20 mW/°C

Glass bead thermistors are exceptionally stable because the glass seal protects the thermistor from hostile environments.

Stock No.	Mfr.'s Type	Resistance (Ω) −25°C	0°C	25°C	50°C	75°C	100°C	150°C	204°C	Temp. Coef. @25°C (%/°C)	EACH 1-99	EACH 100-249
837-5325	RL0504-8783-95-G1	189.30K	48.48K	15K	5484.000	1049.00	290.30	104.0	38.6	−4.33	5.39	4.62
837-5330	RL0504-11.64K-97-G1	268.60K	65.76K	20K	7206.000	1364.00	370.40	130.3	47.4	−4.39	5.39	4.62
837-5335	RL0504-16.92K-112-G1	462.60K	105.30K	30K	10.180K	1735.00	427.20	115.9	26.9	−4.64	5.39	4.62
837-5340	RL0504-27.76K-120-G1	803.50K	182.20K	50K	16.500K	2658.00	642.50	204.7	67.2	−4.77	5.39	4.62
837-5345	RL0504-55.53K-120-G1	1.61M	364.50K	100K	33.000K	5317.00	1285.00	409.4	134.4	−4.77	5.39	4.62
837-5350	RL0504-111.3K-125-G1	3.38M	743.40K	200K	65.800K	10.22K	2416.00	762.2	249.2	−4.82	5.39	4.62
837-5355	RL0504-272.6K-148-G1	9.31M	1.97M	500K	158.600K	22.20K	4700.00	1345.0	389.0	−5.00	5.39	4.62
837-5360	RL0504-530.5K-148-G1	18.99M	3.94M	1Meg	301.700K	41.74K	8780.00	2494.0	729.0	−5.11	5.39	4.62
837-5370	RL0504-2.588M-176-G1	106.10M	20.68M	5Meg	1.434M	173.60K	31.92K	7910.0	1965.0	−5.31	5.39	4.62
837-5375	RL0504-11.64K-97-G15	268.60K	65.76K	20K	7206.000	1364.00	370.40	130.3	47.4	−4.39	7.99	7.30
837-5380	RL0504-16.92K-112-G15	462.60K	105.30K	30K	10.180K	1735.00	427.20	115.9	26.9	−4.64	7.99	7.30
837-5385	RL0504-27.76K-120-G15	803.50K	182.20K	50K	16.500K	2658.00	642.50	204.7	67.2	−4.77	7.99	7.30
837-5390	RL0504-55.53K-120-G15	1.61M	364.50K	100K	33.000K	5317.00	1285.00	409.4	134.4	−4.77	7.99	7.30
837-5395	RL0504-111.3K-125-G15	3.38M	743.40K	200K	65.800K	10.22K	2416.00	762.2	249.2	−4.82	7.99	7.30
837-5400	RL0504-272.6K-142-G15	9.31M	1.97M	500K	158.600K	22.20K	4700.00	1345.0	389.0	−5.00	7.99	7.30
837-5405	RL0504-530.5K-148-G15	18.99	3.94M	1Meg	301.700K	41.74K	8780.00	2494.0	729.0	−5.11	7.99	7.30
837-5415	RL0504-2.588M-176-G15	106.10M	20.68M	5Meg	1.434M	173.60K	31.92K	7910.0	1965.0	−5.31	7.99	7.30

Tolerance on resistance values ±20% @ 25°C. Closer tolerances available. Beads have a maximum operating temperature of 260°C.

Case 626
Plastic
N, P or
P1 Suffix

Case 693
Ceramic
J or J-8, U,
Z, JG Suffix

Case 721
Plastic

Case 632
Ceramic
F, J, L Suffix

Case 646
Plastic
N, N-14, P
or P2 Suffix

Case 648
Plastic
P, N Suffix

Case 620
Ceramic
D, J, N, L Suffix

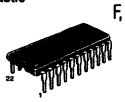
Case 690
Ceramic
L Suffix

Case 707
Plastic
A, N, P Suffix

Case 726
Ceramic
J, L Suffix

Case 738
Plastic
P Suffix

Case 732
Ceramic
L Suffix

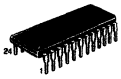


Case 708
Plastic
P Suffix

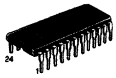
Case 736
Ceramic
L Suffix

Case 724
Plastic
N, P, P60 and
P120 Suffix

Case 649
Plastic
P Suffix



Case 709
Plastic
P Suffix



Case 623
Ceramic
L Suffix

Case 710
Plastic
P Suffix

Case 733
Ceramic
L Suffix

Case 711
Plastic
P Suffix

Case 734
Ceramic
L Suffix

Case 362-01
Glass

Case 318-02
Style 6
Standard Profile
(TO-236AA)

Case 318-03
Style 6
Low Profile
(TO-236AB)

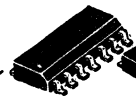
Case 318B-03
Style 1

Case 318A-04
Styles 1, 2
Low Profile
(SOT-143)

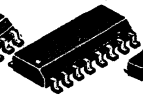
Case 318-05
Style 8
SOT-23

Case 369A
Plastic
DPAK
DT Suffix

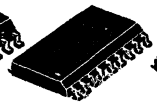
Case 751
Plastic
SO-8, SOP-8
D Suffix



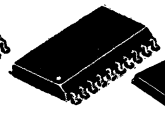
Case 751A
Plastic
SO-14
D Suffix



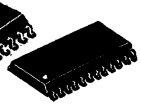
Case 751B
Plastic
SO-16
D Suffix



Case 751C
Plastic
SO-18
DW Suffix



Case 751D
Plastic
SO-20
DW Suffix

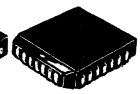


Case 751E
Plastic
SO-24
DW Suffix

Case 751F
Plastic
SO-28
DW Suffix

Case 751G
Plastic
SO-16L
DW Suffix

Case 775
Plastic
PLCC-20
FN Suffix

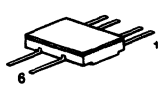


Case 776
Plastic
PLCC-28
FN Suffix

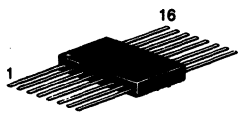
Case 777
Plastic
PLCC 44
FN Suffix

Case 606-04

Case 607-04



Case 610A-04

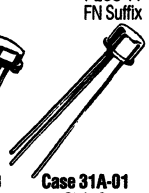


Case 650-02

Case 20-03
Style 10
(TO-206AF)

Case 22-03
Style 1
(TO-206AA)

Case 26-03
Style 1
(TO-206AB)



Case 31A-01
Style 2
(TO-205AD)

Case 79
Metal
G, H Suffix

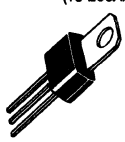
Case 601
Metal
H, G Suffix

Case 603
Metal
H, G Suffix

Case 654

Case 77
(Formerly TO-126)

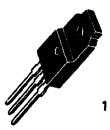
Case 90



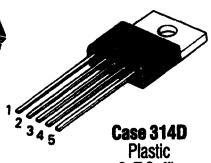
Case 152

Case 221A
Plastic Power
T, KC Suffix

221-B
(TO-220AC)
Plastic

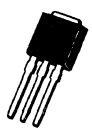


Case 221C

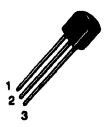


Case 314D
Plastic
S, T Suffix

Case 340

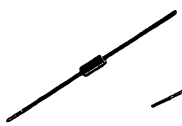


Case 369



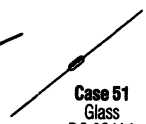
Case 29
Plastic
P, Z Suffix

Case 29-03
TO-226AE
(1 Watt TO-92)



Case 17-02

Case 41

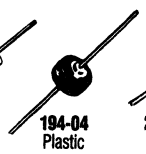


Case 51
Glass
DO-204AA
(DO-7)

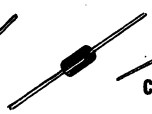
Case 52-03
Metal
(DO-13)

Case 59-03
DO-41
Surmetic 30

60-01
Metal



194-04
Plastic



267-03
Plastic

Case 299-02
Glass
DO-204AH
(DO-35)

42A-01
Glass
(DO-203AB)

43-02
Metal
(DO-21)

43-04
Metal

Case 56
Metal
(DO-203AA)

Case 58-01
Metal
(DO-5 Type)

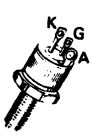
Case 63-03
TO-64

Case 86-01

Case 174-04
TO-203AA

Case 175-03

193-04
Plastic



Case 235-03
Isolated

245A-02
Metal
(DO-203AA)

257-01
Metal
DO-203AB

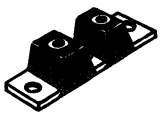
Case 263-04

Case 310-02

Case 311-02
Isolated

Case 326-01
Hermetic and
Isolated

339-02
Plastic



357C-01
Plastic

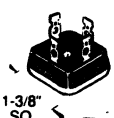
Case 1
Metal
K Suffix

11-03
(40 Mil Pins)
Metal
(TO-204AA)

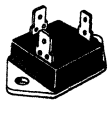
Case 80
(Formerly TO-66)

Case 197

309A-03



309A-02



Case 383-01

13

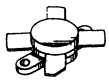
Case 144B-05
Style 1
(.380" Stud)

Case 144D-06
Style 1

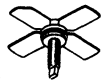
Case 145A-09
Style 1
(.380" Stud)

Case 145A-10
Style 1
(.500" Stud)

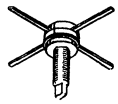
Case 211-07
Style 2
(.380" Flange)



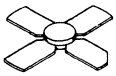
Case 211-11
Style 2
(.500" Flange)



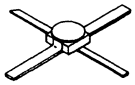
Case 244-04
Style 3
(.280" Stud)



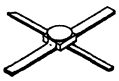
Case 244A-01
Style 3



Case 249-05
Style 1
(.280" Pill)

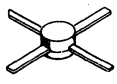


Case 303-01
Style 1
(.100" Ceramic)



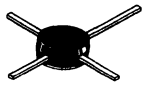
Case 303A-01
Style 3

Case 305-01
Style 1
(.204" Stud)



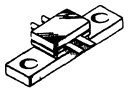
Case 305A-01
Style 1
(.204" PILL)

Case 316-01
Style 1
(.500" CQ)



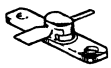
Case 317

Case 319-05
Styles 1, 2
(CS-12)



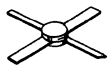
Case 319B-01
Style 1

Case 328-02
Style 1

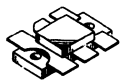


Case 328A-01
Style 1

Case 332-04
Styles 1, 2
(.380" Stud)

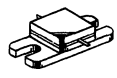


Case 332A-01
Styles 1, 2
(.280" PILL)



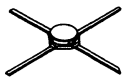
Case 333-03
Style 1

Case 333A-02
Style 1
(MAAC PAC)



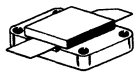
Case 336-03
Style 2

Case 337-02
Style 1

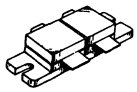


Case 358-01
Style 1
(MICRO-X)

Case 361A-01
Styles 1, 2



Case 368-01
Style 1
(HOG PAC)



Case 375-01
Style 2

Case 376A-01
Style 1

Case 382-01
Style 1

Case 744A-01
Style 1

Device Suffix Designators

Bipolar Analog

Suffix	Definition
A, B	Improved device, followed by package suffix
A	14 pin dual-in-line-plastic (N, NE, ULN prefix only)
B	16 pin dual-in-line-plastic (N, NE prefix only)
B	Automotive temperature range, followed by a package suffix
C	Commercial temperature range, followed by a package suffix
CDT	DPAK SOIC package suffix (regulators only)
D	SOIC package suffix
D, DS	When used after package suffix, indicates "Better" level screening
DW	Wide-body SOIC package suffix
FN	PLCC package suffix
G	Metal can package
H	Metal can package
J	Ceramic dual-in-line package suffix
K	Metal power (TO-3 type)
L	Dual-in-line ceramic
N	Dual-in-line plastic
P	14, 16, 18, or 24 pin dual-in-line plastic
P	3 pin plastic transistor package (TO-92)
P1	8 pin dual-in-line plastic
P2	14 pin dual-in-line plastic
R	Metal power package (TO-66 type)
R2	Tape and reel (13" reel), used only following CDT, D, DW, or FN package suffix
RA	Tape and reel for TO-92 package
RB	Tape and reel for TO-92 package
RE	Tape and reel for TO-92 package
RP	Ammo pack for TO-92 package
T	3 pin plastic transistor package (TO-220)
U	8 pin dual-in-line ceramic
V	8 pin dual-in-line plastic (NE prefix only)

CMOS, HMOS, NMOS Microprocessors

FN	Plastic Lead Chip Carrier
L	Ceramic, side-brazed, for lead counts greater than or equal to 48-pin DIP, L refers to select plate tin finish on leads
LC	For lead counts greater than or equal to 48-pin DIP, LC refers to full gold finish
P	Plastic package
R	Pin grid array package (select plate tin finish leads)
RC	Full gold finish leads
S	Cerdip package (microprocessors only)
Z	Chip carrier package
ZB	Leadless chip carrier package

Bipolar Logic

A, B	Improved device, followed by package suffix
D	SOIC package suffix
D, DS	When used after package suffix, indicates "BETTER" level screening
DW	Wide body SOIC package suffix
FN	PLCC package suffix
J	Ceramic dual-in-line package suffix
L	Ceramic dual-in-line package suffix
N	Plastic dual-in-line package suffix
P	Plastic dual-in-line package suffix
R1	Tape and reel (7" or 13" reel), used only following D, DW or FN package suffix
R2	Tape and reel (7" or 13" reel), used only following D, DW or FN package suffix

13

LS TTL Devices

Stock No.	Mfr.'s Type	Description	Case Style	EACH
858-6544	SN74LS00J	Quad 2-input NAND Gate	632	0.41
858-6545	SN74LS00N	Quad 2-input NAND Gate	646	0.22
858-6611	SN74LS01N	Quad 2-input NAND Gate with Open Collector	646	0.22
858-6546	SN74LS02N	Quad 2-input NOR Gate	646	0.22
858-6547	SN74LS03N	Quad 2-input NAND Gate with Open Collector	646	0.22
858-6548	SN74LS04N	Hex inverter	646	0.22
858-6549	SN74LS05N	Hex inverter with Open Collector	646	0.22
858-6550	SN74LS08J	Quad 2-input AND Gate	632	0.41
858-2033	SN74LS08N	Quad 2-input AND Gate	646	0.22
858-6551	SN74LS09N	Quad 2-input AND Gate with Open Collector	646	0.22
858-2038	SN74LS10N	Triple 3-input NAND Gate	646	0.22
858-6552	SN74LS11N	Triple 3-input AND Gate	646	0.22
858-6554	SN74LS12N	Triple 3-input NAND Gate with Open Collector	646	0.22
858-6555	SN74LS13N	Dual 4-input Schmitt Trigger	646	0.32
858-6556	SN74LS14N	Hex Schmitt Trigger	646	0.27
858-2035	SN74LS20N	Dual 4-input NAND Gate	646	0.27
858-6558	SN74LS21N	Dual 4-input AND Gate	646	0.27
858-6559	SN74LS22N	Dual 4-input NAND Gate with Open Collector	646	0.27
858-6560	SN74LS26N	Quad 2-input NAND (high voltage)	646	0.22
858-6561	SN74LS27N	Triple 3-input NOR Gate	646	0.22
858-6562	SN74LS28N	Quad 2-input NOR Buffer	646	0.30
858-6564	SN74LS30N	8-input NAND Gate	646	0.22
858-2036	SN74LS32N	Quad 2-input OR GATE	646	0.27
858-6566	SN74LS33N	Quad 2-input NOR Buffer with Open Collector	646	0.27
858-9998	SN74LS38N	Quad 2-input NAND Buffer with Open Collector	646	0.27
858-6567	SN74LS42N	1-of-10 Decoder	648	0.41
858-6568	SN74LS47N	BCO to 7-segment Decoder/Driver with Open Collector	648	0.64
858-6571	SN74LS51N	Dual AND-OR-INVERT Gate	646	0.27
858-6572	SN74LS54N	3-2-2-3-input AND-OR-INVERT Gate	646	0.27
858-6574	SN74LS73AN	Dual JK Flip-Flop	646	0.36
858-2044	SN74LS74AN	Dual D Flip-Flop	646	0.24
858-2042	SN74LS75N	4-Bit Bi-Stable Latch w/Q and Q	648	0.37
858-6576	SN74LS76AN	Dual JK Flip-Flop	648	0.36
858-6577	SN74LS77N	4-Bit Bi-Stable Latch	646	0.60
858-6579	SN74LS83AN	4-Bit Full Adder	648	0.54
858-6580	SN74LS85N	4-Bit Magnitude Comparator	648	0.41
858-6581	SN74LS86N	Quad Exclusive OR Gate	648	0.36
858-6582	SN74LS90N	Decade Counter	646	0.45
858-6584	SN74LS92N	Divide-By-12 Counter	646	0.45
858-6585	SN74LS93N	4-Bit Binary Counter	646	0.45
858-6613	SN74LS107AN	Dual JK Flip-Flop with clear	646	0.30
858-2028	SN74LS109AN	Dual JK Flip-Flop with Preset	648	0.30
858-6586	SN74LS112AN	Dual JK Edge-Triggered Flip-Flop	648	0.30
858-6587	SN74LS113AN	Dual JK Edge-Triggered Flip-Flop	646	0.30
858-6589	SN74LS122N	Retriggerable Mono-Stable Multivibrator	648	0.45
858-2034	SN74LS123N	Dual Retriggerable Mono-Stable Multivibrator	646	0.45
858-6590	SN74LS125AN	Quad Buffer, Low Enable, 3-state	646	0.36
858-6591	SN74LS126AN	Quad Buffer, High Enable, 3-state	646	0.32
858-6592	SN74LS132N	Quad 2-input Schmitt Triggered	646	0.50
858-6593	SN74LS133N	13-input NAND Gate	648	0.39
858-6594	SN74LS136N	Quad Executive OR Gate with Open Collector	646	0.37
858-6615	SN74LS137N	3-line to 8-line Decoder/Demultiplexer	648	0.37
858-6595	SN74LS138N	1-of-8 Decoder/Demultiplexer	648	0.34
858-2029	SN74LS139N	Dual 1-of-4 Decoder/Demultiplexer	648	0.41
858-6596	SN74LS145N	1-of-10 Decoder/Driver (Open Collector)	648	0.48
858-6597	SN74LS148N	8-input to 3-line Priority Encoder	648	0.86
858-6598	SN74LS151N	8-input Multiplexer	648	0.34
858-6599	SN74LS153N	Dual 4-input Multiplexer	648	0.34
858-6600	SN74LS155N	Dual 1-of-4 Decoder	648	0.34
858-2043	SN74LS157N	Quad 2-input Multiplexer (Non-Inverting)	648	0.34
858-6601	SN74LS158N	Quad 2-input Multiplexer (Inverting)	648	0.34
858-6602	SN74LS160AN	BCD Decade Count (Async. Reset) (9310 Type)	648	0.37
858-2041	SN74LS161AN	4-Bit Binary Counter (Async. Reset, 9316 Type)	648	0.37
858-6603	SN74LS163AN	4-Bit Binary Counter (Sync. Reset)	648	0.37
858-6604	SN74LS164N	8-Bit Serial-In/Parallel-Out Shift Register	646	0.37
858-6605	SN74LS165N	8-bit Parallel-In/Serial-Out Shift Register	648	0.72
858-6606	SN74LS166N	8-Bit Parallel-In/Serial-Out Shift Register	648	0.82
858-6608	SN74LS173AN	4-Bit D Register (3-State)	648	0.41
858-6610	SN74LS174AN	Hex D Flip-Flop (with Clear)	648	0.34
858-6620	SN74LS175N	Quad D Flip-Flop (with Clear)	648	0.34
858-6622	SN74LS190N	Up/Down Decade Counter	648	0.45
858-6619	SN74LS191N	Up/Down Binary Counter	648	0.45
858-6623	SN74LS192N	Up/Down Decade Counter (w/Clear)	648	0.45
858-2039	SN74LS193N	Up/Down Binary Counter (w/Clear)	648	0.45
858-6628	SN74LS194AN	4-Bit Right/Left Shift Register	648	0.45
858-6625	SN74LS195AN	4-Bit Shift Register (9300 Type)	648	0.45
858-6626	SN74LS196N	Decade Counter (Async. Presettable)	646	0.72
858-6627	SN74LS197N	4-Bit Binary Counter (Async. Presettable)	646	0.72
858-6629	SN74LS221N	Dual One-Shot (Very Stable)	648	0.64
858-6630	SN74LS240N	Octal Bus/Line Driver (Inverting, 3-State)	738	0.46
858-6631	SN74LS241N	Octal Bus/Line Driver (3-State)	738	0.46
858-8244	SN74LS244N	Octal Driver (Non-Inverting, 3-State)	738	0.46
858-2040	SN74LS245N	Octal Bus Transceiver (Non-Inverting, 3-State)	738	0.48
858-6635	SN74LS247N	Quad 2-input Multiplexer (Non-Inverting, 3-State)	648	0.68
858-6638	SN74LS251N	8-input Multiplexer (3-State)	648	0.36
858-6639	SN74LS253N	Dual 4-input Multiplexer (3-State)	648	0.36
858-6650	SN74LS257AN	Quad 2-input Multiplexer (Non-Inverting, 3-State)	648	0.36
858-6634	SN74LS258AN	Quad 2-input Multiplexer (Inverting, 3-State)	648	0.36
858-8219	SN74LS259N	8-Bit Addressable Latch (9334)	648	0.56
858-6651	SN74LS260N	Dual 5-input NOR Gate	646	0.27
858-6652	SN74LS266N	Quad Exclusive NOR Gate (Open Collector)	646	0.32
858-6653	SN74LS273N	Octal D Flip-Flop (with Clear)	738	0.48
858-6654	SN74LS279N	Quad Set/Reset Latch	648	0.36
858-6655	SN74LS280N	8-Bit Odd/Even Parity Generator/Checker	646	0.58
858-6656	SN74LS283N	4-Bit Full Adder (Rotated LS83A)	648	0.50
858-6657	SN74LS290N	Decade Counter (Divide by 2 and 5)	646	0.56
858-6660	SN74LS298N	Quad 2-multiplexer w/Output Register	648	0.64
858-6661	SN74LS299N	8-Bit Shift/Storage Register, 3-state	738	1.24
858-6662	SN74LS323N	8-Bit Shift/Storage Register, 3-state	738	2.16
858-6641	SN74LS348N	8-input to 3-line Priority, Encoder, 3-state	648	0.92
858-6664	SN74LS353N	Dual 4-multiplexer (3-state, LS352)	648	0.72
858-6665	SN74LS365AN	Hex Buffer, common Enable, 3-state	648	0.41
858-6666	SN74LS366AN	Hex Inverter, common Enable, 3-state	648	0.41
858-6667	SN74LS367AN	Hex buffer, 4-Bit & 2-Bit, 3-state	648	0.41
858-6668	SN74LS368AN	Hex inventory, 4-Bit & 2-Bit, 3-state	648	0.41
858-2031	SN74LS373N	OctalTransparent Latch, 3-state	738	0.46
858-8205	SN74LS374N	Octal D Flip-Flop, 3-state	738	0.46
858-6670	SN74LS375N	Quad Latch	648	0.41
858-6642	SN74LS377N	Octal D Flip-Flop with Enable	738	0.64
858-6671	SN74LS378N	Hex D Flip-Flop with Enable	738	0.66
858-6672	SN74LS379N	4-Bit D Flip-Flop with Enable	738	0.66
858-6643	SN74LS390N	Dual Decade Counter	646	0.52
858-6675	SN74LS393N	Dual 4-Bit Binary Counter	646	0.52
858-6678	SN74LS540N	Octal Buffer/Line Driver, 3-state	738	0.72
858-6679	SN74LS541N	Octal Buffer/Line Driver, 3-state	738	0.72
858-6645	SN74LS569N	Binary Up/Down Counter, 3-state	738	1.36
858-6684	SN74LS640N	Octal Bus Transceiver, Inverting, 3-state	738	1.18
858-8215	SN74LS670N	4 × 4 Register File, 3-state	648	0.82
858-6647	SN74LS682N	8-Bit Magnitude Cooperator	738	1.62
858-6649	SN74LS688N	8-Bit Magnitude Cooperator	738	1.56
858-6688	SN74LS795N	Octal Buffer (81LS95), 3-state	738	0.90
858-6689	SN74LS796N	Octal Buffer (81LS96), 3-state	738	0.72

Fast TTL Devices

Stock No.	Mfr.'s Type	Description	Case Style	EACH
858-0501	MC74F00N	FAST QD 2I/P NAND GATE	646	0.20
858-0500	MC74F02N	FAST QD 2I/P NOR GATE	646	0.20
858-0502	MC74F04N	FAST HEX INVERTER	646	0.20
858-0504	MC74F08N	FAST QD 2I/P AND GATE	646	0.20
858-0506	MC74F10N	FAST 3I/P NAND GATE	646	0.20
858-0508	MC74F109N	FAST DL JK POS EDG-TRG FF	648	0.45
858-0510	MC74F11N	FAST TRPL 3I/P AND GATE	646	0.20
858-0512	MC74F112N	FAST DL J-K NEG EDGE F F	648	0.52
858-0514	MC74F138N	FAST 1-OF-8 DEC/DEMUX	648	0.45
858-0516	MC74F139N	FAST DL 1-OF-4 DECODER	648	0.54
858-0518	MC74F14N	FAST HEX INV SHMT TRGR	646	0.41
858-0520	MC74F148N	FAST 8LN TO 3LN DECODER	648	0.82
858-0522	MC74F151N	FAST 8 I/P MUX	648	0.54
858-0524	MC74F153N	FAST DL 4I/P MUX	648	0.45
858-0526	MC74F157N	FAST QD 2I/P MUX	648	0.45
858-0528	MC74F158N	FAST QD 2I/P MUX	648	0.45
858-0530	MC74F161AN	FAST SYNC PRESET BIN CNTR	648	0.64
858-0532	MC74F163AN	FAST SYNC PRESET BIN CNTR	648	0.64
858-0534	MC74F169N	FAST UP/DOWN BINARY CNTR	648	2.52
858-0536	MC74F174N	FAST HEX D FF W/MSTR RS	648	0.76
858-0538	MC74F175N	FAST QD D FLIP FLOP	648	0.50
858-0540	MC74F182N	FAST CARRY LKAHEAD GEN	648	1.44
858-0542	MC74F194N	UNIVERSAL SHIFT REG	648	1.54
858-0544	MC74F195N	4-BITSHIFT REG	648	1.90
858-0546	MC74F20N	FAST DL 4I/P NAND GATE	646	0.20
858-0548	MC74F240N	FAST OCTAL BUFF/LNE DRVR	738	0.62
858-0550	MC74F241N	FAST OCTAL BUFF/LNE DRVR	738	0.62
858-0552	MC74F244N	FAST OCTAL BUFF/LNE DRVR	738	0.62
858-0554	MC74F245N	FAST OCTAL BDIR XCEIVER	738	0.70
858-0556	MC74F251N	FAST 8 I/P MUX	648	0.60
858-0558	MC74F253N	FAST DL 4I/P MUX 3ST	648	0.48
858-0560	MC74F257AN	FAST QD 3I/P MUX	648	0.48
858-0562	MC74F257N	FAST QD 3I/P MUX	648	0.48
858-0564	MC74F258N	FAST QD2I/P MUX	648	0.48
858-0566	MC74F259N	TTL 8BIT ADRESSABLE LATCH	648	2.44
858-0568	MC74F273N	FAST OCTAL D FF	648	0.62
858-0570	MC74F280N	FAST 9-BIT PARITY GEN/CHK	646	0.45
858-0572	MC74F283N	FAST 4-BIT FULL ADDER	648	0.90
858-0574	MC74F32N	FAST QD 2I/P OR GATE	646	0.20
858-0576	MC74F367N	FAST HEX BUFFER	648	1.08
858-0578	MC74F373N	FAST OCTAL XPRNT LATCH	738	0.62
858-0580	MC74F374N	FAST OCTAL D TYPE F F	738	0.62
858-0582	MC74F377N	FAST OCTAL D FF W/CLK ENA	648	1.80
858-0584	MC74F378N	FAST PARA D REG W/ENABLE	738	1.00
858-0586	MC74F379N	FAST QD PARA REG W/ENABLE	648	1.00
858-0588	MC74F38N	QUAD 2 INPUT NAND BUFFER	648	0.39
858-0590	MC74F381N	FAST 4-BIT ARITH LOG UNIT	738	3.16
858-0592	MC74F399N	FAST QD 2-PORT REGISTER	648	1.26
858-0594	MC74F521N	FAST OCTAL COMPARATOR	738	0.90
858-0596	MC74F533N	FAST OCTAL XPRNT LATCH	738	1.22
858-0598	MC74F534N	FAST OCTAL D-TYPE FF	738	1.22
858-0600	MC74F569N	FAST UP/DN BIN CNTR 3-ST	738	3.40
858-0602	MC74F64N	FAST 4-3-2I/P AOI GATE	646	0.25
858-0604	MC74F74N	FAST DL POS EDG-TRIG FF	646	0.24
858-0606	MC74F85N	4-BIT MAGNITUDE COMP	648	1.94
858-0608	MC74F86N	FAST QD 2I/P EXC OR	646	0.41

Standard CMOS Devices

Stock No.	Mfr.'s Type	Function	Case Style	EACH
858-3025	MC14001BAL	Quad 2-input NOR Gate	632	0.45
858-6387	MC14001BCP	Quad 2-input NOR Gate	646	0.27
858-3012	MC14001BCPD	Quad 2-input NOR Gate	646	0.39
858-3009	MC14001UBCP	Quad 2-input NOR Gate	646	0.27
858-3026	MC14002BCP	Dual 4-input NOR Gate	646	0.27
858-3027	MC14007UBCP	Dual complementary pair (plus inverter)	646	0.27
858-6393	MC14008BCP	4 Bit full adder	648	0.72
858-6394	MC14011BAL	Quad 2-input NAND Gate	652	0.45
858-6395	MC14011BCL	Quad 2-input NAND Gate	632	0.41
858-6397	MC14011BCP	Quad 2-input NAND Gate	646	0.27
858-3028	MC14011UBCP	Quad 2-input NAND Gate	646	0.27
858-3013	MC14012BCP	Dual 4-input NAND Gate	646	0.27
858-6402	MC14012UBCP	Dual 4-input NAND Gate	646	0.27
858-3002	MC14013BAL	Dual D Flip-Flop	632	0.68
858-3029	MC14013BCL	Dual D Flip-Flop	632	0.60
858-3014	MC14013BCP	Dual D Flip-Flop	646	0.32
858-6403	MC14014BCP	8 Bit Static Shift Register	648	0.72
858-3139	MC14015BCL	Dual 5 Bit Static Shift Register	620	0.90
858-3003	MC14015BCP	Dual 5 Bit Static Shift Register	648	0.64
858-3030	MC14016BCP	Quad Analog Switch/Qual Multiplexer	646	0.41
858-6405	MC14017BAL	Decade Counter/Divider	620	1.00
858-3140	MC14017BCL	Decade Counter/Divider	620	0.90
858-3031	MC14017BCP	Decade Counter/Divider	648	0.64
858-3032	MC14018BCP	Presettable divide by N Counter	648	0.72
858-6406	MC14020BCP	14 Bit Binary Counter	648	0.64
858-3141	MC14021BCL	8 Bit Static Shift Register	620	0.90
858-6409	MC14021BCP	8 Bit Static Shift Register	648	0.64
858-3142	MC14022BCP	Octal Counter Divider	648	0.64
858-3143	MC14023BAL	Triple 3-input NAND Gate	632	0.45
858-6413	MC14023BCL	Triple 3-input NAND Gate	632	0.41
858-3015	MC14023BCP	Triple 3-input NAND Gate	646	0.27
858-3144	MC14024BAL	7 Stage Ripple Counter	632	0.80
858-3004	MC14024BCP	7 Stage Ripple Counter	646	0.43
858-6415	MC14025BAL	Triple 3-input NOR Gate	632	0.45
858-6416	MC14025BCL	Triple 3-input NOR Gate	632	0.41
858-6417	MC14025BCP	Triple 3-input NOR Gate	646	0.27
858-3146	MC14027BCL	Dual JK Flip-Flop	620	0.64
858-3033	MC14027BCP	Dual JK Flip-Flop	648	0.36
858-3016	MC14028BCP	BCD to Decimal Decoder	648	0.64
858-3005	MC14029BCP	4 Bit Presettable Up/Down	648	0.64
858-3148	MC14035BCP	4 Bit Shift Register Counter	648	0.72
858-6426	MC14040BAL	12 Bit Binary Counter	620	1.00
858-3052	MC14040BCL	12 Bit Binary Counter	620	0.90
858-3034	MC14040BCP	12 Bit Binary Counter	648	0.64
858-3056	MC14042BCP	Quad Latch	648	0.45
858-3036	MC14043BCP	Quad NOR R-S Latch	648	0.64
858-3017	MC14044BCP	Quad NAND R-S Latch	648	0.72
858-6428	MC14046BAL	Phase Locked-Loop	620	1.08
858-3006	MC14046BCP	Phase Locked-Loop	648	0.72
858-3037	MC14049UBAL	Hex Inverter/Buffer	620	0.72
858-3018	MC14049UBCL	Hex Inverter/Buffer	620	0.64
858-6429	MC14049UBCP	Hex Inverter/Buffer	648	0.36
858-6430	MC14050BAL	Hex Buffer	620	0.72
858-3151	MC14050BCL	Hex Buffer	620	0.64
858-3007	MC14050BCP	Hex Buffer	648	0.36
858-6431	MC14051BAL	8 Channel Analog Multiplexer	620	1.00
858-3038	MC14051BCP	8 Channel Analog Multiplexer	648	0.64
858-6433	MC14052BCP	Dual 4 Channel Analog Multiplexer	646	0.64
858-6436	MC14053BCP	Triple 2 Channel Analog Multiplexer	648	0.64
858-6438	MC14066BAL	Quad Analog Switch	632	0.78
858-3159	MC14066BCL	Quad Analog Switch	632	0.68
858-3040	MC14066BCP	Quad Analog Switch	646	0.41
858-3019	MC14068BCP	8-input NAND Gate	646	0.27
858-6439	MC14069UBCP	Hex Inverter	646	0.27
858-6440	MC14070BAL	Quad Exclusive OR Gate	632	0.45
858-6441	MC14070BCL	Quad Exclusive OR Gate	632	0.41
858-3008	MC14070BCP	Quad Exclusive OR Gate	646	0.27
858-6442	MC14071BAL	Quad 2-input OR Gate	632	0.45
858-3161	MC14071BCL	Quad 2-input OR Gate	632	0.41
858-6444	MC14071BCP	Quad 2-input OR Gate	646	0.27
858-3041	MC14072BCP	Dual 4-input OR Gate	646	0.27

Stock No.	Mfr.'s Type	Function	Case Style	EACH
858-6446	MC14073BAL	Triple 3-input AND Gate	632	0.45
858-6447	MC14073BCP	Triple 3-input AND Gate	646	0.27
858-3020	MC14075BCP	Triple 3-input OR Gate	646	0.27
858-6427	MC14077BCP	Quad Exclusive NOR Gate	646	0.27
858-3059	MC14078BCP	8-input NOR Gate	646	0.27
858-6449	MC14081BAL	Quad 2-input AND Gate	632	0.45
858-6450	MC14081BCL	Quad 2-input AND Gate	632	0.41
858-3042	MC14081BCP	Quad 2-input AND Gate	646	0.27
858-3043	MC14082BCP	Dual 4-input AND Gate	646	0.27
858-3044	MC14093BCL	Quad 2-Input NAND Schmitt Trigger	632	0.64
858-3021	MC14093BCP	Quad 2-Input NAND Schmitt Trigger	646	0.36
858-3064	MC14099BCP	8-Bit Addressable Latch	648	0.72
858-3072	MC14161BCP	Binary Counter (Async. Clear)	648	0.72
858-3075	MC14174BCP	Hex D Flip-Flop	648	0.64
858-3080	MC14175BCP	Quad D Flip-Flop	648	0.64
858-3166	MC14408P	Binary to Phone Pulse Converter	648	16.75
858-3167	MC14410P	2 to 8 Tone Encoder	648	6.25
858-3060	MC14411P	Bit Rate Frequency Generator	709	11.25
858-3172	MC14419P	2 of 8 Keypad to Binary Encoder	648	3.75
858-6469	MC14433P	3½ Digit A/D Converter	709	6.88
858-3174	MC14443P	8-Channel A/D Converter	648	3.58
858-3176	MC14447P	8-Channel A/D Converter	648	3.58
858-6472	MC14469P	Addressable Asynchronous Receiver/Transmitter	711	12.20
858-3182	MC14490L	Hex Contact Bounce Eliminator	620	4.66
858-3490	MC14490P	Hex Contact Bounce Eliminator	648	3.44
858-6480	MC14502BCP	Strobed Hex Inverter/Buffer	648	0.72
858-3062	MC14503BCP	Hex 3-State Buffer	648	0.45
858-6481	MC14504BCP	Hex TTL or CMOS to CMOS Level Shifter	648	1.26
858-3194	MC14508BCP	Dual 4-Bit Latch	709	1.76
858-3083	MC14510BCP	BCD Up/Down Counter	648	0.72
858-3063	MC14511BCP	BCD to 7-Segment Latch/Decoder/Driver	648	0.72
858-3084	MC14512BCP	8-Channel Data Selector	648	0.64
858-3197	MC14513BCP	BCD to 7-Segment Latch/Decoder/Driver — Ripple Blanking	707	1.62
858-6487	MC14514BCP	4-Bit Latch/4-to-16 Line Decoder (High)	709	1.40
858-3200	MC14515BCP	4-Bit Latch/4-to-16 Line Decoder (Low)	709	1.40
858-3065	MC14516BCP	Binary Up/Down Counter	648	0.72
858-6489	MC14518BCL	Dual BCD Up Counter	620	1.00
858-3066	MC14518BCP	Dual BCD Up Counter	648	0.72
858-3067	MC14519BCP	4-Bit AND/OR Selector	648	0.37
858-3068	MC14520BCP	Dual Binary Up Counter	648	0.64
858-3086	MC14521BCP	24-Stage Frequency Divider	648	1.18
858-3069	MC14522BCP	Programmable BCD Divide-By-N Counter	648	0.90
858-6494	MC14526BCP	Programmable Binary Divide-By-N Counter	648	0.82
858-6495	MC14527BCP	BCD Rate Multiplier	648	0.78
858-6496	MC14528BCL	Dual Monostable Multivibrator	620	1.00
858-3070	MC14528BCP	Dual Monostable Multivibrator	648	0.72
858-3209	MC14529BCP	Dual 4-Channel Analog Data Selector	648	1.08
858-6502	MC14532BCP	8-Bit Priority Encoder	648	0.72
858-3090	MC14536BCP	Programmable Timer	648	1.54
858-6505	MC14538BAL	Dual Precision Monostable Multivibrator	620	1.18
858-3091	MC14538BCL	Dual Precision Monostable Multivibrator	620	1.08
858-3071	MC14538BCP	Dual Precision Monostable Multivibrator	648	0.82
858-3210	MC14539BCP	Dual 4-Channel Data Selector Multiplexer	648	0.72
858-3212	MC14541BAL	Programmable Oscillator Timer	632	1.00
858-3073	MC14541BCP	Programmable Oscillator Timer	646	0.64
858-6508	MC14543BCP	BCD to 7-Segment Latch/Decoder/Driver	648	0.64
858-3219	MC14544BCP	BCD to 7-Segment Latch/Decoder/Driver — Ripple Blanking	707	2.64
858-6510	MC14551BCP	Quad 2-Channel Analog MUX	620	1.30
858-6511	MC14553BCP	3-Digit BCD Counter	648	3.54
858-3096	MC14555BCP	2 × 2 Bit Parallel Binary Multiplexer	648	0.68
858-6513	MC14556BCP	Dual Binary to 1 of 4 Decoder (Inverting)	648	0.68
858-3224	MC14557BCP	1 to 64 Bit Variable Length Shift Register	648	2.08
858-6514	MC14560BCP	NBCD Adder	648	2.44
858-3046	MC14566BCP	Industrial Time-Base Generator	648	1.44
858-6518	MC14569BCP	Dual Programmable BCD to Binary Counter	648	1.72
858-3092	MC14572UBCP	Hex Gate	648	0.60
858-6521	MC14583BCP	Dual Schmitt Trigger	648	1.00
858-6522	MC14584BAL	Hex Schmitt Trigger	632	0.82
858-3228	MC14584BCL	Hex Schmitt Trigger	632	0.72
858-3127	MC14584BCP	Hex Schmitt Trigger	646	0.45
858-3118	MC14585BCP	4-Bit Magnitude Comparator	648	0.82

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High Speed CMOS Devices

Stock No.	Mfr.'s Type	Function	Case Style	EACH
858-3905	MC74HC00AN	Quad 2-input NAND Gate	646	0.20
858-3234	MC74HC02AN	Quad 2-input NOR Gate	646	0.20
858-3235	MC74HC03N	Quad 2-input NAND Gate w/open drain outputs	646	0.20
858-3900	MC74HC04AN	Hex inverters	646	0.20
858-3237	MC74HC08AN	Quad 2-input AND Gate	646	0.20
858-3238	MC74HC10N	Triple 3-input NAND Gate	646	0.20
858-3239	MC74HC11N	Triple 3-input AND Gate	646	0.20
858-3901	MC74HC14AN	Hex Schmitt-Trigger Inverter	646	0.25
858-3266	MC74HC20N	Dual 4-input NAND Gate	646	0.20
858-3276	MC74HC27N	Triple 3-input NOR Gate	646	0.20
858-3281	MC74HC32AN	Quad 2-input OR Gate	646	0.20
858-3303	MC74HC42N	1-of-10 Decoder	648	0.48
858-3307	MC74HC51N	2 wide, 2-input/2 wide, 3-input AND-OR-Invert Gates	646	0.20
858-3323	MC74HC74AN	Dual D Type Flip-Flop with set and reset	646	0.27
858-3324	MC74HC75N	Dual 2-Bit Transparent Latch	648	0.27
858-3326	MC74HC85N	4-Bit Magnitude Comparator	648	0.64
858-3327	MC74HC86N	Quad 2-input Exclusive OR Gate	646	0.30
858-3240	MC74HC107N	Dual JK Flip-Flop with reset	646	0.30
858-3242	MC74HC112N	Dual JK Flip-Flop with set and reset	648	0.30
858-3246	MC74HC132AN	Quad 2-input Schmitt-Triggered NAND Gate	646	0.60
858-3906	MC74HC138AN	1-of-8 Decoder/Demultiplexer	648	0.36
858-3249	MC74HC139AN	Dual 1-of-4 Decoder/Demultiplexer	648	0.36
858-3251	MC74HC15IN	8-input Data Selector/Multiplexer	648	0.36
858-3253	MC74HC154N	1-of-16 Decoder/Demultiplexer	724	1.54
858-3254	MC74HC157AN	Quad 2-input non-inverting Data Selector/Multiplexer	648	0.36

Stock No.	Mfr.'s Type	Function	Case Style	EACH
858-3256	MC74HC160N	Presettable BCD Counter with Async. Reset	648	0.45
858-3257	MC74HC161N	Presettable 4-Bit Binary Counter with Async. Reset	648	0.45
858-3259	MC74HC164N	8-Bit Serial input/Parallel output Shift Register	646	0.45
858-3262	MC74HC174AN	Hex D Type Flip-Flop with common clock and reset	648	0.36
858-3263	MC74HC175N	Quad D Type Flip-Flop with common clock and reset	648	0.36
858-3902	MC74HC240AN	Octal 3-state Inverting Buffer/Line Driver/Line Receiver	738	0.50
858-3903	MC74HC244AN	Octal 3-state Non-Inverting Buffer/Line Driver/Line Receiver	738	0.48
858-3904	MC74HC245AN	Octal 3-state Non-Inverting Bus Transceiver	730	0.54
858-3275	MC74HC259N	8-Bit Addressable Latch/1-of-8 Decoder	648	0.72
858-3277	MC74HC273N	Octal D Type Flip-Flop with common clock and reset	738	0.54
858-3285	MC74HC368N	Hex 3-state Inverting Buffer with separate 2-Bit and 4-Bit sections	648	0.52
858-3286	MC74HC373N	Octal 3-state Non-Inverting D Type Transparent Latch	738	0.50
858-3287	MC74HC374N	Octal 3-state Non-Inverting D Type Flip-Flop	739	0.50
858-3288	MC74HC390N	Dual 4-stage Binary Ripple Counter with ÷ 2 and ÷ 5 sections	648	0.64
858-3320	MC74HC646N	Octal 3-state Non-Inverting Bus Transceiver and D Type Flip-Flop	724	3.60
858-3294	MC74HC4040N	12-stage Binary Ripple Counter	648	0.72
858-3297	MC74HC4051N	8-Channel Analog Multiplexer/Demultiplexer	648	0.90
858-3299	MC74HC4053N	Triple 2-Channel Analog Multiplexer/Demultiplexer	648	0.90
858-3300	MC74HC4060N	14-stage Binary Ripple Counter with Oscillator	648	0.90
858-3301	MC74HC4075N	Triple 3-input OR Gate	648	0.28
858-3302	MC74HC4078N	8-input NOR/OR Gate	646	0.28
858-3304	MC74HC4511N	BCD to 7-segment Latch/Decoder/Display Driver	648	0.90
858-3305	MC74HC4514N	1-of-16 Decoder/Demultiplexer with Address Latch	724	2.60
858-3306	MC74HC4538N	Dual Precision Monostable Multivibrator (Retriggerable, Resettable)	648	1.00
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High Speed CMOS LSTTL Compatable Devices

Stock No.	Mfr.'s Type	Function	Case Style	EACH
858-0610	MC74HCT04AN	Hex INV with LSTTL COMP IP	646	0.20
858-0612	MC74HCT138AN	Decoder/Multiplxr 10F8	648	0.36
858-0614	MC74HCT157AN	Selectr/Multiplxr 2-INPT	648	0.36
858-0616	MC74HCT174AN	Flip/Flop Hex D W/Clk RST	648	0.36
858-0618	MC74HCT240AN	IC Octal 3-St	738	0.50
858-0620	MC74HCT244AN	IC CHIP Octal 3-St	738	0.48
858-0622	MC74HCT245AN	Octl 3-St Noninvrt Bus Tr	738	0.54
858-0626	MC74HCT373AN	Monolithic Oct 3-St Nonin	738	0.50
858-0628	MC74HCT374AN	HSL Octl D-FF 3ST TTLComp	738	0.50
858-0632	MC74HCT533AN	Transp Latch, Octl 3-St	738	0.82
858-0634	MC74HCT534AN	D-Typ Flip/Flop, Octl 3-St	738	1.08
858-0636	MC74HCT541N	HSL Octa 3-St Buf TTLComp	735	0.82
858-0638	MC74HCT574AN	Octl 3-S-N-Invt D Fl/Fl	738	0.82
858-0640	MC74HCT640AN	Octl Bus Transc	738	1.08
858-0642	MC74HCT74AN	Dual Fl/Fl W/Set & Reset	646	0.27

MECL 10KH Devices

858-3493	MC10H104P	Quad AND Gate	648	1.06
858-3496	MC10H116P	Triple Line Receiver	648	1.14
858-3499	MC10H131P	Dual D Master-Slave Flip-Flop	648	2.24

MECL 10K Devices

Stock No.	Mfr.'s Type	Function	Case Style	EACH
858-6330	MC10102P	Quad NOR Gate	648	0.64
858-3509	MC10103P	Quad 2-Input OR Gate	648	0.64
858-3510	MC10104P	Quad AND Gate	648	0.64
858-3514	MC10109P	Dual 4-5 Input OR/NOR Gate	648	0.72
858-3518	MC10114P	Triple Line Receiver	648	0.76
858-3519	MC10115P	Quad Line Reciever	648	0.72
858-6343	MC10116P	Triple Line Reciever	648	0.72
858-3524	MC10123P	Triple 4-3-3 Input Bus Driver	648	0.80
858-6345	MC10124L	Quad TTL to MECL Translator	620	2.00
858-6346	MC10124P	Quad TTL to MECL Translator	648	1.70
858-3023	MC10125L	Quad MECL to TTL Translator	620	2.00
858-6347	MC10125P	Quad MECL to TTL Translator	648	1.70
858-6349	MC10131L	Dual Flip-Flop	620	2.20
858-6350	MC10131P	Dual D Flip-Flop	648	1.90
858-3528	MC10135P	Dual J-K Master-Slave Flip-Flop	648	2.30
858-3529	MC10136P	Universal Hexadecimal Counter	648	9.00
858-3532	MC10141P	4-Bit Universal Register	648	3.52
858-3533	MC10153P	Quad Latch (Negative Clock)	648	2.38
858-6362	MC10176P	Hex D Flip-Flop	648	3.54
858-3556	MC10197P	Hex AND Gate	648	1.60
858-3557	MC10198P	Retriggerable 1-Shot	648	14.14
858-6374	MC10216L	High-Speed Triple Line Receiver	620	1.56

OP-AMPS

Single (Noncompensated)

Stock No.	Mfr.'s Type	Description	I_{IB} μA Max.	V_{IO} mV Max.	TC_{VIO} μV/°C Typical	I_{IO} nA Max.	A_{vol} V/mV Min.	BW (A_V=1) MHz Typ.	SR (A_V=1) V/μs Typ.	Supply Voltage V Min.	Supply Voltage V Max.	Case Style	EACH
858-6061	LM101AH	General purpose OP-AMP	0.075	2.0	10.0	10.0	50	1.0	0.5	±3.0	±22	601	2.46
858-6065	LM201AH	General purpose OP-AMP	0.075	2.0	10.0	10.0	50	1.0	0.5	±3.0	±22	601	2.04
858-6066	LM201AN	General purpose OP-AMP	0.075	2.0	10.0	10.0	50	1.0	0.5	±3.0	±22	626	0.75
858-2004	LM301AH	General purpose OP-AMP	0.250	7.5	10.0	50.0	25	1.0	0.5	±3.0	±18	601	1.61
858-2014	LM301AN	General purpose OP-AMP	0.250	7.5	10.0	50.0	25	1.0	0.5	±3.0	±18	626	1.07
858-6071	LM308AH	General purpose OP-AMP	7.000	7.5	15.0	1.0	25	1.0	0.3	±3.0	±18	601	2.68
858-6072	LM308AN	General purpose OP-AMP	7.000	7.5	15.0	1.0	25	1.0	0.3	±3.0	±18	626	0.92
858-6073	LM308H	General purpose OP-AMP	7.000	7.5	15.0	1.0	25	1.0	0.3	±3.0	±18	601	1.61
858-2005	LM308N	General purpose OP-AMP	7.000	7.5	15.0	1.0	25	1.0	0.3	±3.0	±18	626	0.72

Single (Internally Compensated)

858-6253	MC1733CP	Diff. wide band video-AMP	30.00	—	—	5.0μA	80	90.0	—	±4.0	±8	646	0.77

Dual (Noncompensated-Internally Compensated)

858-6063	LM158H	Split supplies OP-AMP	0.150	5.0	10.0	30.0	50	1.0	0.6	±1.5	±18	601	3.54
858-6064	LM158J	Split supplied OP-AMP	0.150	5.0	10.0	30.0	50	1.0	0.6	±1.5	±18	693	3.43
858-6070	LM258N	Split or single supply OP-AMP	0.150	5.0	10.0	30.0	50	1.0	0.6	±1.5	±18	626	1.48
858-2009	LM358H	Single supply-low power OP-AMP	0.250	6.0	7.0	50.0	25	1.0	0.6	±1.5	±18	601	1.35
858-2010	LM358N	Single supply-low power OP-AMP	0.250	6.0	7.0	50.0	25	1.0	0.6	±1.5	±18	626	0.40
858-3047	MC1458CP1	Dual general purpose OP-AMP	0.700	10.0	10.0	300.0	20	1.1	0.8	±3.0	±18	626	0.59
858-3093	MC1458G	Dual MC1741	0.500	6.0	10.0	200.0	20	1.1	0.8	±3.0	±18	601	1.61
858-3076	MC148P1	Dual MC1741	0.500	6.0	10.0	200.0	20	1.1	0.8	±3.0	±18	626	0.44
858-6209	MC1458SP1	Dual MC1741	0.500	6.0	10.0	200.0	20	1.1	0.8	±3.0	±18	626	1.07
858-6226	MC1558G	Dual MC1741	0.500	5.0	10.0	200.0	50	1.1	0.8	±3.0	±22	601	1.91
858-3078	MC1558U	Dual MC1741	0.500	5.0	10.0	200.0	50	1.1	0.8	±3.0	±22	693	1.56
858-3130	MC1747CP2	Dual MC1741	0.500	6.0	10.0	200.0	25	1.0	0.5	±3.0	±18	646	1.04
858-6533	MC34002P	JFET input OP-AMP	100pA	10.0	10.0	100pA	25	4.0	13.0	±5.0	±18	646	0.77
858-8212	MC4558CP1	JFET input OP-AMP	0.500	6.0	10.0	200.0	20	1.1	0.8	±3.0	±18	626	0.46

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Dual OP-AMPS

Stock No.	Mfr.'s Type	Description	I_{IB} μA Max.	V_{IO} mV Max.	TC_{VIO} μV/°C Typical	I_{IO} nA Max.	A_{vol} V/mV Min.	BW (A_V=1) MHz Typ.	SR (A_V=1) V μs Typ.	Supply Voltage V Min.	Supply Voltage V Max.	Case Style	EACH
858-2018	LM224J	Split or single supply OP-AMP	0.15	5.0	7.0	30	50.0	1.0	0.6	±1.5*	±16*	632	2.10
858-6068	LM224N	Split or single supply OP-AMP	0.15	5.0	7.0	30	50.0	1.0	0.6	±1.5*	±16*	646	1.67
858-6086	LM2902N	Differential OP-AMP	0.15	10.0	—	50	—	1.0	0.6	±1.5	±13	646	0.72
858-6076	LM324J	Low power consumption OP-AMP	0.25	6.0	7.0	50	25.0	1.0	0.6	±1.5*	±16*	632	1.39
858-2016	LM324N	Low power consumption OP-AMP	0.25	6.0	7.0	50	25.0	1.0	0.6	±1.5*	±16*	646	0.46
858-2143	LM3900N	Norton input OP-AMP	0.30	—	—	—	1.0	5.0	0.6	±1.5*	±18*	646	0.84
858-3351	MC3301P	Norton input OP-AMP	0.30	—	—	—	1.0	4.0	0.6	±2.0*	±15*	646	0.88
858-6534	MC34004P	JFET input OP-AMP	200pA	10.0	10.0	100pA	25.0	4.0	13.0	±5.0*	±18	646	0.96
858-6283	MC3401P	Norton input OP—AMP	0.30	—	—	—	1.0	5.0	0.6	±1.5*	±18*	646	0.86
858-3081	MC3403P	No-crossover distortion OP-AMP	0.50	10.0	7.0	50	20.0	1.0	0.6	±1.5*	±18*	646	0.46
858-3082	MC4741CP	Quad MC1741	0.50	5.0	15.0	200	50.0	1.0	0.5	+3.0	±22	646	0.43

* Single — Double = number shown times 2

Miscellaneous Amplifiers (CMOS/BIPOLAR*)

Stock No.	Mfr.'s Type	I_{IB} μA Max.	V_{IO} mV Max.	I_{IO} nA Max.	A_{vol} V/mV Min.	Response μs Typ.	Supply Voltage Single	Supply Voltage Dual	Case Style	EACH
858-3226	MC14573P	50pA	±30	100pA	8.0	10+	3.0 to 15	±1.5 to 7.5	648	3.28
858-8217	MC14574P	50pA	±30	100pA	8.0	10+	3.0 to 15	±1.5 to 7.5	648	3.28
858-3227	MC14575P	50pA	±30	100pA	8.0	10+	3.0 to 15	±1.5 to 7.5	648	3.28

Comparators

Stock No.	Mfr.'s Type	Function	I_{IB} μA Max.	V_{IO} mV Max.	I_{IO} μA Max.	A_V V/V Typ.	Output Current (mA) Min.	Response Time (ns)	Supply Voltage (V)	Case Style	EACH
858-6069	LM239N	Quad for single or split operation, input common mode includes ground (Neg. supply)	0.25	5.0	0.05	200K	6.0	1300	+1.5 to +18 or +3.0 to +36	646	1.31
858-6085	LM2901N	Quad for single or split operation, input common mode includes ground (Neg. supply)	0.25	7.0	0.05	100K	6.0	1300	+1.5 to +18 or +3.0 to +36	646	0.54
858-2007	LM311H	Single w/strobe, will operate from single supply	0.25	7.5	0.05	200K	8.0	200	+15, −15	601	1.50
858-2015	LM311N	Single w/strobe, will operate from single supply	0.25	7.5	0.05	200K	8.0	200	+1.5 to +18 or 3.0 to 36	626	0.42
858-6077	LM339AN	Quad for single or split operation, input common mode includes ground (Neg. supply)	0.25	2.0	0.05	200K	6.0	1300	+1.5 to +18 or 3.0 to 36	646	1.03
858-2021	LM339N	Quad for single or split operation, input common mode includes ground (Neg. supply)	0.25	5.0	0.05	200K	6.0	1300	+1.5 to +18 or 3.0 to 36	646	0.42
858-6081	LM393N	Dual, for single or split operation, input common mode includes ground (Neg. supply)	0.25	5.0	0.05	200K	6.0	1300	+1.5 to +18 or 3.0 to 36	626	0.40
858-3121	MC3302P	Quad, for single or split operation, input common mode includes ground (Neg. supply)	0.50	20.0	0.05	30K	6.0	1300	+1.5 to +18 or 3.0 to 36	646	0.57

Fixed Output Voltage Regulators — Negative Output

Stock No.	Mfr.'s Type	V_{out} Volts	Tol. † Volts	I_o mA Max.	V_{in} Min./Max.	Reg_{line} mV	Reg_{load} mV	$\Delta V_o/\Delta T$ mV/°C Typ.	Case Style	EACH
858-6317	MC7905CK	5	±0.25	1500	7/35	100	100	1.0	1	2.04
858-3088	MC7905CT	5	±0.25	1500	7/35	100	100	1.0	221	0.52
858-3106	MC7908CT	8	±0.40	1500	10.5/35	160	160	1.0	221	0.54
858-6320	MC7912CK	12	±0.60	1500	14.5/35	240	240	1.5	1	3.01
858-3134	MC7912CT	12	±0.60	1500	14.5/35	240	240	1.5	221	0.52
858-6322	MC7915CK	15	±0.75	1500	17.5/35	300	300	1.8	1	3.01
858-3125	MC7915CT	15	±0.75	1500	17.5/35	300	300	1.8	221	0.52
858-6114	MC79L05ACP	5	±0.25	100	6.7/30	60	60	1.0	29	0.43
858-3089	MC79L05CP	5	±0.25	100	6.7/30	60	60	1.0	29	0.40
858-3114	MC79L12CP	12	±1.20	100	13.7/35	100	100	—	29	0.40

Fixed Output Voltage Regulators — Positive Output

Stock No.	Mfr.'s Type	V_{out} Volts	Tol. † Volts	I_o mA Max.	V_{in} Min./Max.	Reg_{line} mV	Reg_{load} mV	$\Delta V_o/\Delta T$ mV/°C Typ.	Case Style	EACH
858-6074	LM309H	5	±0.25	1500	7/35	50	100	1.0	79	3.01
858-2006	LM309K	5	±0.25	1500	7/35	50	100	1.0	1	2.05
858-6310	MC7805ACT	5	±0.20	1500	7.5/35	10	100	0.6	221	1.14
858-3055	MC7805CK	5	±0.25	1500	7/35	100	100	1.0	1	2.04
858-3101	MC7805CT	5	±0.25	1500	7/35	100	100	1.0	221	0.52
858-6312	MC7806CK	6	±0.30	500	8/35	120	120	—	1	2.04
858-6313	MC7808CK	8	±0.40	1500	10.5/35	160	160	1.0	1	2.04
858-6314	MC7812ACT	12	±0.50	1500	14.8/35	18	100	1.5	221	1.03
858-3102	MC7812CK	12	±0.60	1500	14.5/35	240	240	1.5	1	2.04
858-3132	MC7812CT	12	±0.60	1500	14.5/35	240	240	1.5	221	0.52
858-3123	MC7815CK	15	±0.75	1500	17.5/35	300	300	1.8	1	2.04
858-3085	MC7815CT	15	±0.75	1500	17.5/35	300	300	1.8	221	0.52
858-9999	MC7818ACT	18	±0.70	1500	21/35	31	100	2.3	221	1.03
858-6315	MC7818CK	18	±0.70	1500	21/35	360	360	2.3	1	2.04
858-3103	MC7824CK	24	±1.20	1500	27/40	480	480	3.0	1	2.04
858-3111	MC78L05ACP	5	±0.25	100	6.7/30	150	60	1.0	29	0.41
858-3104	MC78L05CP	5	±0.25	100	6.7/30	200	60	1.0	29	0.36
858-6102	MC78L08ACP	8	±0.80	100	9.7/30	175	80	—	29	0.41
858-3133	MC78L08CP	8	±0.80	100	9.7/30	200	80	—	29	0.36
858-3124	MC78L12ACP	12	±0.06	100	13.7/35	250	100	—	29	0.41
858-3087	MC78L12CP	12	±1.20	100	13.7/35	250	100	—	29	0.36
858-3112	MC78L15CP	15	±1.50	100	16.7/35	300	150	—	29	0.36
858-6097	MC78M05CG	5	±0.25	500	7/35	100	100	1.0	79	1.72
858-6098	MC78M05CT	5	±0.25	500	7/35	100	100	1.0	221	0.49
858-6101	MC78M06CT	6	±0.30	500	8/35	100	120	1.0	221	0.49
858-6108	MC78M15CT	15	±0.75	500	17/35	100	300	1.0	221	0.49

Adjustable, Positive Output Voltage Regulators

Stock No.	Mfr.'s Type	I_o mA Max.	V_{out} Volts		V_{in} Volts		$V_{in} - V_{out}$ Differential Volts Min.	P_D Watts Max.		Regulation %V_{out} @ T_A=25°C Max.		TC V_{out} Typ. %/°C	T_J=°C Max.	Case Style	EACH
			Min.	Max.	Min.	Max.		T_A=25°C	T_C=25°C	Line	Load				
858-6062	LM117LH	100.0	1.2	37	5.0	40	3.0	Internally limited		0.02	0.3	0.003	150	79	2.90
858-2020	LM317K	1.5K	1.2	37	5.0	40	3.0	Internally limited		0.04	0.5	0.006	125	1	2.69
858-6075	LM317LH	100.0	1.2	37	5.0	40	3.0	Internally limited		0.04	0.5	0.006	125	79	1.46
858-2008	LM317T	1.5K	1.2	37	5.0	40	3.0	Internally limited		0.04	0.5	0.006	125	221	0.80
858-9987	LM350K	3.0K	1.2	33	5.0	36	3.0	Internally limited		0.03	0.5	0.008	125	1	5.16
858-6080	LM350T	3.0K	1.2	33	5.0	36	3.0	Internally limited		0.03	0.5	0.008	125	221	3.96
858-3129	MC1723CL	150.0	2.0	37	9.5	40	3.0	1.50	—	0.10	0.3	0.003	175	632	0.97
858-3120	MC1723CP	150.0	2.0	37	9.5	40	3.0	1.25	—	0.10	0.3	0.003	150	646	0.54
858-6250	MC1723G	150.0	2.0	37	9.5	40	3.0	1.00	2.1	0.10	0.3	0.002	150	603	2.11

CMOS, A-D Converters

Stock No.	Mfr.'s Type	Comments	Resolution (Bits)	Nonlinearity (Max.)	Conversion Time	Input Voltage Range	Supplies (V)	Temperature Range	Case Style	EACH
858-6469	MC14433P	Dual slope	3½ digits	±0.05%, ±1 count	40 MS	±2.0V, ±200mV	+5.0, +8.0	−40°C to +85°C	709	6.88
858-3174	MC14443P	μP compatible, single slope; 6 channel MUX	8-10	±0.5%, full scale	300 MS	Variable w/supply	+5.0, +8.0	−40°C to +85°C	648	3.58
858-3176	MC14447P	μP compatible, single slope; 6 channel MUX	8-10	±0.5%, full scale	300 MS	Variable w/supply	−5.0, +8.0	−40°C to +85°C	648	3.58
858-3225	MC14559BCP	8-bit D-A converter	8	SUCCESSIVE APPROXIMATION REGISTERS			±3.0 to +18	−40°C to +85°C	648	6.78

D-A Converters (CMOSI Bipolar*)

Stock No.	Mfr.'s Type	Comments	Resolution (Bits)	Accuracy @25°C (Max.)	Settling Time (±½ LSB)	Supplies (V)	Temperature Range	Case Style	EACH
858-6187	MC1408P8*	Multiplying	8	±2 LSB	300ns Typ.	+5.0, −15	0°C to +70°C	648	1.23
858-3169	MC144111P	Serial input, quad DAC, 4 outputs	6	—	—	+5.0, +15	0°C to 85°C	646	4.70

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Line Drivers

Stock No.	Mfr.'s Type	Comments	Drivers Per Package	Output Current Capability (mA)	Prop Delay Time Max. (ns)	S = Single Ended D = Differential	Party-Line Operation	Strobe or Enable	Power Supplies (V)	EACH
858-3094	MC1488L	EIA std. RS-232-C	4	6	350	S	no	yes	±12	1.14
858-3128	MC1488P	EIA std. RS-232-C	4	6	350	S	no	yes	±12	0.45
858-6299	MC3487P	EIA std. RS-422 with 3-state output	4	48	20	D	yes	yes	+ 5	1.10

Peripheral Driver

Stock No.	Mfr.'s Type	Logic Function	Output Current Capability (mA)	Input Capability	Propagation Delay Time Max. (μs)	Output Clamp Diode	Off State Voltage Max. (V)	EACH
858-3335	MC1411P	Invent	500	TTL, CMOS, PMOS	1.0	yes	50	0.65
858-3010	MC1413P	Invent	500	TTL, 5.0V, CMOS	1.0	yes	50	0.65
858-6697	ULN2003A	Invent	500	TTL, 5.0V, CMOS	1.0	yes	50	0.65
858-6698	ULN2004A	Invent	500	8.0V to 18V, MOS	1.0	yes	50	0.65

General Purpose Wideband Hybrid Amplifiers

50Ω TO-39 (Case TO-39)

The MWA Series features excellent gain versus frequency flatness, temperature stability and are cascadable for high gain lineups. Construction techniques include thin film gold metal circuitry and hermetic TO-39 package.

Stock No.	Mfr.'s Type	Frequency Range MHz	Gain dB Min./Typ.	Supply Voltage VDC	dBm Typ.	dB Typ.	EACH
858-6725	MWA110	0.1-400	13/14	2.90	−2.5	4.0	5.50
858-6726	MWA120	0.1-400	13/14	5.00	+ 8.2	5.5	5.60
858-8108	MWA130	0.1-400	13/14	5.50	+18.0	7.0	5.70
858-6731	MWA310	0.1-1000	7/8	1.60	+ 3.5	6.5	5.70
858-6732	MWA320	0.1-1000	7/8	2.90	+11.5	6.7	5.80

General Purpose Wideband Hybrid Amplifiers

50Ω — 100Ω Wideband Amplifiers (Case 714-02)

The general purpose hybrid amplifiers listed are for broadband system applications requiring superior gain and current stability with temperature. The 50 to 100 ohm input and output impedances help simplify designs.

Stock No.	Mfr.'s Type	Frequency Range MHz	Gain dB Min./Typ.	Supply Voltage VDC	Output Level 1 dB Compression mW/f (MHz)	Noise Figure @ 250 MHz dB	EACH
858-4223	MHW591	1.0-250	35/36.5	13.6	700/100	5.0	36.00
858-4224	MHW592	1.0-250	34.5/36	24.0	900/100	5.0	38.75

CATV, MATV, and Class A Linear Transistors

The devices listed below are excellent for Class A linear CATV/MATV applications and are listed according to increasing gain-bandwidth (fr).

Stock No.	Mfr.'s Type	Nominal Test Conditions V_{CE}/I_C Volts/mA	f_T MHz Min.	Noise Figure Max./Freq. dB/MHz	Distortion Specifications				Package	EACH
					2nd Order IMD	3rd Order IMD	12 Ch. Cross-Mod.	Output Level dBmV		
858-1041	2N5179	6/5	900	4.5/200	—	—	—	—	TO-72	0.77
858-7522	2N5109	15/50	1200	3.0#/200	—	—	—	—	TO-39	1.47
858-1183	2N5943	15/50	1200	3.4/200	−50	—	−42	+50	TO-39	1.85
858-4283	MRF517	15/60	2200	7.5/300	−60	−72	−57	+45	TO-39	4.00
858-8258	BFR96	10/50	5000#	3.0#/500	—	—	—	—	317A-01	1.76
858-4290	MRF581	10/75	5000#	3.0/500	—	—	—	+50	317-01	1.91

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UHF and Microwave Oscillators

The transistors listed below are for UHF and microwave oscillator applications as initial signal sources or as output stages of limited range transmitters. Devices are listed in order of increasing output power.

Stock No.	Mfr.'s Type	Test Conditions		P_{out} mW Min.	f_T MHz Typ.	Package	EACH
		f MHz	V_{CC} Volts				
858-1041	2N5179	500	10	20	1800	TO-72	0.77
858-1991	2N2857	500	10	30	1800	TO-72	1.22
858-1033	2N3866	400	15	1000	1000	TO-39	1.04

RF/UHF/VHF and CATV Amplifiers

NPN Plastic TO-226AA Types

Stock No.	Mfr.'s Type	f_T MHz		@ I_C mA	C_{eb} pF Max.	$V_{(BR)CEO}$ Volts Min.	G_{pe} dB Min.	NF dB Max.	@ f MHz	V_{AGC} Min.	@ Gain Reduction dB	P_D @ 25°C	EACH
		Min.	Typ.										
858-4138	MPS3563	600	800	8.0	1.70	12	14	—	—	—	—	625	0.18
858-4241	MPS3866	500	—	50.0	30.00	10	—	—	—	—	—	625	0.52
858-4128	MPSH10	650	1500	4.0	0.65	25	—	—	—	—	—	350	0.22
858-4130	MPSH17	800	1600	5.0	0.90	15	24	6	200	—	—	625	0.37

Radio Circuits

IF Amplifiers, Receivers—FM/AM/FSK

Stock No.	Mfr.'s Type	Function	Recommended Frequency IF/RF* MHz	3 dB Limiting @ 10.7 MHz μV (RMS) Typ.	AMR dB Typ.	Recovered Audio Output Δf = ±75 kHz Δf = ±3 kHz* mV (RMS)	Power Supply Volts Max.	Case Style	EACH
858-3011	MC1350P	AGC Amplifier	0.5-50*	—	—	—	18.0	626	0.90
858-6280	MC3357P	Low-Power FM-IF for Dual Conversion Scanning Receivers	0.5/10.7*	5.0	40	350*	8.0	648	2.58
858-3360	MC3359P	Narrow Band FM, Oscillator Mixer IF, AFT, Squelch	0.5/10.7*	2.0	40	700*	12.0	707	1.66
858-3359	MC3356P	Wideband FSK Receiver Oscillator Mixer, FM, IF Detector, Meter Drive, Data Shaper	10.7/200*	30.0	50	500	15.0	738	2.90

Video Circuits

Modulator/Deflector

Stock No.	Mfr.'s Type	Function	Features	Case Style	EACH
858-3333	MC1391P	Horizontal Processor	Linear Balanced Phase Detector, Oscillator and Predriver, Adjustable DC Loop Gain, Adjustable Duty Cycle	626	0.63
858-6176	MC1374P	TV Modulator (Hi Quality)	RF Oscillator/Modulator, and FM Sound Oscillator/Modulator	646	1.46

Video IF Amplifiers

Stock No.	Mfr.'s Type	Function	Features	Case Style	EACH
858-3331	MC1377P	Video RGB to PAL/NTSC Encoder	RGB and Sync Inputs, Composite Video Out-PAL/NTSC Switch Selectable	738	2.57
858-3332	MC1378P	Video Sync	Complete Color TV Video Overlay Synchronizer	711	14.43

Tuning System Circuits

Stock No.	Mfr.'s Type	Function	Features	Case Style	EACH
858-3362	MC3373P	Remote Control Amplifier	Infared Diode Signal Amplifier Shaper	626	1.08

Low Noise Amplifiers

NPN/PNP*

Stock No.	Mfr.'s Type	NF dB Typ.	@ f	$V_{(BR)CEO}$ Volts Min.	h_{FE} Min.	@ I_C mA	f_T MHz Min.	@ I_C mA	P_D@ 25°C	Case Style	EACH
858-1953	2N5086*	3.0	AUDIO†	50	150	10	40	0.50	350	29	0.16
858-1064	2N5087*	2.0	AUDIO†	60	250	10	40	0.50	350	29	0.12
858-1955	2N5089	2.0	AUDIO†	25	400	10	50	0.50	350	29	0.12
858-1956	2N5210	2.0	AUDIO†	50	250	10	30	0.50	350	29	0.19
858-4156	MPS4250*	2.0	1KHz	40	250	10	250	1.00	200	29	0.12
858-4172	MPS6523*	3.0	AUDIO†	25	300	2	340	2.00	625	29	0.18
858-4131	MPSA18	1.5	AUDIO†	45	500	10	100	1.00	625	29	0.28

† AUDIO = 10 Hz to 15.7 KHz MAX.

Phase-Locked Loop ICs

Stock No.	Mfr.'s Type	Function	V_{IH} (V) (Max.)	V_{IL} (V) (Min.)	V_{cc} (V) (Max.)	V_{IHA} (V) (Min.)	V_{IHL} (V) (Max.)	Number of Pins	Case Style	EACH
858-3566	MC12013P	MECL; Two Modulas ÷ 10/ ÷ 11	−0.81	−1.95	+5.2	−1.105	−1.475	16	648	11.90
858-6382	MC12040P	MECL; Phase-Frequency Detector	−0.81	−1.85	+5.0	−1.105	−1.475	14	646	8.24

CMOS/NMOS PLLS/Frequency Synthesizers/Oscillators/Phase Detectors

Stock No.	Mfr.'s Type	Function	Prescaler Modulas	V_{DD} Max. (V)	V_{IN} Max. (V)	Case Style	EACH
858-6428	MC14046BAL	Phase-Locked Loop	—	−0.5 to +18	−0.5 to V_{DD}+0.5	620	1.08
858-3006	MC14046BCP	Phase-Locked Loop	—	−0.5 to +18	−0.5 to V_{DD}+0.5	648	0.72
858-3195	MC145106P	PLL Frequency Synthesizer	Single	−0.5 to +12	−0.5 to V_{DD}+0.5	707	4.95
858-3198	MC145145P	4-Bit Data Bus Input PLL Frequency Synthesizer	Single	−0.5 to +10	−0.5 to V_{DD}+0.5	707	7.80
858-3575	MC12061P	Crystal Oscillator	—	—	—	648	3.94
858-6236	MC1648P	Voltage Controlled Oscillator	—	—	—	646	3.80
858-3053	MC4024P	Dual Voltage Controlled Multivibrator	—	—	—	646	4.48
858-4044	MC4044P	Phase Frequency Detector	—	—	—	646	4.48
858-3049	MC1496G	Modulator/Demodulator	—	—	—	603	1.48
858-6220	MC1496P	Modulator/Demodulator	—	—	—	646	1.16

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Bipolar Power Transistors

NPN-Metal TO-204AA

Stock No.	Mfr.'s Type	I_c Cont Amps Max.	$V_{ceo(sus)}$ Volts Min	h_{FE} Min./Max.	@ I_c Amp	Resistive Switching t_s μs Max.	Resistive Switching t_f μs Max.	Resistive Switching @ I_c Amp	f_T MHz Min.	P_D (Case) Watts @ 25°C	Case Style	EACH
858-7389	2N3055	15.0	60	20/70	4.00	0.7 Typ.	0.3 Typ.	4.00	2.5	115.0	1	0.95
858-7390	2N3055A	15.0	60	20/70	4.00	0.7 Typ.	0.3 Typ.	4.00	0.8	115.0	1	1.64
858-1031	2N3716	10.0	80	30 Min.	3.00	0.3 Typ.	0.4 Typ.	5.00	4.0	150.0	1	1.55
858-7428	2N3772	20.0	60	15/60	10.00	—	—	—	2.0	150.0	1	2.90
858-7429	2N3773	16.0	140	15/60	8.00	1.1 Typ.	1.5 Typ.	8.00	4.0	150.0	1	2.88
858-1102	2N5685	50.0	60	15/60	25.00	0.5 Typ.	0.3 Typ.	25.00	2.0	300.0	1	5.39
858-7555	2N5686	50.0	80	15/60	25.00	0.5 Typ.	0.3 Typ.	25.00	2.0	300.0	1	6.48
858-1104	2N5885	25.0	60	20/100	10.00	1.0	0.8	10.00	4.0	200.0	1	2.25
858-1905	2N5886	25.0	80	20/100	10.00	1.0	0.8	10.00	4.0	200.0	1	2.88
858-7589	2N6055	8.0	60	750/18K	4.00	1.5 Typ.	1.5 Typ.	4.00	4.0	100.0	1	1.38
858-1107	2N6057	12.0	60	750/18K	6.00	1.6 Typ.	1.5 Typ.	6.00	4.0	150.0	1	2.50
858-7592	2N6059	12.0	100	750/18K	6.00	1.6 Typ.	1.5 Typ.	6.00	4.0	150.0	1	3.17
858-1136	2N6283	20.0	80	750/18K	10.00	2.5 Typ.	2.5 Typ.	10.00	4.0	160.0	1	3.49
858-7613	2N6284	20.0	100	750/18K	10.00	2.5 Typ.	2.5 Typ.	10.00	4.0	160.0	1	3.69
858-9973	2N6308	8.0	350	12/60	3.00	1.6	0.4	5.00	5.0	125.0	1	3.69
858-1162	2N6547	15.0	400	6/30	10.00	4.0	0.7	10.00	6-24	175.0	1	5.40
858-1163	2N6578	15.0	120	2K/20K	4.00	2.0	7.0	10.00	10-200	120.0	1	1.55
858-4010	MJ1000	8.0	60	1K Min.	3.00	—	—	—	—	90.0	1	1.49
858-7823	MJ10000	20.0	350	40/400	10.00	3.0	1.8	10.00	10.0	175.0	1	5.94
858-7826	MJ10009	20.0	500	30/300	10.00	2.0	0.6	10.00	8.0	175.0	1	10.33
858-9975	MJ1001	8.0	80	1K Min.	3.00	—	—	—	—	90.0	1	1.76
858-7830	Mj10016	50.0	500	10 Min.	40.00	2.5	1.0	20.00	—	250.0	1	22.75
858-7831	MJ10020	60.0	200	75 Min.	15.00	3.5	0.5	30.00	—	250.0	1	11.70
858-7834	MJ11016	30.0	120	1K Min.	20.00	—	—	—	4.0	200.0	1	6.68
858-4087	MJ11032	50.0	120	400 Min.	50.00	—	—	—	—	300.0	1	7.20
858-7839	MJ12004	5.0	1500	2.5 Min.	4.50	—	1.0	4.50	4.0	100.0	1	4.19
858-4008	MJ15015	15.0	120	20/70	4.00	—	—	—	1.0	180.0	1	1.83

PNP-Metal TO-204AA

Stock No.	Mfr.'s Type	I_c Cont Amps Max.	$V_{ceo(sus)}$ Volts Min	h_{FE} Min./Max.	@ I_c Amp	Resistive Switching t_s μs Max.	Resistive Switching t_f μs Max.	Resistive Switching @ I_c Amp	f_T MHz Min.	P_D (Case) Watts @ 25°C	Case Style	EACH
858-7432	2N3791	10.0	60	30 Min.	3.00	0.3 Typ.	0.4 Typ.	5.00	4.0	150.0	1	1.41
858-1045	2N3792	10.0	80	30 Min.	3.00	0.3 Typ.	0.4 Typ.	5.00	4.0	150.0	1	1.49
858-7483	2N4399	30.0	60	15/60	15.00	2.0	1.0	10.00	2.0	200.0	1	4.05
858-7554	2N5684	50.0	80	15/60	25.00	0.5 Typ.	0.3 Typ.	25.00	2.0	300.0	1	8.28
858-1906	2N5884	25.0	80	20/100	10.00	1.0	0.8	10.00	4.0	200.0	1	2.88
858-1051	2N6030	16.0	120	20/80	8.00	1.2 Typ.	1.2 Typ.	8.00	1.0	200.0	1	5.00
858-1086	2N6286	20.0	80	750/18K	10.00	2.5 Typ.	2.5 Typ.	10.00	4.0	160.0	1	3.89
858-1137	2N6287	20.0	100	750/18K	10.00	2.5 Typ.	2.5 Typ.	10.00	4.0	160.0	1	4.23
858-7833	MJ11015	30.0	120	1K Min.	20.00	—	—	—	4.0	200.0	1	7.56
858-7838	MJ11033	50.0	120	400 Min.	50.0	—	—	—	—	300.0	1	7.74
858-4023	MJ2955	15.0	60	20/70	4.00	0.7 Typ.	0.3 Typ.	4.00	2.5	115.0	1	1.06

NPN-Metal TO-213AA (Formerly TO-66) Types

Stock No.	Mfr.'s Type	I_c Cont Amps Max.	$V_{ceo(sus)}$ Volts Min	h_{FE} Min./Max.	@ I_c Amp	Resistive Switching t_s μs Max.	Resistive Switching t_f μs Max.	Resistive Switching @ I_c Amp	f_T MHz Min.	P_D (Case) Watts @ 25°C	Case Style	EACH
858-2030	2N3054	4.0	60	25/100	0.50	1.0 Typ.	0.3 Typ.	0.50	3.0	75.0	80	2.43
858-7422	2N3739	1.0	300	40/200	0.10	3.0 Typ.	0.3 Typ.	0.10	10.0	20.0	80	2.78
858-7473	2N4240	2.0	300	30/150	0.75	6.0	3.0	0.75	15.0	35.0	80	2.60
858-1903	2N6235	5.0	325	25/125	1.00	3.5	0.5	1.00	20.0	50.0	80	8.27

PNP-Metal TO-213AA (Formerly TO-126) Types

Stock No.	Mfr.'s Type	I_c Cont Amps Max.	$V_{ceo(sus)}$ Volts Min	h_{FE} Min./Max.	@ I_c Amp	Resistive Switching t_s μs Max.	Resistive Switching t_f μs Max.	Resistive Switching @ I_c Amp	f_T MHz Min.	P_D (Case) Watts @ 25°C	Case Style	EACH
858-7423	2N3740	4.0	60	30/100	0.25	1.3 Typ.	0.27 Typ.	0.25	4.0	25.0	80	2.33

NPN-Plastic TO-213AA (Formerly TO-126) Types

Stock No.	Mfr.'s Type	I_c Cont Amps Max.	$V_{ceo(sus)}$ Volts Min	h_{FE} Min./Max.	@ I_c Amp	Resistive Switching t_s μs Max.	Resistive Switching t_f μs Max.	Resistive Switching @ I_c Amp	f_T MHz Min.	P_D (Case) Watts @ 25°C	Case Style	EACH
858-7506	2N4921	1.0	40	20/100	0.50	0.6 Typ.	0.3 Typ.	0.50	3.0	30.0	80	1.05
858-7507	2N4922	1.0	60	20/100	0.50	0.6 Typ.	0.3 Typ.	0.50	3.0	30.0	80	1.23
858-7508	2N4923	1.0	80	20/100	0.50	0.6 Typ.	0.3 Typ.	0.50	3.0	30.0	80	1.42
858-7527	2N5190	4.0	40	25/100	1.50	0.4 Typ.	0.4 Typ.	1.50	2.0	40.0	80	1.04
858-1085	2N5191	4.0	60	25/100	1.50	0.4 Typ.	0.4 Typ.	1.50	2.0	40.0	80	1.22
858-1910	2N5192	4.0	80	25/100	1.50	0.4 Typ.	0.4 Typ.	1.50	2.0	40.0	80	1.42
858-7577	2N6037	4.0	40	750/18K	2.00	1.7 Typ.	1.2 Typ.	2.00	25.0	40.0	80	0.65
858-4006	MJE13002	1.5	300	5/25	1.00	4.0	0.7	1.00	5.0	40.0	80	0.72
858-4089	MJE13003	1.5	300	5/25	1.00	4.0	0.7	1.00	5.0	40.0	80	0.81
858-4082	MJE180	3.0	40	50/250	0.10	0.6 Typ.	0.12 Typ.	0.10	50.0	12.5	80	0.59
858-4095	MJE181	3.0	60	50/250	0.10	0.6 Typ.	0.12 Typ.	0.10	50.0	12.5	80	0.63
858-4083	MJE182	3.0	80	50/250	0.10	0.6 Typ.	0.12 Typ.	0.10	50.0	12.5	80	0.69
858-4085	MJE200	5.0	25	45/80	2.00	0.13 Typ.	0.035 Typ.	2.00	65.0	15.0	80	0.65
858-4030	MJE243	4.0	100	40/20	0.20	0.7 Typ.	0.08 Typ.	0.20	40.0	15.0	80	1.38
858-4020	MJE340	0.5	300	30/240	0.05	—	—	—	—	20.8	80	0.67
858-4094	MJE3439	0.3	350	40/160	0.02	—	—	—	15.0	15.0	80	0.90
858-4022	MJE800	4.0	60	750 Min.	1.50	—	—	—	1.0	40.0	80	0.80
858-4091	MJE802	4.0	80	750 Min.	1.50	—	—	—	1.0	40.0	80	0.82

Bipolar Power Transistors — continued

PNP-Plastic TO-225AA (Formerly TO-126) Types

Stock No.	Mfr.'s Type	I_c Cont Amps Max.	$V_{ceo(sus)}$ Volts Min	h_{FE} Min./Max.	@ I_c Amp	Resistive Switching t_s μs Max.	Resistive Switching t_f μs Max.	Resistive Switching @ I_c Amp	f_TT MHz Min.	P_D (Case) Watts @ 25°C	Case Style	EACH
858-1909	2N4918	1.0	40	20/100	0.50	0.6 Typ.	0.3 Typ.	0.50	3.0	30.0	77	1.16
858-1039	2N4920	1.0	80	20/100	0.50	0.6 Typ.	0.3 Typ.	0.50	3.0	30.0	77	1.55
858-1914	2N5193	4.0	40	25/100	1.50	0.4 Typ.	0.4 Typ.	1.50	2.0	40.0	77	1.15
858-1904	2N5195	4.0	80	25/100	1.50	0.4 Typ.	0.4 Typ.	1.50	2.0	40.0	77	1.62
858-1908	2N6034	4.0	40	750/18K	2.00	1.7 Typ.	1.2 Typ.	2.00	25.0	40.0	77	0.65
858-4017	MJE171	3.0	60	50/250	0.10	0.6 Typ.	0.12 Typ.	0.10	50.0	12.5	77	0.63
858-4086	MJE210	5.0	25	45/180	2.00	0.13 Typ.	0.035 Typ.	2.00	65.0	15.0	77	0.70
858-4016	MJE350	0.5	300	30/240	0.05	—	—	—	—	20.8	77	1.06
858-4093	MJE371	4.0	40	40 Min.	1.00	—	—	—	—	40.0	77	1.22
858-7864	MJE700	4.0	60	750 Min.	1.50	—	—	—	1.0	40.0	77	0.81

NPN-Plastic TO-225AB (Formerly TO-127) Types

858-4025	MJE3055	—	—	20/70	4.00	—	—	—	2.0	90.0	90	3.24

PNP-Plastic TO-225AB (Formerly TO-127) Types

858-4019	MJE2955	—	—	20/70	4.00	—	—	—	2.0	90.0	90	3.77

NPN-Plastic

858-5007	MPSU01	2.0	30	50 Min.	1.00	—	—	—	50.0	10.0	152	0.85
858-5004	MPSU05	2.0	60	60 Min.	0.25	—	—	—	50.0	10.0	152	0.85
858-5006	MPSU06	2.0	80	60 Min.	0.25	—	—	—	50.0	10.0	152	0.93
858-5039	MPSU10	0.5	300	30 Min.	0.03	—	—	—	60.0	10.0	152	1.04
858-5005	MPSU45	2.0	—	4K Min.	1.00	—	—	—	100.0	10.0	152	1.06

PNP-Plastic

858-8017	MPSU51	2.0	30	50 Min.	1.00	—	—	—	50.0	10.0	152	0.88
858-5002	MPSU55	2.0	60	60 Min.	0.25	—	—	—	50.0	10.0	152	0.85
858-4044	MPSU56	2.0	80	60 Min.	0.25	—	—	—	50.0	10.0	152	0.93
858-5022	MPSU60	0.5	300	30 Min.	0.03	—	—	—	60.0	10.0	152	1.94
858-5009	MPSU95	2.0	—	4K Min.	1.00	—	—	—	100.0	10.0	152	1.38

NPN-Plastic TO-218AC Types

858-6712	TIP140	10.0	60	500 Min.	10.00	2.5 Typ.	2.5 Typ.	5.0	4.0	125.0	340	1.49
858-9986	TIP33C	10.0	100	20 Min.	3.00	—	—	—	3.0	80.0	340	1.19
858-4073	TIP35	25.0	40	10/75	15.00	0.6 Typ.	0.3 Typ.	10.0	3.0	125.0	340	1.98

PNP-Plastic TO-218AC Types

858-6699	TIP145	10.0	60	500 Min.	10.00	2.5 Typ.	2.5 Typ.	5.0	4.0	125.0	340	1.53
858-4060	TIP146	10.0	80	500 Min.	10.00	2.5 Typ.	2.5 Typ.	5.0	4.0	125.0	340	1.57

NPN-Plastic TO-220AB Types

858-1025	2N6043	8.0	60	1K/10K	4.00	1.5 Typ.	1.5 Typ.	3.0	4.0	75	221	0.59
858-1916	2N6045	8.0	100	1K/10K	3.00	1.5 Typ.	1.5 Typ.	3.0	4.0	75	221	0.67
858-1138	2N6292	7.0	70	30/150	3.00	0.4 Typ.	0.15 Typ.	3.0	4.0	40	221	0.73
858-1917	2N6386	8.0	40	1K/20K	3.00	—	—	—	20.0	65	221	0.63
858-7364	2N6387	10.0	60	1K/20K	5.00	2.0 Typ.	0.5 Typ.	10.0	20.0	65	221	0.72
858-4090	MJE13004	4.0	300	6/30	3.00	3.0	0.7	3.0	4.0	60	221	1.04
858-7890	MJE13005	4.0	400	6/30	3.00	3.0	0.7	3.0	4.0	60	221	1.08
858-4313	MJE13006	8.0	300	5/30	5.00	3.0	0.7	5.0	4.0	80	221	1.44
858-4088	MJE13007	8.0	400	5/30	5.00	3.0	0.7	5.0	4.0	80	221	1.53
858-7896	MJE15030	8.0	150	20 Min.	4.00	—	—	—	30.0	50	221	1.57
858-7884	MJE5742	8.0	400	200 Min.	4.00	8.0 Typ.	2.0 Typ.	6.0	—	80	221	1.82
858-9978	MJE8503	5.0	800	7.5 Min.	1.00	4.0	2.0	2.5	—	80	221	3.39
858-6708	TIP100	8.0	60	1K/20K	3.00	1.5 Typ.	1.5 Typ.	3.0	4.0	80	221	0.54
858-6696	TIP102	8.0	100	1K/20K	3.00	1.5 Typ.	1.5 Typ.	3.0	4.0	80	221	0.56
858-6704	TIP110	2.0	60	500 Min.	2.00	1.7 Typ.	1.3 Typ.	2.0	25.0	50	221	0.47
858-6710	TIP112	2.0	100	500 Min.	2.00	1.7 Typ.	1.3 Typ.	2.0	25.0	50	221	0.51
858-6707	TIP120	5.0	60	1K Min.	3.00	1.5 Typ.	1.5 Typ.	3.0	4.0	65	221	0.45
858-6703	TIP121	5.0	80	1K Min.	3.00	1.5 Typ.	1.5 Typ.	3.0	4.0	65	221	0.47
858-8020	TIP122	5.0	100	1K Min.	3.00	1.5 Typ.	1.5 Typ.	4.0	4.0	75	221	0.48
858-4074	TIP29	1.0	40	15/75	1.00	0.6 Typ.	0.3 Typ.	1.0	3.0	30	221	0.36
858-4065	TIP29C	1.0	100	15/75	1.00	0.6 Typ.	0.3 Typ.	1.0	3.0	30	221	0.42
858-9984	TIP31	3.0	40	25 Min.	1.00	0.6 Typ.	0.3 Typ.	1.0	3.0	40	221	0.38
858-6706	TIP31A	3.0	60	25 Min.	1.00	0.6 Typ.	0.3 Typ.	1.0	3.0	40	221	0.38
858-2052	TIP31C	3.0	100	25 Min.	1.00	0.6 Typ.	0.3 Typ.	1.0	3.0	40	221	0.38
858-2048	TIP41C	6.0	100	15/75	3.00	0.4 Typ.	0.15 Typ.	3.0	3.0	65	221	0.71
858-6705	TIP47	1.0	250	30/150	0.30	2.0 Typ.	0.18 Typ.	0.3	10.0	40	221	0.59
858-2055	TIP50	1.0	400	30/150	0.30	2.0 Typ.	0.18 Typ.	0.3	10.0	40	221	0.72

General Purpose Transistors

NPN — Metal Package

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	f_T MHz Min.	@	I_C mA	I_C mA Max.	h_{FE} Min.	h_{FE} Max.	@ I_C mA	Case Style	EACH
858-7350	2N1711	80	70		50	—	100	300	150	79	0.52
858-1920	2N2218	30	250		20	800	40	120	150	79	2.08
858-7355	2N2218A	40	250		20	800	40	120	150	79	0.54
858-1013	2N2219	30	250		20	800	100	300	150	79	0.39
858-1003	2N2219A	40	300		20	800	100	300	150	79	0.40
858-1004	2N2222	30	250		20	800	100	300	150	22	0.29
858-1005	2N2222A	40	300		20	800	100	300	150	22	0.30
858-1015	2N2270	45	100		50	1000	50	200	150	79	0.56
858-1019	2N3019	80	100		50	1000	100	300	150	79	0.64
858-7387	2N3053	40	100		50	700	50	250	150	79	0.41
858-1927	2N3302	30	250		50	500	100	300	150	22	1.26
858-1052	2N3947	40	300		10	200	100	300	10	22	0.52
858-1027	2N697	40	50		50	—	40	120	150	79	1.04
858-1977	2N956	50	70		50	—	40	120	150	22	2.20

NPN — Metal Package

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	f_T MHz Min.	@	I_C mA	I_C mA Max.	h_{FE} Min.	h_{FE} Max.	@ I_C mA	Case Style	EACH
858-7373	2N2904A	60	200		50	600	40	120	150	79	0.48
858-1011	2N2905	40	200		50	600	100	300	150	79	0.39
858-1012	2N2905A	60	200		50	600	100	300	150	79	0.40
858-1028	2N2906	40	200		50	600	40	120	150	22	0.32
858-1014	2N2907	40	200		50	600	100	300	150	22	0.29
858-1057	2N2907A	60	200		50	600	100	300	150	22	0.30
858-1029	2N3250	40	250		10	200	50	150	10	22	0.76
858-1032	2N3251	40	300		10	200	100	300	10	22	0.36
858-7451	2N4036	65	60		50	1000	40	140	150	79	0.74
858-7452	2N4037	65	60		50	1000	40	—	150	79	0.66

Small Signal Bipolar Transistors

NPN — Plastic TO-226AA, Style 1, P_D @ T_A = 25°C = 625 MW

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	f_T MHz Min.	@	I_C mA	I_C mA Max.	h_{FE} Min.	h_{FE} Max.	@ I_C mA	Case Style	EACH
858-1932	2N3903	40	250		10	200	50	150	100	29	0.08
858-8253	2N3904	40	300		10	200	100	300	10	29	0.06
858-4124	2N4124	25	170		10	200	120	480	200	29	0.08
858-1945	2N4400	40	200		20	600	50	150	150	29	0.09
858-1946	2N4401	40	250		20	600	100	300	150	29	0.09
858-5010	MPS2222	30	250		20	600	100	300	150	29	0.09
858-4151	MPS4123	30	100/150		10	200	50	200	200	29	0.05
858-4152	MPS4124	25	170		10	200	120	480	200	29	0.05
858-5001	MPS5172	25	120		5	100	100	500	10	29	0.07
858-4168	MPS6515	25	480		10	100	250	500	2	29	0.18
858-5029	MPS6531	40	390		50	600	90	270	100	29	0.16
858-4176	MPS6601	25	100		50	1000	30	150	1000	29	0.22
858-4186	MPS8098	60	150		10	200	100	300	1	29	0.22
858-5051	MPSA05	60	100		10	500	50	—	100	29	0.10
858-5016	MPSA06	80	100		10	500	50	—	100	29	0.11
858-5017	MPSA20	40	125		5	100	40	400	5	29	0.07

PNP Plastic TO-226AA, Style 1, PD @ TA = 25°C = 625 MW

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	f_T MHz Min.	@	I_C mA	I_C mA Max.	h_{FE} Min.	h_{FE} Max.	@ I_C mA	Case Style	EACH
858-1933	2N3905	40	250		10	200	50	150	100	29	0.08
858-8252	2N3906	40	30		10	200	100	300	10	29	0.06
858-1938	2N4125	30	250		10	200	120	150	2	29	0.08
858-8134	2N4126	25	300		10	200	120	360	2	29	0.08
858-1947	2N4402	40	200		20	600	50	150	150	29	0.09
858-1948	2N4403	40	250		20	600	100	300	150	29	0.09
858-4135	MPS2907	30	250		20	600	100	300	150	29	0.09
858-4153	MPS4125	30	100/150		10	200	50	200	200	29	0.10
858-4154	MPS4126	25	170		10	200	120	480	200	29	0.05
858-4170	MPS6518	25	480		10	100	150	300	2	29	0.36
858-4171	MPS6519	25	480		10	100	250	500	2	29	0.30
858-4173	MPS6534	40	390		50	600	90	270	100	29	0.34
858-4189	MPS8599	80	150		10	200	100	300	1	29	0.21
858-5023	MPSA55	60	100		10	500	50	—	100	29	0.12
858-4164	MPSA56	80	100		10	500	50	—	100	29	0.10
858-4183	MPSA70	40	125		5	1000	40	400	5	29	0.07

PNP — Plastic TO-220AB

Stock No.	Mfr.'s Type	I_C Cont Amps Max.	$V_{CEO(SUS)}$ Volts Min	h_{FE} Min./Max.	@ I_C Amp	Resistive Switching t_s µs Max.	Resistive Switching t_f µs Max.	Resistive Switching @ I_C Amp	f_T MHz Min.	P_C (Case) Watts @ 25°C	Case Style	EACH
858-7581	2N6041	8	80	1K/10K	4.0	1.5 Typ.	1.50 Typ.	3.0	4.0	75	221A	0.68
858-1106	2N6042	8	100	1K/10K	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0	75	221A	0.72
858-1912	2N6107	7	70	30/150	3.0	0.4 Typ.	0.15 Typ.	3.0	4.0	40	221A	0.78
858-7601	2N6109	7	50	30/150	2.5	0.4 Typ.	0.15 Typ.	3.0	4.0	40	221A	0.78
858-1127	2N6124	4	45	25/100	1.5	0.4 Typ.	0.30 Typ.	1.5	2.5	40	221A	0.74
858-1164	2N6667	10	60	1K/20K	5.0	2.0 Typ.	0.50 Typ.	10.0	20.0	65	221A	1.26
858-4026	MJE15031	8	150	20 Min.	4.0	—	—	—	30.0	50	221A	1.80
858-6701	TIP105	8	60	1K/20K	3.0	1.5 Typ.	1.50 Typ.	3.0	4.0	80	221A	0.54
858-6709	TIP115	2	60	500 Min.	2.0	1.7 Typ.	1.30 Typ.	2.0	25.0	50	221A	0.49
858-6700	TIP117	2	100	500 Min.	2.0	1.7 Typ.	1.30 Typ.	2.0	25.0	50	221A	0.51
858-6695	TIP127	5	100	1K Min.	3.0	1.5 Typ.	1.50 Typ.	4.0	4.0	75	221A	0.52
858-6713	TIP30	1	40	15/75	1.0	0.3 Typ.	0.30 Typ.	1.0	3.0	30	221A	0.36
858-4075	TIP30A	1	60	15/75	1.0	0.3 Typ.	0.30 Typ.	1.0	3.0	30	221A	0.38
858-4076	TIP32	3	40	25 Min.	1.0	0.3 Typ.	0.30 Typ.	1.0	3.0	40	221A	0.38
858-6711	TIP32A	3	60	25 Min.	1.0	0.3 Typ.	0.30 Typ.	1.0	3.0	40	221A	0.38
858-4070	TIP32C	3	100	25 Min.	1.0	0.6 Typ.	0.30 Typ.	1.0	3.0	40	221A	0.38
858-4072	TIP42	6	40	15/75	3.0	0.4 Typ.	0.15 Typ.	3.0	3.0	65	221A	0.68

Darlington Transistors

NPN/PNP* Plastic TO—226AA, P_D @ T_A = 25°C = 625mW

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	h_{FE} Min.	@ I_C mA	I_C mA Max.	f_T MHz Min.	@ I_C mA	$V_{CE(sat)}$ Volts Max.	@ I_C mA	I_B mA	Case Style	EACH
858-1971	2N6426	40	30K	100	500	150	10	1.50	500	0.50	29	0.30
858-1972	2N6427	40	20K	100	500	130	10	1.50	500	0.50	29	0.34
858-5031	MPSA12	20	20K	10	300	—	—	1.00	10	0.01	29	0.22
858-5036	MPSA13	30	10K	100	300	125	10	1.50	100	0.10	29	0.14
858-5003	MPSA14	30	20K	100	300	125	10	1.50	100	0.10	29	0.16
858-4133	MPSA25	40	10K	100	500	125	10	1.50	100	0.10	29	0.50
858-4134	MPSA29	100	10K	100	500	125	10	2.00	100	0.10	29	0.48
858-4166	MPSA63*	30	10K	100	300	125	10	1.50	100	0.10	29	0.15
858-4184	MPSA75*	40	10K	100	300	125	10	1.50	100	0.10	29	0.50

High Voltage Transistors

NPN/PNP*, Plastic TO-226AA Types, P_D @ T_A = 25°C = 625mW

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	I_C mA Max.	h_{FE} Min.	@ I_C mA	$V_{CE(sat)}$ Volts Max.	I_C mA	& I_B mA	f_T MHz Min.	@ I_C mA	Case Style	EACH
858-1963	2N5400*	120	600	40	10	0.50	50	0.50	100	10	29	0.19
858-1042	2N5401*	150	600	60	10	0.50	50	0.50	100	10	29	0.19
858-1965	2N5550	140	600	60	10	0.15	10	1.00	100	10	29	0.19
858-1069	2N5551	160	600	80	10	0.15	10	1.00	100	10	29	0.28
858-1973	2N6517	350	500	30	30	0.30	10	1.00	40	10	29	0.32
858-7646	2N6520*	350	500	30	30	0.30	10	1.00	40	10	29	0.46
858-5032	MPSA42	300	500	40	10	0.50	20	2.00	50	10	29	0.19
858-4158	MPSA43	200	500	40	10	0.40	20	2.00	50	10	29	0.24
858-5037	MPSA92*	300	500	40	10	0.80	20	2.00	50	10	29	0.22
858-4191	MPSA93*	200	500	40	10	0.70	20	2.00	50	10	29	0.30

High-Speed Saturated Switching Transistors

NPN-TO-226AA, Style 1, P_D @ T_A = 25°C = 625 mW

Devices are listed in order of decreasing turn-on time (t_{on}).

Stock No.	Device	t_{on} ns Max.	& t_{off} ns Max.	@ I_C mA	$V_{(BR)CEO}$ Volts Min.	h_{FE} Min.	@ I_C mA	$V_{CE(sat)}$ Volts Max.	@ I_C mA	& I_B mA	f_T MHz Min.	@ I_C mA	Case Style	EACH
858-4145	MPS3646	18	28	300	15	30	30	0.20	30	3	350	30	29	0.20
858-4132	MPS2369	12	18	10	15	40	10	0.25	10	1	500	10	29	0.20

PNP-TO-226AA, Style 1, P_D @ T_A = 25°C = 625 mW

Stock No.	Device	t_{on} ns Max.	& t_{off} ns Max.	@ I_C mA	$V_{(BR)CEO}$ Volts Min.	h_{FE} Min.	@ I_C mA	$V_{CE(sat)}$ Volts Max.	@ I_C mA	& I_B mA	f_T MHz Min.	@ I_C mA	Case Style	EACH
858-4144	MPS3640	25	35	50	12	30	10	0.20	10	1	500	10	29	0.22
858-1969	2N5771	15	20	10	15	50	10	0.18	10	1	850	10	29	0.26

NPN/PNP* High Gain, Low Noise Transistors

Stock No.	Mfr.'s Type	NF Wideband Typ.* Max. dB	$V_{(BR)CEO}$ Volts Min.	I_C mA Max.	h_{FE} Min.	h_{FE} Max.	I_C μA	f_T MHz Min.	@ I_C mA	Case Style	EACH
858-1022	2N2484	8.0	60	50	100	500	10	15	0.05	22	0.36
858-1930	2N3799*	2.5	60	50	300	900	500	30	0.50	22	0.60

NPN/PNP* High-Voltage/High-Current Transistors (Metal Package)

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Volts Min.	I_C mA Max.	h_{FE} Min.	@ I_C mA	$V_{CE(sat)}$ Volts Max.	@ I_C mA	& I_B mA	f_T MHz Min.	@ I_C mA	Case Style	EACH
858-7398	2N3439	350	1000	40	20	0.5	50	4.0	15.0	10	79	0.86
858-7400	2N3440	250	1000	40	20	0.5	50	4.0	15.0	10	79	0.78
858-1935	2N3501	150	300	100	150	0.4	150	15.0	150.0	20	79	1.80
858-1939	2N4234*	80	3K	30	250	0.6	1K	125.0	3.0	100	79	1.20
858-1060	2N4236*	40	3K	30	250	0.6	1K	125.0	3.0	100	79	1.60
858-1940	2N4237	40	3K	30	250	0.3	500	50.0	2.0	100	79	2.20
858-1090	2N5416*	300	1K	30	50	2.5	50	5.0	15.0	10	79	0.98
858-1101	2N5680*	120	1K	40	250	0.6	250	25.0	30.0	100	79	1.36
858-1049	2N5681	100	1K	40	250	0.6	250	25.0	30.0	100	79	1.20

NPN Switching Transistors (Metal)

Stock No.	Mfr.'s Type	t_{on} ns Max.	& t_{off} ns Max.	@ I_C mA	$V_{(BR)CEO}$ Volts Min.	I_C mA Max.	h_{FE} Min.	@ I_C mA	$V_{CE(sat)}$ Volts Max.	@ I_C mA	@ I_B mA	f_T MHz Min.	@ I_C mA	Case Style	EACH
858-8218	2N2369	12	18	100	15	500	20	100	0.25	10	1.0	500	10	22	0.29
858-1006	2N2369A	12	18	10	15	200	40	10	0.20	10	1.0	500	10	22	0.30
858-1923	2N3227	12	18	100	20	50	30	100	0.25	10	1.0	500	10	22	2.88
858-1037	2N3724	35	60	500	50	2K	35	500	0.42	500	50.0	300	50	79	0.58

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N-Channel JFETs: Plastic TO-226AA Case (High Freq.)

Stock No.	Mfr.'s Type	Y_{fs}		Y_{os}		C_{iss} pF	C_{rss} pF	NF		$V_{(BR)GSS}$ V	$V_{GS(off)}$ V		I_{DSS} mA		Case Style	EACH
		mmho Min.	@f MHz	μmho Max.	@f MHz	Max.	Max.	dB Max.	@ RG = 1K f MHz	Min.	Min.	Max.	Min.	Max.		
858-1931	2N3819	1.6	100	—	—	—	4	—	8	25	—	8	2	20	29	0.48
858-1089	2N5245	4.0	400	100	400	4.5	1	4	400	30	1.0	6	5	15	29	1.00
858-1044	2N5484	2.5	100	75	100	5.0	1	3	100	25	0.3	3	1	5	29	0.34
858-1096	2N5485	3.0	400	100	400	5.0	1	4	400	25	5.0	4	4	10	29	0.36
858-1097	2N5486	3.5	400	100	400	5.0	1	4	400	25	2.0	6	8	20	29	0.36

N/P* — Channel JFETs: Plastic TO-226AA Case (Low Freq./Low Noise)

Stock No.	Mfr.'s Type	Y_{fs}		Y_{os}		C_{iss} pF	C_{rss} pF	NF		$V_{(BR)GSS}$ V	$V_{GS(off)}$ V		I_{DSS} mA		Case Style	EACH
		mmho Min.	@f MHz	μmho Max.	@f MHz	Max.	Max.	dB Max.	@ RG = 1K f MHz	Min.	Min.	Max.	Min.	Max.		
858-1943	2N4360*	2.0	—	100	—	20	5	—	—	20	0.40	9.0	3	30	29	0.72
858-1030	2N5457	1.0	—	50	—	7	3	—	—	25	0.50	6.0	1	5	29	0.34
858-1067	2N5458	1.5	—	50	—	7	3	—	—	25	1.00	7.0	2	9	29	0.34
858-1964	2N5459	2.0	—	50	—	7	3	—	—	25	2.00	8.0	4	16	29	0.40
858-1021	2N5460*	1.0	—	75	—	7	2	—	—	40	0.75	6.0	1	5	29	0.48
858-1093	2N5461*	1.5	—	75	—	7	2	—	—	40	1.00	7.5	2	9	29	0.44

N-Channel JFETs, Metal TO-206AA Case

Stock No.	Mfr.'s Type	$I_{DS(on)}$ Ω Max.	$V_{GS(off)}$ V		I_{DSS} mA		$V_{(BR)GSS}$ V Min.	C_{iss} pF Max.	C_{rss} pF Max.	t_{on} ns Max.	t_{off} ns Max.	Case Style	EACH
			Min.	Max.	Min.	Max.							
858-1934	2N3972	100	0.5	3	5	30	40	25	6.0	80	100	22	1.80
858-1944	2N4391	30	4.0	10	50	150	40	14	3.5	15	20	22	0.80
858-1065	2N4392	60	2.0	5	25	75	40	14	3.5	15	35	22	0.80
858-1066	2N4393	100	0.5	3	5	30	40	14	3.5	15	50	22	0.84
858-1950	2N4856	25	4.0	10	50	—	40	10	8.0	9	25	22	0.90
858-1062	2N4857	40	2.0	6	20	100	40	18	8.0	10	50	22	1.80
858-1076	2N4861	60	0.8	4	8	80	30	18	8.0	20	100	22	0.72

HF Bipolar Power Transistors

1.5-30 MHz, HF/SSB Transistor

Designed for broadband operation, this device features specified Intermodulation Distortion at rated power output. Applications include mobile, marine, fixed station, and amateur HF/SSB equipment, operating from 12.5, 13.6, 28 or 50 volt supplies.

Stock No.	Mfr.'s Type	P_{out} Output Power Watts	P_{in} Input Power Watts	G_{PE} Power Gain dB Min.	V_{CC} Supply Voltage Volts	Case Style	EACH
858-4272	MRF433	12.5 PEP CW	0.125	20.0	12.5	211-07	12.07

14-30 MHz, CB/Amateur Transistor

This HF transistor is designed for economical, high-volume use in CW, AM and SSB applications.

858-8062	MRF454	80.0	5.000	12.0	12.5	211-11	20.12

30-200 MHz VHF AM/FM Transistors

Designed for Military Radio and Commercial Aircraft VHF bands.

858-1033	2N3866	1.0	0.100	10.0	28.0	382	1.04
858-1993	2N3553	2.5	0.250	10.0	28.0	79	1.55

136-174 MHz, High-Band/VHF FM Transistors

The "workhorse" VHF FM High-Band is served by Motorola with the broadest range of devices and package combinations in the industry.

858-2001	2N4427	1.0	0.100	10.0	12.0	79	1.15
858-4257	MRF237	4.0	0.250	12.0	12.5	79	3.15
858-1186	2N6083	30.0	8.100	5.7	12.5	145A-09	16.00
858-1187	2N6084	40.0	14.300	4.5	12.5	145A-09	16.70
858-4258	MRF247	75.0	15.000	7.0	12.5	316	31.00

225 MHz, Amateur FM Transistor

Specifically designed and characterized for the 225-MHz band, this device eliminates the guesswork required when adapting 175 MHz characterized devices to this application.

858-4256	MRF227	3.0	0.1300	13.5	12.5	79	3.45

UHF Bipolar Power Transistors

100-400 MHz, AM Transistor

Stock No.	Mfr.'s Type	P_{out} Output Power Watts	P_{in} Input Power Watts	G_{PE} Power Gain dB Min.	V_{CC} Supply Voltage Volts	Case Style	EACH
858-7526	2N5160†	1.0	0.160	8.0	28.0	79	3.45

407-960 MHz, UHF FM Transistors

Stock No.	Mfr.'s Type	P_{out} Output Power Watts	P_{in} Input Power Watts	G_{PE} Power Gain dB Min.	V_{CC} Supply Voltage Volts	Case Style	EACH
858-4288	MRF559	0.5	0.025	13.0	12.5	317	1.76
858-4290	MRF581	0.6	0.023	14.0	12.5	317	1.91
858-4294	MRF629	2.0	0.320	8.0	12.5	79	3.45
858-1184	2N5944	2.0	0.250	9.0	12.5	244	10.35

SCRs

Stock No.	Mfr.'s Type	$V_{DRM}/V_{RRM(V)}$ (V)	On-State Current (RMS) (Amps)	I_{TSM} @ 60 Hz (Amps)	I_{GT} (mA)	V_{GT} (V)	Case Style	EACH
858-1007	2N1595	50	1.6	15.0	10.0	3.0	79	1.58
858-1020	2N2324	100	1.6	15.0	0.2	0.8	79	2.94
858-1054	2N4172	400	8.0	100.0	30.0	1.5	86	11.76
858-1058	1N4190	600	8.0	100.0	30.0	1.5	87	14.20
858-1132	2N6238	100	4.0	25.0	0.2	1.0	77	0.52
858-1133	2N6239	200	4.0	25.0	0.2	1.0	77	0.54
858-1135	2N6241	600	4.0	25.0	0.2	1.0	77	0.72
858-1149	2N6395	100	12.0	100.0	30.0	1.5	221A	0.83
858-1150	2N6396	200	12.0	100.0	30.0	1.5	221A	0.86
858-7635	2N6397	400	12.0	100.0	30.0	1.5	221A	0.88
858-1153	2N6402	200	16.0	160.0	30.0	1.5	221A	1.15
858-1154	2N6403	400	16.0	160.0	30.0	1.5	221A	1.20
858-1157	2N6504	50	25.0	300.0	40.0	1.5	221A	1.16
858-1159	2N6507	400	25.0	300.0	40.0	1.5	221A	1.35
858-1165	2N682	50	25.0	150.0	40.0	2.0	263	6.70
858-7328	2N683	100	25.0	150.0	40.0	2.0	263	6.76
858-7336	2N692	800	25.0	150.0	40.0	2.0	263	7.22
858-2061	C106B	200	4.0	20.0	0.2	0.8	77	0.38
858-2057	C106D	400	4.0	20.0	0.2	0.8	77	0.38
858-2058	C122D1	400	8.0	90.0	25.0	1.5	221A	0.62
858-2060	C122F1	50	8.0	90.0	25.0	1.5	221A	0.59

TRIACS

Stock No.	Mfr.'s Type	V_{DRM} (V)	On-State Current (RMS) (Amps)	I_{MS} (Amps)	I_{GT} @ 25°C (mA) MTS (+) G (+)/ MT2 (−) B (−)	MT2 (+) G (−)/ MT2 (−) G (+)	V_{GT} @ 25°C MT2 (+) G (+)/ MT2 (−) G (−)	MT2 (+) G (−)/ MT2 (−) G (+)	Case Style	EACH
858-1091	2N5444	200	40.0	300	70/70	70/100	2.0/2.0	2.0/2.5	263	5.45
858-1113	2N6070B	100	4.0	30	3/3	3/5	2.5/2.5	2.5/2.5	77	0.68
858-1114	2N6071	200	4.0	30	30/30	—	2.5/2.5	—	77	0.48
858-1115	2N6071B	200	4.0	30	3/3	3/5	2.5/2.5	2.5/2.5	77	0.69
858-1117	2N6073	400	4.0	30	30/30	—	2.5/2.5	—	77	0.50
858-1118	2N6073A	400	4.0	30	5/5	5/10	2.5/2.5	2.5/2.5	77	0.61
858-1119	2N6073B	400	3.0	30	3/3	3/5	2.5/2.5	2.5/2.5	77	0.72
858-7629	2N6343	400	8.0	100	50/50	75/75	2.0/2.5	2.5/2.5	221A	1.47
858-1140	2N6343A	400	12.0	120	50/50	—	2.0/2.0	—	221A	1.55
858-1141	2N6344A	600	12.0	120	50/50	—	2.0/2.0	—	221A	1.63
858-1142	2N6346	200	8.0	100	50/50	75/75	2.0/2.5	2.5/2.5	221A	1.30
858-1144	2N6347A	400	12.0	120	50/50	75/75	2.0/2.0	2.5/2.5	221A	1.57
858-1146	2N6348A	600	12.0	120	50/50	75/75	2.0/2.0	2.5/2.5	221A	1.65
858-1147	2N6349A	800	12.0	120	50/50	75/75	2.0/2.0	2.5/2.5	221A	1.56
858-2032	SC141D	400	6.0	80	50/50	50/—	2.5/2.5	2.5/—	221A	0.70
858-4077	T2500D	400	6.0	60	25/25	60/60	2.5/2.5	2.5/2.5	221A	1.30
858-4078	T2500N	800	6.0	60	25/25	60/60	2.5/2.5	2.5/2.5	221A	1.55
858-8120	T2800D	400	8.0	100	25/25	60/60	2.5/2.5	2.5/2.5	221A	0.84
858-8121	T6420D	400	40.0	300	50/50	80/80	2.5/2.5	2.5/2.5	311	6.60
858-4079	T6420M	600	40.0	300	50/50	80/80	2.5/2.5	2.5/2.5	311	7.96

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Schottky Rectifiers

Stock No.	Mfr.'s Type	I_o (Amps)	V_{RRM} (Volts)	I_{FSM} (Amps)	T_C @ I_o (°C)	T_L @ I_o (°C)	T_J (Max.) (°C)	Max. V_F @ $I_{FM} = I_o$	Case Style	EACH
858-0105	1N5817	1	20	25	—	90	125	0.060; T_L = 25°C	59	0.41
858-7309	1N5818	1	30	25	—	90	125	0.060; T_L = 25°C	59	0.44
858-7310	1N5819	1	40	25	—	90	125	0.060; T_L = 25°C	59	0.48
858-0040	1N5821	3	30	80	—	95	125	0.525; T_L = 25°C	267	0.65
858-0037	1N5822	3	40	80	—	95	125	0.525; T_L = 25°C	267	0.68
858-0104	1N5824	5	30	500	—	80	125	0.380; T_C = 25°C	60	5.00
858-2077	MBR1045	10	45	150	135	—	150	0.570; T_C = 125°C	221B	1.80
858-2071	MBR1635	16	35	300	125	—	150	0.570; T_C = 125°C	221B	1.80
858-2073	MBR7545	75	45	1000	90	—	150	0.600; T_C = 125°C	257	7.55

Ultrafast Recovery Rectifiers

Stock No.	Mfr.'s Type	I_o (Amps)	V_{RRM} (Volts)	I_{FSM} (Amps)	T_A @ I_o (°C)	T_C @ I_o (°C)	T_J (Max.) (°C)	t_{rr} (NS)	Case Style	EACH
858-5055	MUR110	1	100	35	50	—	175	25/50/75	59	0.64
858-5054	MUR415	4	150	125	80	—	175	25/50/75	267	0.89
858-5052	MUR820	8	200	100	—	150	175	35/60/100	221B	1.70
858-5060	MUR840	8	400	100	—	150	175	35/60/100	221B	2.10
858-5050	MUR860	8	600	100	—	150	175	35/60/100	221B	2.80

TRIAC Driver Output

Stock No.	Mfr.'s Type	Peak Blocking Voltage Min.	LED Trigger Current-I_{FT} (V_{TM} = 3.0V)	Zero Crossing Inhibit Voltage (at rated I_{FT})	Surge Isolation Voltage VAC PK Min.		dv/dt V/μs Typ.	Case Style	EACH
			mA Max.	Volts Max.	Industry	Motorola			
858-4036	MOC3010	250	15.0	—	—	7500	12	6 Pin DIP	0.60
858-4035	MOC3011	250	10.0	—	—	7500	12	6 Pin DIP	0.63
858-4102	MOC3012	250	5.0	—	—	7500	12	6 Pin DIP	0.64
858-7918	MOC3020	400	30.0	—	—	7500	12	6 Pin DIP	0.70
858-8213	MOC3021	400	15.0	—	—	7500	12	6 Pin DIP	0.77
858-4103	MOC3022	400	10.0	—	—	7500	12	6 Pin DIP	0.74
858-7920	MOC3030	250	30.0	25	—	7500	100	6 Pin DIP	1.45
858-4105	MOC3031	250	15.0	25	—	7500	100	6 Pin DIP	1.90
858-4107	MOC3040	400	30.0	40	—	7500	100	6 Pin DIP	1.29
858-4108	MOC3041	400	15.0	40	—	7500	100	6 Pin DIP	1.07

SCR Output

Stock No.	Mfr.'s Type	Peak Blocking Voltage	LED Trigger Current-I_{FT} (V_{AK} = 50V)	Surge Isolation Voltage VAC PK Min.		dv/dt V/μs Typ.	Case Style	EACH
		Min. Volts	mA Max.	Industry	Motorola			
858-2098	H11C2	200	20	2500	7500	500 Min.	6 Pin DIP	0.94
858-4100	MOC3007	200	40	—	7500	500	6 Pin DIP	0.85

Schmitt Trigger Output

Stock No.	Mfr.'s Type	Threshold Current ON	Threshold Current OFF	$I_{F(OFF)}/I_{F(ON)}$		V_{CC}		t_r, t_f μs Typ.	V_{ISO} VAC PK Min.		Case Style	EACH
		mA Max.	mA Min.	Min.	Max.	Min.	Max.		Industry	Motorola		
858-2105	H11L1	1.6	0.3	0.5	0.9	3.0	15	0.1	3535	7500	6 Pin DIP	1.96
858-4229	MOC5007	1.6	0.3	0.5	0.9	3.0	15	0.1	—	7500	6 Pin DIP	2.60
858-4109	MOC5008	4.0	0.3	0.5	0.9	3.0	15	0.1	—	7500	6 Pin DIP	1.90
858-4230	MOC5009	10.0	0.3	0.5	0.9	3.0	15	0.1	—	7500	6 Pin DIP	1.43

AC Input — Transistor Output

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			V_{ISO} Volts AC Peak		$V_{CE(sat)}$			$V_{(BR)CEO}$ Volts Min.	V_F		Case Style	EACH
		% Min.	@ I_F mA	V_{CE} Volts	Industry	Motorola	Volts Max.	@ I_F mA	I_C mA		Volts Max.	@ I_F mA		
858-2091	H11AA1	20	±10	10	2500	7500	0.4	±10	0.5	30	1.5	±10	6 Pin DIP	0.87

Small-Signal Transistors by Package

In small-signal RF applications, the package style is often determined by the end application, or circuit construction technique. To aid the circuit designer in device selection the Motorola broad range of RF small-signal amplifier transistors are organized by package.

Plastic Macro X/Marqo T Case 317-01/317A-01

Stock No.	Mfr.'s Type	Gain — BW		Noise Figure			Gain		Maximum Ratings			Case Style	EACH
		f_T GHz	I_C mA	NF dB	f MHz	I_C mA	dB Min.	f MHz	$V_{(BR)CEO}$	I_C mA	P_T mW		
858-4302	MFR901	4.5	15	2.0	1000	5.0	10.0	1000	15	30	375	317	1.15
858-4290	MRF581	5.0	75	2.0#	500	50.0	13.0	500	18	200	2500	317	1.91
858-4289	MRF571	8.0	50	2.0	1000	5.0	10.0	1000	10	70	750	317	1.91

TO-72 Metal Can

858-1171	2N4959†	1.0	2	3.8	450	2.0	15.0	450	30	30	200	20	3.45
858-1041	2N5179	1.4	10	4.5	200	1.5	15.0	200	12	50	200	20	0.77
858-1991	2N2857	1.6	8	4.1	450	1.5	12.5	450	15	40	200	20	1.22
858-4303	MRF904	4.0	15	1.5	450	5.0	16.0	450	15	30	200	20	1.85

† PNP

Fast Recovery Rectifiers

Stock No.	Mfr.'s Type	I_o (Amps)	V_{RRM} (Volts)	I_{FSM} (Amps)	T_c @ I_o (°C)	T_L @ I_o (°C)	T_J (Max.) (°C)	t_{rr} (NS)	Case Style	EACH
858-0044	1N4933	1	50	30	75	—	150	0.20	59	0.28
858-0052	1N4934	1	100	30	75	—	150	0.20	59	0.33
858-0054	1N4935	1	200	30	75	—	150	0.20	59	0.38
858-0058	1N4936	1	400	30	75	—	150	0.20	59	0.34
858-0063	1N4937	1	600	30	75	—	150	0.20	59	0.39
858-5011	MR817	1	800	30	75	100	150	0.75	59	0.42
858-5040	MR818	1	1000	30	75	100	150	0.75	59	0.53
858-5035	MR820	5	50	300	55	—	175	0.20	194	0.90
858-5033	MR821	5	100	300	55	—	175	0.20	194	0.99
858-5034	MR824	5	400	300	55	—	175	0.20	194	1.44
858-5026	MR826	5	600	300	55	—	175	0.20	194	1.71
858-5046	MR850	3	50	100	90	—	175	0.20	267	0.55
858-5048	MR851	3	100	100	90	—	175	0.20	267	0.62
858-5044	MR852	3	200	100	90	—	175	0.20	267	0.69
858-5047	MR854	3	400	100	90	—	175	0.20	267	0.84
858-4059	MR856	3	600	100	90	—	175	0.20	267	0.98
858-5024	MR918	3	1000	100	90	—	175	0.75	267	1.62

General Purpose Rectifiers

Stock No.	Mfr.'s Type	I_o (Amps)	V_{RRM} (Volts)	I_{FSM} (Amps)	T_A @ I_o (°C)	T_c @ I_o (°C)	T_J (Max.) (°C)	Case Style	EACH
858-7049	1N1183	40.0	50	800	—	150	190	42	2.20
858-7053	1N1184	40.0	100	800	—	150	190	42	2.50
858-7065	1N1188	40.0	400	800	—	150	190	42	7.40
858-0003	1N3493	30.0	200	300	—	130	175	43	1.53
858-0001	1N3663	30.0	400	400	—	100	175	43	4.14
858-0141	1N4001	1.0	50	30	75	—	175	59	0.07
858-0142	1N4002	1.0	100	30	75	—	175	59	0.08
858-0047	1N4003	1.0	200	30	75	—	175	59	0.08
858-0144	1N4004	1.0	400	30	75	—	175	59	0.09
858-0145	1N4005	1.0	600	30	75	—	175	59	0.10
858-0049	1N4006	1.0	800	30	75	—	175	59	0.11
858-0147	1N4007	1.0	1000	30	75	—	175	59	0.12
858-0021	1N4719	3.0	50	300	75	—	175	60	0.77
858-0023	1N4720	3.0	100	300	75	—	175	60	0.84
858-0099	1N5397	1.5	600	50	T_L = 70	—	175	59	0.46
858-0098	1N5398	1.5	800	50	T_L = 70	—	175	59	0.62
858-0022	1N5399	1.5	1000	50	T_L = 70	—	175	59	0.92
858-0100	1N5400	3.0	50	200	T_L = 105	—	175	267	0.20
858-0101	1N5401	3.0	100	200	T_L = 105	—	175	267	0.22
858-7302	1N5402	3.0	200	200	T_L = 105	—	175	267	0.25
858-0102	1N5404	3.0	400	200	T_L = 105	—	175	267	0.27
858-0025	1N5406	3.0	600	200	T_L = 105	—	175	267	0.29
858-5018	MR2004	20.0	400	400	—	150	175	245	3.96
858-5045	MR500	3.0	50	100	95	—	175	267	0.22
858-5049	MR501	3.0	100	100	95	—	175	267	0.26
858-5038	MR5010	50.0	100	600	—	150	195	43	4.58
858-4050	MR502	3.0	200	100	95	—	175	267	0.30
858-4056	MR504	3.0	400	100	95	—	175	267	0.33
858-5043	MR506	3.0	600	100	95	—	175	267	0.40
858-5030	MR510	3.0	1000	100	95	—	175	267	0.36
858-4045	MR750	6.0	50	400	60	—	175	194	0.45
858-4051	MR751	6.0	100	400	60	—	175	194	0.64
858-4057	MR752	6.0	200	400	60	—	175	194	0.70
858-4046	MR754	6.0	400	400	60	—	175	194	0.81
858-4052	MR756	6.0	600	400	60	—	175	194	1.17
858-8025	MR760	6.0	1000	400	60	—	175	194	1.62

Rectifier Bridges

Stock No.	Mfr.'s Type	I_o (Amps)	V_{RRM} (Volts)	I_{FSM} (Amps)	T_A @ I_o (°C)	T_c @ I_o (°C)	T_J (Max.) (°C)	Case Style	EACH
858-2090	MDA2500	25	50	400	—	55	175	309A	3.20
858-2087	MDA2501	25	100	400	—	55	175	309A	3.40
858-2086	MDA2502	25	200	400	—	55	175	309A	3.60
858-2088	MDA2504	25	400	400	—	55	175	309A	3.90
858-2084	MDA2506	25	600	400	—	55	175	309A	5.10
858-2089	MDA3501	35	100	400	—	55	175	309A	3.70
858-4007	MDA3502	35	200	400	—	55	175	309A	3.90
858-4003	MDA3504	35	400	400	—	55	175	309A	4.20
858-4002	MDA3506	35	600	400	—	55	175	309A	5.60
858-7793	MDA3508	35	800	400	—	55	175	309A	6.40

General Purpose Regulator Diodes

Stock No.	Mfr.'s Type	Nominal Voltage	Wattage	Case Style	EACH
858-0006	1N4728A	3.3	1W	59	0.80
858-0135	1N4730A	3.9	1W	59	0.80
858-0092	1N4731A	4.3	1W	59	0.80
858-0011	1N4732A	4.7	1W	59	0.80
858-0080	1N4733	5.1	1W	59	0.13
858-0013	1N4733A	5.1	1W	59	0.15
858-0015	1N4734A	5.6	1W	59	0.80
858-0060	1N4735	6.2	1W	59	0.12
858-0017	1N4735A	6.2	1W	59	0.13
858-0019	1N4736A	6.8	1W	59	0.15
858-0020	1N4737A	7.5	1W	59	0.80
858-0127	1N4738	8.2	1W	59	1.60
858-0068	1N4738A	8.2	1W	59	0.80
858-0024	1N4739A	9.1	1W	59	0.80
858-0088	1N4740	10.0	1W	59	0.12
858-0026	1N4740A	10.0	1W	59	0.14
858-0089	1N4741A	11.0	1W	59	0.80
858-0067	1N4742	12.0	1W	59	0.12
858-0029	1N4742A	12.0	1W	59	0.14
858-0120	1N4743	13.0	1W	59	0.50
858-0031	1N4743A	13.0	1W	59	0.80
858-0083	1N4744	15.0	1W	59	0.13
858-0033	1N4744A	15.0	1W	59	0.15
858-0034	1N4745A	16.0	1W	59	0.80
858-0036	1N4746	18.0	1W	59	0.80
858-0066	1N4746A	18.0	1W	59	1.60
858-0038	1N4747A	20.0	1W	59	0.81
858-0039	1N4748A	22.0	1W	59	0.80
858-0042	1N4749A	24.0	1W	59	0.80
858-0085	1N4750A	27.0	1W	59	0.80
858-0045	1N4751A	30.0	1W	59	0.80
858-0046	1N4752A	33.0	1W	59	0.80
858-0070	1N5232B	5.6	500mW	299	0.20
858-0073	1N5234B	6.2	500mW	299	0.20
858-0076	1N5235B	6.8	500mW	299	0.20
858-0077	1N5236B	7.5	500mW	299	0.20
858-0078	1N5237B	8.2	500mW	299	0.20
858-0079	1N5239B	9.1	500mW	299	0.20
858-0081	1N5240B	10.0	500mW	299	0.10
858-7216	1N5242B	12.0	500mW	299	0.09
858-0086	1N5245B	15.0	500mW	299	0.20
858-0059	1N5248B	18.0	500mW	299	0.20
858-0125	1N5250B	20.0	500mW	299	0.20
858-7221	1N5252B	24.0	500mW	299	0.20
858-0140	1N5256B	30.0	500mW	299	0.20
858-7257	1N5338B	5.1	5W	17	0.66
858-0071	1N4753	36.0	1W	59	0.85
858-0048	1N4753A	36.0	1W	59	0.95
858-0050	1N4754A	39.0	1W	59	0.95
858-0055	1N4757A	51.0	1W	59	0.95
858-0134	1N4764A	100.0	1W	59	1.05
858-0062	1N5221B	2.4	500mW	204	0.93
858-7212	1N5223B	2.7	500mW	204	0.93
858-0061	1N5226B	3.3	500mW	204	0.20
858-0057	1N5227B	3.6	500mW	204	0.20
858-0065	1N5228B	3.9	500mW	204	0.20
858-0082	1N5229B	4.3	500mW	204	0.20
858-0072	1N5230B	4.7	500mW	204	0.20
858-0069	1N5231B	5.1	500mW	204	0.10
858-0126	1N5339B	5.6	5W	17	0.69
858-7264	1N5346B	9.1	5W	17	0.66
858-0094	1N5349B	12.0	5W	17	0.78
858-0095	1N5352B	15.0	5W	17	0.66
858-7269	1N5353B	16.0	5W	17	0.66
858-7271	1N5355B	18.0	5W	17	0.66
858-0138	1N5357B	20.0	5W	17	0.66
858-7274	1N5359B	24.0	5W	17	0.66
858-7277	1N5364B	33.0	5W	17	0.66
858-7279	1N5366B	39.0	5W	17	0.66
858-7291	1N5380B	120.0	5W	17	0.66
858-7293	1N5383B	150.0	5W	17	0.66
858-0109	1N746A	3.3	500mW	299	0.20
858-0110	1N747A	3.6	500mW	299	0.20
858-0074	1N748A	3.9	500mW	299	0.20
858-0112	1N749A	4.3	500mW	299	0.20
858-0113	1N750A	4.7	500mW	299	0.20
858-0128	1N751	5.1	500mW	299	0.10
858-0115	1N751A	5.1	500mW	299	0.20
858-0016	1N752A	5.6	500mW	299	0.20
858-0117	1N753A	6.2	500mW	299	0.20
858-0118	1N754A	6.8	500mW	299	0.20
858-0119	1N755A	7.5	500mW	299	0.20
858-0075	1N756A	8.2	500mW	299	0.20
858-0121	1N757A	9.1	500mW	299	0.20
858-0122	1N758A	10.0	500mW	299	0.20
858-7029	1N957B	6.8	500mW	299	0.40
858-7033	1N961B	10.0	500mW	299	0.20
858-0107	1N963B	12.0	500mW	299	0.20
858-7035	1N965B	15.0	500mW	299	0.20
858-0137	1N967B	18.0	500mW	299	0.54
858-7037	1N968B	20.0	500mW	299	0.40
858-0129	1N970B	24.0	500mW	299	0.20
—	—	—	—	—	—

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Silicon Photodetectors

A variety of silicon photodetectors are available, varying from simple PN diodes to complex, single chip 400 volt triac drivers. They are available in packages offering choices of viewing angle and size in either economical plastic cases or rugged, hermetic metal cans. They are spectrally matched for use with Motorola infared emitting diodes.

Phototransistors*, Photodiodes, Photodarlingtons†

Stock No.	Mfr.'s Type	Light Current			$V_{(BR)R}$ Volts Min.	Dark Current		Response Time ns Typ.	Case Style	EACH
		μA Typ. @	V_R Volts	H mW/cm²		nA Max. @	Volts			
858-4199	MRD500	9.0	20.0	5.0	100	2.0	20.0	1.0	209	1.80
858-4247	MRD510	2.0	20.0	5.0	100	2.0	20.0	1.0	210	1.60
858-4248	MRD721	4.0	20.0	5.0	100	10	20.0	1.0	349	0.48
848-4314*	MRD150	2.2	20.0	5.0	40	2.5/40	20.0	1000.0	173	3.00
858-4193*	MRD300	8.0	20.0	5.0	50	2.0/2.5	20.0	1000.0	82	1.75
858-4195*	MRD3056	2.0 Min.	20.0	5.0	30	2.0/2.5	20.0	1000.0	82	1.24
858-4200	MRD701	0.5	5.0	0.5	30	10/60*	5.0*	—	349	0.60
858-4201†	MRD711(1)	25.0	5.0	0.5	60	125/150*	5.0*	—	349	0.52

† Photodarlington with integral base-emitter resistor.

VDE Approved Optocoupler

Transistor and Darlington Output with No Base Connection

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			V_{ISO} Volts AC Peak	$V_{CE(sat)}$			t_r, t_f/t_{on}, t_{off} Typ.					$V_{(BR)CEO}$ Volts Min.	V_F		Case Style	EACH
		% Min. @	I_F mA	V_{CE} Volts	Motorola	Volts Max. @	I_F mA	I_C mA	μs @	I_C mA	V_{CC} Volts	R_L Ω	I_F mA		Volts Max. @	I_F mA		
858-4112	MOC604A	100	10	10	7500	0.5	50	2.0	8.0	2.0	10	100	—	30	1.5	10	6 Pin DIP	0.97

Slotted Couplers/Interrupter Module

Slotted couplers consist of an infrared emitting diode facing a photodetector in a molded plastic housing. A slot in the housing between the emitter and the detector provides a means of interrupting the signal. A wide selection of standard and custom housings and detector functions is available. All IREDs and photodetectors in the miniature Case 349 (see Silicon Photodetectors) can be used in these housings.

Transistor Output ($V_{(BR)CEO}$ = 30V)

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			$V_{CE(sat)}$			t_r, t_f/t_{on}, t_{off} Typ.				V_F		Case Style	EACH
		% Min. @	I_F mA	V_{CE} Volts	Volts Max. @	I_F mA	I_C mA	μs	V_{CC} Volts	R_L Ω	I_F mA	Volts Max. @	I_F mA		
858-2107	H21A1	5.0	20	5.0	0.4	30	1.8	12/60	5.0	2.5K	30	1.7	60	354A-01	1.45

Infrared Emitting Diode

Motorola's infrared emitting diodes are made by the liquid phase epitaxial process for long life and stability. They provide high power output and quick response a 930 nm with low input drive current.

Stock No.	Mfr.'s Type	Power Output		Emission Angle Typ.	Peak Emission Wavelength nm Typ.	Forward Voltage		Case Style	EACH
		μW Typ. @	I_F mA			Max. @	I_F mA		
858-7899	MLED930	650	100	30°	900	1.5	50	209	1.25

Optocoupler/Isolators

An optocoupler consists of a gallium arsenide infrared emitting diode IRED, optically coupled to a monolithic silicon photodetector output device in a light-shielding package. Motorola offers a wide array of standard devices in the popular 6-Pin DIP package and encourages the use of special designs and selections for special applications. All Motorola optocouplers are UL recognized per File Number 54915.

Transistor Output

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			V_{ISO} Volts AC Peak		$V_{CE(sat)}$			t_r, t_f/t_{on}, t_{off} Typ.					$V_{(BR)CEO}$ Volts Min.	V_F		Case Style	EACH
		% Min. @	I_F mA	V_{CE} Volts	Industry	Motorola	Volts Max. @	I_F mA	I_C mA	μs @	I_C mA	V_{CC} Volts	R_L Ω	I_F mA		Volts Max. @	I_F mA		
858-6734	TIL112	2.0	10	5.0	1500	7500	0.5	50	2.0	2.0	2.0	10	100	—	20	1.5	10	6 Pin DIP	1.56
858-6715	TIL111	8.0	16	0.4	1500	7500	0.4	16	2.0	5.0	2.0	10	100	—	30	1.4	16	6 Pin DIP	1.56
858-1981	4N27	10.0	10	10.0	1500	7500	0.5	50	2.0	2.0/8.0	10.0	10	—	—	30	1.5	10	6 Pin DIP	0.44
858-1982	4N28	10.0	10	10.0	500	7500	0.5	50	2.0	2.0/8.0	10.0	10	—	—	30	1.5	10	6 Pin DIP	0.44
858-1989	4N38A	10.0	10	10.0	2500	7500	1.0	20	4.0	0.8/7.0	10.0	10	—	—	80	1.5	10	6 Pin DIP	0.44
858-1080	4N25	20.0	10	10.0	2500	7500	0.5	50	2.0	0.8/8.0	10.0	10	—	—	30	1.5	10	6 Pin DIP	0.44
858-1980	4N25A	20.0	10	10.0	2500	7500	0.5	50	2.0	0.8/8.0	10.0	10	—	—	30	1.5	10	6 Pin DIP	0.44
858-1078	4N26	20.0	10	10.0	1500	7500	0.5	50	2.0	0.8/8.0	10.0	10	—	—	30	1.5	10	6 Pin DIP	0.44
858-7693	H11A2	20.0	10	10.0	1500	7500	0.4	10	0.5	2.0	2.0	10	100	—	30	1.5	10	6 Pin DIP	0.99
858-2114	MCT2	20.0	10	10.0	2500(R)	7500	0.4	16	2.0	10/30	—	5	2K	15	30	1.5	20	6 Pin DIP	0.51
858-7739	MCT2E	20.0	10	10.0	3000(R)	7500	0.4	16	2.0	2.6	2.0	10	100	—	30	1.5	20	6 Pin DIP	0.51
858-6718	TIL116	20.0	10	10.0	2500	7500	0.4	15	2.2	5.0	2.0	10	100	—	30	1.5	60	6 Pin DIP	0.76
858-2116	MCT271	45-90	10	10.0	3000(R)	7500	0.4	16	2.0	4.9/4.5	2.0	5	100	—	30	.15	20	6 Pin DIP	0.71
858-2092	H11A1	50.0	10	10.0	2500	7500	0.4	10	0.5	2.0	2.0	10	100	—	30	1.5	10	6 Pin DIP	0.39
858-1077	4N35	100.0	10	10.0	3500	7500	0.3	10	0.5	4.0	2.0	10	100	—	30	1.5	10	6 Pin DIP	0.44
858-1987	4N36	100.0	10	10.0	2500	7500	0.3	10	0.5	4.0	2.0	10	100	—	30	1.5	10	6 Pin DIP	0.44
858-7675	4N37	100.0	10	10.0	1500	7500	0.3	10	0.5	4.0	2.0	10	100	—	30	1.5	10	6 Pin DIP	0.44

Darlington Output

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			V_{ISO} Volts AC Peak		$V_{CE(sat)}$			t_r, t_s/t_{on}, t_{off}* Typ.					$V_{(BR)CEO}$ Volts Min.	V_F		Case Style	EACH
		% Min. @	I_F mA	V_{CE} Volts	Industry	Motorola	Volts Max. @ I_F mA		I_C mA	µS @	I_C mA	V_{CC} Volts	R_L Ω	I_F mA		Volts Max. @	I_F mA		
858-7674	4N31	50	10.0	10.0	1500	7500	1.2	8.0	2.0	2*/25*	50*	10*	—	200*	30	1.5	10	6 Pin DIP	0.46
858-2128	H11B255	100	10.0	5.0	1500	7500	1.0	50.0	50.0	125*/100*	10*	10*	100*	—	55	1.5	20	6 Pin DIP	1.36
858-2113	MCA255	100	10.0	5.0	4000(D)	7500	1.0	50.0	50.0	10/35	—	10	100	50	55	1.5	20	6 Pin DIP	0.60
858-2112	MCA231	200	1.0	1.0	4000(D)	7500	1.2	10.0	50.0	180	10	10	100	—	30	1.5	20	6 Pin DIP	0.61
858-7673	4N32	500	10.0	10.0	2500	7500	1.0	8.0	2.0	2*/60*	50*	10*	—	200*	30	1.5	10	6 Pin DIP	0.46
858-1079	4N33	500	10.0	10.0	1500	7500	1.0	8.0	2.0	2*/60*	50*	10*	—	200*	30	1.5	10	6 Pin DIP	0.46
858-2095	H11B1	500	1.0	5.0	2500	7500	1.0	1.0	1.0	125*/100*	10*	10*	100*	—	25	1.5	10	6 Pin DIP	0.68

Darlington Output with No Base Connection

858-4121	MOC8030	300	10.0	1.5	—	7500	—	—	—	13*/60*	—	50*	100*	10*	80	2.0	10	6 Pin DIP	1.20
858-4122	MOC8050	500	10.0	1.5	—	7500	—	—	—	13*/60*	—	50*	100*	10*	80	2.0	10	6 Pin DIP	1.40
858-4120	MOC8021	1000	10.0	5.0	—	7500	—	—	—	13*/60*	—	50*	100*	10*	50	2.0	10	6 Pin DIP	1.40

General Purpose Tuning Diodes

The voltage capacitance diodes listed are designed for RF applications in all bands through UHF as well as general purpose electronic tuning and control. The product portfolio features plastic and hermetic glass packages, close tolerance units, hyperabrupt devices, duals and AM tuning diodes.

Stock No.	Mfr.'s Type	Max. Work Voltage (V)	Cap. Ratio (Min.)	Q@4.0V 50 MHz Min.	Case Style	EACH
858-4205	MV2101	30	2.5 @ 2-30V	450	182	0.74
858-4206	MV2107	30	2.5 @ 2-30V	350	182	0.74
858-4207	MV2109	30	2.5 @ 2-30V	200	182	0.74
858-8086	MV1405	12	10.0 @ 2-10V	200*	51	8.82

Q@2.0V, 1.0 MHz min.; V_R = 2.0V

Field-Effect Current Regulating Diode

Stock No.	Mfr.'s Type	Reg. Current I_P @ V_T = 25V mA (Nom.)	Knee I_{MP} Z_K @ V_K = 6.0V Meg. Ohm (Min.)	Limiting Voltage @ I_L = 0.8 I_P Volts (Max.)	Case Style	EACH
858-7253	1N5314	4.70	0.012	2.90	51	7.45

Temperature Compensated Reference Devices

Stock No.	Mfr.'s Type	V_Z (Volts)	Test Current M^{Adc}	$-Z_{ZT}$	Case Style	EACH
858-7014	1N821	6.2	7.5	15	299	0.60
858-0131	1N823A	6.2	7.5	10	299	1.20
858-0090	1N825	6.2	7.5	15	299	1.26

Fiber Optic Devices

Fiber Optic devices available from Motorola include photoemitters (IREDs) and photodetectors compatible with existing standard fiber optic cables and fit directly into standard OPTIMATE and SMA fiber optic connector systems. The devices are small and rugged. They are designed to simplify efficient optical coupling with fiber cable. Typical applications include computer, M6800 microprocessor systems, industrial controls, security systems, medical electronics and peripheral equipment, etc.

Infrared Emitters

Stock No.	Mfr.'s Type	$V_{(BR)R}$ Min. V	V_F Typ. V	P_L Typ. MW	t_r, t_f Typ. NS	Case Style	EACH
858-2124	MFOE71	2.0	1.5	165	25	363B	1.55
858-4216	MFOE200	3.0	1.5	45	—	209	7.14

Photodetectors

Stock No.	Mfr.'s Type	Responsivity		Response Time s Type		$V_{(BR)}$ Volts Min.	Case Style	EACH
		µA/µW Typ.	@ nm	t_{on}* t_r	t_{off}* t_f			
858-4213	MFOD300	500	900	40	60	30	82	2.72

FLCS Line Detectors

Stock No.	Mfr.'s Type	$V_{(BR)CEO}$ Min. V	$V_{CE(sat)}$ Typ. V	t_{on} MS	t_{off} MS	Case Style	EACH
858-4214	MFOD72	30	0.25	10	60	363B	1.02

Resistor-Darlington Output

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			V_{ISO} Volts AC Peak		$V_{CE(sat)}$			t_r, t_s/t_{on}, t_{off}* Typ.					$V_{(BR)CEO}$ Volts Min.	V_F		Case Style	EACH
		% Min. @	I_F mA	V_{CE} Volts	Industry	Motorola	Volts Max. @ I_F mA		I_C mA	µS @	I_C mA	V_{CC} Volts	R_L Ω	I_F mA		Volts Max. @	I_F mA		
858-2102	H11G2	1000	10.0	1.0	3535	7500	1.0	1.0	1.0	5.0/100	—	5.0	100	10	80	1.5	10	730A	0.77
858-2103	H11G3	200	1.0	5.0	2125	7500	1.2	50.0	20.0	5.0/100	—	5.0	100	10	55	1.5	10	730A	0.66

CMOS Decoders/Display Drivers

Stock No.	Mfr.'s Type	Function	Display Type	Drive Capability Per Pkg.	V_{DD} (V)	Case Style	EACH
858-3185	MC14499P	7-segment LED display decoder/driver with serial interface	Incandescent LED	28 seg. plus 4 decimals	−0.5 to + 7.0	707	3.75
858-3186	MC145000P	Serial input multiplexed LCD Driver (master)	Mixed LCD	48 seg. on DOTS	−0.5 to + 6.5	709	10.98
858-3063	MC14511BCP	BCD-to-7 segment Latch/Decoder/Driver	Incandescent	7 segments	−0.5 to + 18.0	620	0.72
858-3197	MC14513BCP	BCD-to-7 segment Latch/Decoder/Driver with ripple blanking	LED	7 segments	−0.5 to + 18.0	726	1.62
858-6508	MC14543BCP	BCD-to-7 seg. Latch/Decoder/Driver for liquid crystals	LCD	7 segments	−0.5 to + 18.0	620	0.64
858-3219	MC14544BCP	BCD-to-7 segment Latch/Decoder/Driver with ripple blanking	LCD	7 segments	−0.5 to + 18.0	726	2.64

High Voltage Transistor Output

Stock No.	Mfr.'s Type	Current Transfer Ratio (CTR)			V_{ISO} Volts AC Peak		$V_{CE(sat)}$			t_r, t_s/t_{on}, t_{off}* Typ.					$V_{(BR)CEO}$ Volts Min.	V_F		Case Style	EACH
		% Min. @	I_F mA	V_{CE} Volts	Industry	Motorola	Volts Max. @ I_F mA		I_C mA	µS @	I_C mA	V_{CC} Volts	R_L Ω	I_F mA		Volts Max. @	I_F mA		
858-2099	H11D1	20	10	10	3500	7500	0.4	10	0.5	5.0*	2.0*	10*	100*	—	300	1.5	10	6 Pin DIP	0.71
858-1988	4N38	10	10	10	1500	7500	1.0	20	4.0	0.8/7.0	10.0	10	—	—	80	1.5	10	6 Pin DIP	0.44
858-1989	4N38A	10	10	10	2500	7500	1.0	20	4.0	0.8/7.0	10.0	10	—	—	80	1.5	10	6 Pin DIP	0.44

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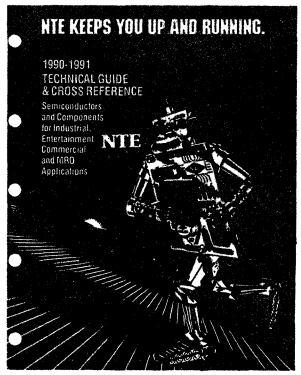
NTE Selection Guide

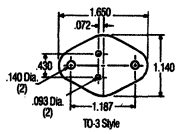


► **Over 250,000 Devices Replaced with 3500 NTE Numbers**

This guide contains 3500 NTE devices which replace over 250,000 parts. Tested for use specifically as replacements for solid state devices in original equipment. Each NTE transistor, triac, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components.

The easy to use cross reference section enables you to locate the exact replacement needed for over 250,000 solid state devices.

935-0001 ..... **EACH 3.25**



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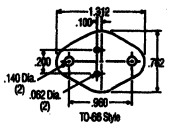

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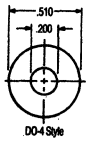

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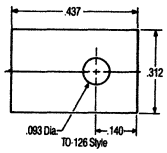

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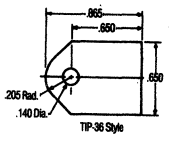

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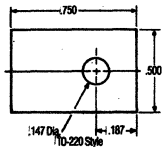

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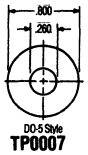

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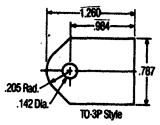

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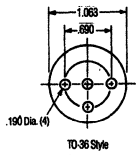

TP0009

Thermo-Pads

NTE's THERMO-PADS do away with the old fashioned and messy mica wafer and conductive grease method of mounting power semiconductors. These thermally conductive insulators offer low heat transfer resistance while still providing high electrical isolation between the parts of the assembly. The elastomeric material combines the electrical isolation of rigid insulators with the ability to conform to rough surfaces and reduce contact resistance in much the same manner as thermal greases. Proper selection and use of these thermo-pads results in a securely-mounted power semiconductor and minimum resistance to the heat transfer between it and the heat sink.

Typical Properties
Color: .009 Inch Thickness—Gray; Test Method—Visual. **Breaking Strength, Lbs./Inch:** .009 Inch Thickness—100; Test Method—ASTM D 1458. **Elongation, percent:** .009 Inch Thickness—4; Test Method—ASTM D 412. **Volume Resistance Ohm Metre Minimum Normal:** .009 Inch Thickness—1.0×10^{13}; Test Method—ASTM D 257. **Volume Resistance Ohm Metre Minimum Moist:** .009 Inch Thickness—1.5×10^{10}; Test Method—ASTM D 257. **Breakdown Voltage, Minimum Normal:** .009 Inch Thickness—5000; Test Method—ASTM D 149. **Breakdown Voltage, Minimum Moist:** .009 Inch Thickness—2500; Test Method—ASTM D 149. **Dielectric Constant 1000 Cups (HZ):** .009 Inch Thickness—5.5; Test Method—ASTM D 150. **Continuous Use Temp. °C:** .009 Inch Thickness— – 60 to + 180. **Thermal Conductance W/m-k:** .009 Inch Thickness—0.7. **Thermal Vacuum Weight Loss Percent (TML) Maximum as manufactured:** .009 Inch Thickness—.40; Test Method—NASA. **Thermal Vacuum Weight Loss Percent (TML) Maximum Post Cure 24 Hrs @ 400°F:** .009 Inch Thickness—.25; Test Method—SP-R-0022A. **Volatile Condensable Material, Percent, Maximum (CVCM) as Manufactured:** .009 Inch Thickness—.11; Test Method—NASA. **Volatile Condensable Material, Percent, Maximum (CVCM) Post Cure 24 Hrs @ 400°F:** .009 Inch Thickness—.07; Test Method—SP-R-0022A. **Hardness, Shore A:** .009 Inch Thickness—85; Test Method—ASTM D 2240. **Specific Gravity:** .009 Inch Thickness—2.0-2.1. **Thickness (Expressed in Inches):** .009 Inch Thickness—.009 (+.002, –.001). **Thermal Resistance (TO-3 transistor) °C/watt:** .009 Inch Thickness—.50.

935-6510. TP0001 ..... **PER PKG./5 1.46**
935-6512. TP0002 ..... **PER PKG./5 1.22**
935-6514. TP0003 ..... **PER PKG./5 .88**
935-6516. TP0004 ..... **PER PKG./5 .74**
935-6518. TP0005 ..... **PER PKG./5 1.10**
935-6520. TP0006 ..... **PER PKG./5 1.07**
935-6522. TP0007 ..... **PER PKG./5 1.10**
935-6524. TP0008 ..... **PER PKG./5 1.47**
935-6526. TP0009 ..... **PER PKG./5 1.47**

Insulator Kits

(Each Kit includes Mica Insulator and Nylon Bushings)

Stock No.	Mfr.'s Type	Description	EACH
935-9413	NTE413	Insulator Kit for TO-3 Style Package	**1.78***
935-9414	NTE414	Insulator Kit for TO-36 Style Package. Includes Lock Washer, Solder Lug, Nut and Plastic Insulating Tube	**1.78***
935-9415	NTE415	Insulator Kit for TO-66 Style Package	**1.72***
935-9422	NTE422	Insulator Kit for TO-220 (Plastic TO-66) Style Package	**1.74***
935-9438	NTE438	Insulator Kit for DO-4 and TO-64 Stud Package. Includes Flat Washer, Solder Lug and Nut	**0.64**
935-9439	NTE439	Insulator Kit for DO-5 and TO-48 Stud Package. Includes Flat Washer, Lock Washer, Solder Lug and Nut	**0.68**

*2 Per Package

Optoisolators

(Photothyristor Outputs)

Stock No.	Mfr.'s Type	Photothyristors	Total Device Ratings		LED Ratings			Photothyristor Ratings						EACH
		Output Configuration	Isolation Voltage Surge (V)	Total Power (mW)	Max Forward Current (mA)	Max Forward Voltage (V)	Max Reverse Voltage (V)	Max Blocking Voltage (V)	Max Gate Trigger Voltage (V)	Max Turn On Current (Threshold) (mA)	Max on Voltage At I_T (V)	Max Holding Current (mA)	Max Gate Trigger Current (μA)	
935-6356	3047	Triac	7500	330	50	1.5	3	250	—	15	3 @ 100 mA	100 μA typ	—	**2.72**

Optoisolators

(Phototransistor Outputs)

Stock No.	Mfr.'s Type	Output Configuration	Total Device Ratings			Led Max Ratings			Phototransistor Ratings			EACH
			Isolation Voltage Surge (V)	Total Power (mW) Power	DC Current Transfer Ratio %	Max Forward Current (mA)	Max Forward Voltage (V)	Max Reverse Voltage (V)	Collector To Base Voltage (V)	Collector To Emitter Voltage (V)	Max Collector Current Dark (nA)	
935-6350	3040	NPN Transistor	7500	250	20	80	1.5	3	70	30	100	**1.71**
935-6352	3041	NPN Transistor	7500	300	100	60	1.5	6	70	30	50	**1.89**
935-6354	3042	NPN Transistor	7500	250	20	60	1.5	3	70	30	50	**1.57**
935-6358	3086	NPN Dual Transistor	7500	400	50	60	1.5	3	—	30	100	**3.65**

Bi-Polar Transistors

Stock No.	Mfr's Type	Polarity and Material	Description and Application	Case Style	Maximum Collector Current Amps	Maximum Breakdown Voltage			Typical Forward Current Gain	Maximum Collector Power Dissipation	Typical Freq. in MHz	EACH
						Collector To Base	Collector To Emitter	Emitter To Base				
					I_C	BV_{CBO}	BV_{CEO}	BV_{EBO}	h_{FE}	P_D Watts	f_T	
935-6006	36	NPN-Si	AF Pwr Amp, High Current Switching (Compl to NTE37)	TO3P	12.00	160	140	6.0	100	100.000	15.0	4.35
935-6008	37	PNP-Si	AF Pwr Amp, High Current Switching (Compl to NTE36)	TO3P	12.00	160	140	6.0	100	100.000	15.0	4.60
935-6500	39	PNP-Si	Line Operated Series Pass and Switching Reg. (Compl to NTE157)	TO126	.50	300	300	3.0	92	20.000	—	3.80
935-6010	46	NPN-Si	Darlington, Gen Purp Amp, Preamp, Driver	TO92	.50	100	100	12.0	10,000 Min.	.625	200.0	1.96
935-6012	51	NPN-Si	High Voltage/Speed Switching Switchmode Applications $t_f = 0.4\mu S$ Typ	TO220	4.00	700	400	9.0	30	75.000	4.0 Min.	3.85
935-6014	53	NPN-Si	High Voltage/Speed Switching Switchmode Applications $t_f = 0.7\mu S$ Typ	TO3	15.00	850	400	9.0	25	175.000	6.0 Min.	11.15
935-6016	54	NPN-Si	High Freq. Driver for Audio Amplifiers (Compl to NTE55)	TO220	8.00	150	150	5.0	100	50.000	30.0 Min.	3.65
935-6018	55	PNP-Si	High Freq. Driver for Audio Amplifiers (Compl to NTE54)	TO220	8.00	150	150	5.0	120	50.000	30.0 Min.	4.40
935-0085	85	NPN-Si	General Purpose Amp, Hi-Fi Drivers	TO92	.40	70	70 (CES)	4.0	120 Min.	.625	200.0 Min.	0.88
935-6024	89	NPN-Si	Color TV Horizontal Output with Internal Damper Diode $t_f = 1.0\mu S$ Max	TO3	7.00	1500	600	6.0	8	50.000	—	11.29
935-6026	90	NPN-Si	General Purpose High Gain Amp (Compl to NTE91)	Giant TO92	.05	120	120	5.0	400 Min.	.750	350.0	1.40
935-6028	91	PNP-Si	General Purpose High Gain Amp (Compl to NTE90)	Giant TO92	.05	120	120	5.0	400 Min.	.750	150.0	1.40
935-6032	94	NPN-Si	High Voltage Inverter, Converter, Regulator and Switching Circuits	TO3	5.00	300	300	5.0	40	100.000	2.5 Min.	4.70
935-0098	98	NPN-Si	HV Darlington Psr Amp, Fast Sw	TO3	20.00	700	500	8.0	40 Min.	175.000	—	18.99
935-6034	100	PNP-Ge	Oscillator, Mixer for AM Radio, Medium Speed Switch (Compl to NTE101)	TO5	.30	25	20 (CER)	12.0	40 at 455 KHz	.150	5.0	3.12
935-6036	101	NPN-Ge	Oscillator, Mixer for AM Radio, Medium Speed Switch (Compl to NTE100)	TO5	.30	25	20 (CER)	20.0	40 at 455 KHz	.150	5.0	3.76
935-0715	102	PNP-Ge	Driver, Power Output, Switch (Compl to NTE103)	TO5	.30	30	16 (CER)	25.0	100	.150	—	3.42
935-0720	102A	PNP-Ge	Medium Power Amplifier (Compl to NTE103A)	TO1	1.00	32	32 (CES)	10.0	120	.650	—	1.84
935-6502	103	NPN-Ge	Power Output Driver, Switch (Compl to NTE102)	TO5	.30	30	16 (CER)	25.0	115	.150	—	3.98
935-6038	103A	NPN-Ge	Medium Power Amplifier (Compl to NTE102A)	TO1	1.00	32	32 (CES)	10.0	110	.650	—	2.02
935-0755	107	NPN-Si	UHF Oscillator for Tuner, High Frequency	TO92	.05	30	12	3.0	75	.200	1000.0	1.60
935-0760	108	NPN-Si	RF-IF Amp and Osc	TO106, TO92	.05	30	15	2.0	20 Min.	.625	800.0	1.64
935-0840	123A	NPN-Si	Amp, Audio to VHF Freq., Switch	TO18	.80	75	40	6.0	200	.400	300.0 Min.	1.39
935-0841	123AP	NPN-Si	Amp, Audio to VHF Freq., Driver (Compl to NTE159)	TO92	.60	75	40	6.0	200	.625	300.0 Min.	1.17
935-0845	124	NPN-Si	High Voltage Power Output Line Operated Equipment	TO66	.15	300	300	5.0	100	20.000	10.0	3.01
935-0855	126	PNP-Ge	FR-IF Amp, TV, Radio, High Speed Switch	TO18	.20	25	18 (CES)	1.0	60	.200	250.0	4.83
935-6040	127	PNP-Ge	Amp, Power Output, Horizontal and Vertical Deflection	TO3	10.00	320	320 (CES)	2.0	15	56.000	1.0	20.81
935-0865	128	NPN-Si	Audio Output, Video, Driver (Compl to NTE129)	TO39	1.00	120	80	7.0	90 Min.	1.000	100.0 Min.	1.95
935-0870	129	PNP-Si	Audio Output, Video Driver (Compl to NTE128)	TO39	1.00	90	80	7.0	90 Min.	1.000	150.0 Min.	2.08
935-0875	130	NPN-Si	Audio Power Amp, Medium Speed Switch (Compl to NTE219)	TO3	15.00	100	60	7.0	45	115.000	3.0	3.90
935-0995	152	NPN-Si	Audio Power Amp, Medium Speed Switch (Compl to NTE153)	TO220	7.00	60	60	5.0	60	50.000	10.0	2.39
935-1000	153	PNP-Si	Audio Power Amp (Compl to NTE152)	TO220	7.00	60	60	5.0	60	50.000	10.0	2.90
935-6042	154	NPN-Si	High Voltage Video Output $C_{cb} = 2.5$ pf @ 2.0 V	TO39	.20	300	300	7.0	100	1.000	80.0	3.39
935-1020	157	NPN-Si	Audio Power Amp. High Voltage Converter (Compl to NTE39)	TO126	.50	325	300	6.0	90	20.000	10.0 Min.	2.30
935-1025	158	PNP-Ge	Audio Power Amp	TO1	1.00	32	32	10.0	90	1.400	1.5	2.05
935-1030	159	PNP-Si	Low Noise Audio Amp, Switch NF = 3 dB @ 1 KHz (Compl to NTE123AP)	TO92	1.00	80	80	5.0	180	.625	200.0	1.64
935-1035	160	PNP-Ge	RF-IF Amp, FM Mixer/Osc	TO72	.01	30	20 (CES)	.3	50	.100	550.0	2.80
935-1040	161	NPN-Si	VHF-UHF Amp, Mixer/Osc	TO72	.05	45	45 (CES)	3.0	60	.200	800.0	2.55
935-1045	162	NPN-Si	TV Vertical Deflection	TO3	10.00 Peak	500	300	5.0	20 Min.	100.000	—	9.00
935-1060	165	NPN-Si	Color TV Horizontal Output	TO3	6.00	1500	1400 (CES)	5.0	8 Min.	50.000	3.0 Typ	13.50
935-1105	171	NPN-Si	Audio-Video Amp, Reg	TO202	.10	300	300	5.0	30 Min.	6.250	75.0	2.86
935-6046	172A	NPN-Si	Darlington Pre-Amp, Medium-Speed Switch	TO98/TO92	.30	40	40	12.0	7,000 Min.	.400	60.0 Min.	0.90
935-1110	175	NPN-Si	Linear & Audio Power Amp	TO66	3.00	500	300 (CER)	6.0	60	40.000	15.0	3.00
935-0179	179	PNP-Ge	Audio Power Amp High Current Switch	TO3	25.00	90	90 (CEX)	2.0	65 Min.	106.000	.5 Min.	16.25
935-6048	180	PNP-Si	High Power Audio Amp (Compl to NTE181)	TO3	30.00	100	100 (CER)	4.0	25 Min.	200.000	2.0 Min.	8.84
935-0181	181	NPN-Si	High Power Audio Amp (Compl to NTE180)	TO3	30.00	100	100 (CER)	4.0	25 Min.	200.000	2.0 Min.	7.50
935-1155	184	NPN-Si	Audio Power Amplifier & Switching (Compl to NTE185)	TO126	4.00	80	80	5.0	25 Min.	40.000	2.0 Min.	2.11
935-6052	185	PNP-Si	Audio Power Amplifier & Switching (Compl to NTE184)	TO126	4.00	80	80	5.0	25 Min.	40.000	2.0 Min.	2.49
935-1165	186	NPN-Si	General Purpose Output and Driver Stages of Audio Amps (Compl to NTE187)	TO202	3.00 Cont 5.00 Peak	70	60	5.0	100 Min.	12.500	50.0	2.39
935-6054	186A	NPN-Si	Medium Power Audio Amplifier	Jap. TO202	3.00	40	50	5.0	120	10.000	150.0	2.39
935-6056	187	PNP-Si	General Purpose Output & Driver Stages of Audio Amplifiers (Compl to NTE186)	TO202	3.00	70	60	5.0	100 Min.	12.500	50.0	2.50
935-6060	188	NPN-Si	High Voltage Amplifier & Driver (Compl to NTE189)	—	2.00	80	80	4.0	60 Min.	10.000	150.0	2.40
935-6504	189	PNP-Si	High Voltage Amp and Driver (Compl to NTE188)	—	2.00	80	80	4.0	60 Min.	10.000	100.0	2.66
935-1205	192	NPN-Si	Audio Power Output (Compl to NTE193)	TO92HS	1.00	70	70 (CES)	5.0	150	1*, .7	120.0 Min.	1.99
935-6068	193	PNP-Si	Audio Power Output (Compl to NTE192)	TO92HS	1.00	70	70 (CES)	5.0	150	1*, .7	120.0 Min.	2.05

For quantity pricing or parts not listed, contact the Allied facility nearest you at 1-800-433-5700.

Bi-Polar Transistors

Stock No.	Mfr.'s Type	Polarity and Material	Description and Application	Case Style	Maximum Collector Current Amps	Maximum Breakdown Voltage			Typical Forward Current Gain	Maximum Collector Power Dissipation	Typical Freq. In MHz	EACH
						Collector To Base	Collector To Emitter	Emitter To Base				
					Ic	BV_{CBO}	BV_{CEO}	BV_{EBO}	h_{FE}	P_D Watts	f_T	
935-6070	194	NPN-Si	Gen Purp HV Amp, Hi-Speed Sw	TO92	.60	180	160	6.0	100	.310	100.0 Min.	**1.05**
935-1235	196	NPN-Si	Audio Power Output & Medium Power Switching (Compl to NTE197)	TO220	7.00	90	80 (CER)	5.0	20 Min.	50* 1.8	4.0	**2.99**
935-6072	197	PNP-Si	Audio Power Output & Medium Power Switching (Compl to NTE196)	TO220	7.00	90	80 (CER)	5.0	20 Min.	50* 1.8	4.0	**2.72**
935-1249	198	NPN-Si	High Voltage Audio	TO220	1.00	500	500 (CES)	5.0	80	40* 2	10.0 Min.	**3.20**
935-1250	199	NPN-Si	Lo-Noise, Hi-Gain Pre-Amp (Compl to NTE234)	TO98/TO92	.10	70	50	5.0	400 Min.	.360	90.0 Min.	**0.95**
935-6074	210	NPN-Si	General Purpose Output & Driver (Compl to NTE211)	TO202	1.00	90	75	5.0	120 Min.	6.25* 1.33	200.0	**2.15**
935-6076	211	PNP-Si	General Purpose Output & Driver (Compl to NTE210)	TO202	1.00	90	75	5.0	120 Min.	6.25* 1.33	150.0 Min.	**2.50**
935-6078	219	PNP-Si	General Purpose Amplifier & Switch (Compl to NTE130)	TO3	15.00	100	70 (CER)	7.0	20 Min.	115.000	2.5 Min.	**6.49**
935-6082	234	PNP-Si	Lo-Noise, Hi-Gain AF Pre-Amp (Compl to NTE 199)	TO92	.05	60	50	5.0	400 Min.	.200	80.0 Min.	**1.00**
935-6084	235	NPN-Si	Final RF Pwr Output (Po 5 W, 50 MHz)	TO220	3.00 Pulse	65	65 (CER)	4.0	80	12.000	300.0	**6.30**
935-6086	236	NPN-Si	Final RF Pwr Output, CB (Po 13 W, 50 MHz)	TO220	8.00 Pulse	70	70 (CER)	4.0	20 Min.	25.000	150.0	**10.40**
935-6088	238	NPN-Si	Color TV Horiz Output	TO3	7.00	1500	1500 (CER)	5.0	20	50.000	3.0	**15.75**
935-6096	249	NPN-Si	Darlington Pwr Amp (Compl to NTE250)	TO3	16.00	100	100	5.0	4000	150.000	—	**8.38**
935-6506	250	PNP-Si	Darlington Pwr Amp (Compl to NTE249)	TO3	16.00	100	100	5.0	4000	150.000	—	**8.50**
935-6100	253	NPN-Si	Darlington Pwr Amp (Compl to NTE254)	TO126	4.00	80	80	5.0	2500	40.000	—	**2.18**
935-6102	254	PNP-Si	Darlington Pwr Amp (Compl to NTE253)	TO126	4.00	80	80	5.0	2500	40.000	—	**2.41**
935-6104	261	NPN-Si	Darlington Pwr Amp (Compl to NTE262)	TO220	8.00	100	100	5.0	1000 Min.	65.000	—	**1.95**
935-6106	262	PNP-Si	Darlington Pwr Amp (Compl to NTE261)	TO220	8.00	100	100	5.0	1000 Min.	65.000	—	**2.55**
935-6108	263	NPN-Si	Darlington Pwr Amp (Compl to NTE264)	TO220	10.00	100	100	5.0	1000 Min.	65.000	—	**2.40**
935-9377	264	PNP-Si	Darlington Pwr Amp (Compl to NTE263)	TO220	10.00	100	100	5.0	1000 Min.	65.000	—	**2.93**
935-6110	265	NPN-Si	Darlington Pwr Amp Switch	TO202	.50	50	50	13.0	10000 Min.	6.250	—	**1.38**
935-6112	280	NPN-Si	Audio Amp Output (Compl to NTE281)	TO3	12.00	150	150	5.0	70	100.000	15.0	**6.30**
935-6114	281	NPN-Si	Audio Power Amp (Compl to NTE280)	TO3	12.00	150	150	5.0	70	100.000	13.0	**8.20**
935-6116	283	NPN-Si	High Voltage, High Current Switch & Horizontal Output	TO3	10.00	800	325	8.0	10 Min.	100.000	6.0	**9.90**
935-6118	284	NPN-Si	Audio Amplifier Output (Compl to NTE285)	TO3	16.00	180	180	5.0	70	150.000	6.0	**9.97**
935-6120	285	PNP-Si	Audio Amplifier Output (Compl to NTE284)	TO3	16.00	180	180	5.0	70	150.000	6.0	**10.95**
935-6122	287	NPN-Si	High Voltage, Low Saturation, Low Cap, General Purpose Amp (Compl to NTE288)	TO92	.50	300	300	8.0	40 Min.	.625	50.0 Min.	**0.96**
935-6124	288	PNP-Si	High Voltage, Low Saturation, General Purpose Amp (Compl to NTE287)	TO92	.50	300	300	5.0	40 Min.	.625	50.0 Min.	**0.98**
935-6126	289	NPN-Si	Audio Power Amp and Switch (Compl to NTE290)	U83/TO92	.80	35	30	5.0	120 Min.	.600	100.0	**1.33**
935-0289	289A	NPN-Si	Audio Power Amp (Compl to NTE290A)	TO92	.50	100	80	5.0	100 Min.	.600	120.0	**1.32**
935-6128	290	PNP-Si	Audio Power Amp and Switch (Compl to NTE289)	U83/TO92	.80	35	30	5.0	120 Min.	.600	140.0	**1.12**
935-6130	290A	PNP-Si	Audio Power Amp (Compl to NTE289A)	TO92	.50	100	80	5.0	100 Min.	.600	120.0	**1.38**
935-6132	291	NPN-Si	General Purpose Medium Power Amp and Switch (Compl to NTE292)	TO220	4.00	130	120	5.0	70	40.000	4.0 Min.	**2.97**
935-6134	292	PNP-Si	General Purpose Medium Power Amp and Switch (Compl to NTE291)	TO220	4.00	130	120	5.0	70	40.000	5.0 Min.	**3.25**
935-6136	293	NPN-Si	Audio Amp and Driver (Compl to NTE294)	Giant, TO92	1.50 Peak 1 cont.	60	50	5.0	120	1 w/ Heat Sink .75	200.0	**1.64**
935-6138	294	PNP-Si	Audio Amp and Driver (Compl to NTE293)	Giant, TO92	1.50 Peak 1 Cont.	60	50	5.0	120 Min.	1 w/ Heat Sink .75	200.0	**1.63**
935-6140	296	PNP-Si	High Voltage, General Purpose Amp C_{cb} = 8.0 pf (Compl to NTE171)	TO202	.50	300	300	5.0	80	10* 2	45.0 Min.	**1.91**
935-6144	311	NPN-Si	Freq-Multiplier, Amp, Driver Osc, VHF-UHF Pre Driver	TO39	.40	55	30	3.5	25 Min.	5.000	800.0 Min.	**2.66**
935-6146	331	NPN-Si	Audio Power Amp, Switch (Compl to NTE332)	TO220	15.00	100	100	5.0	40 Min.	90.000	3.0 Min.	**2.92**
935-6148	332	PNP-Si	Audio Power Amp, Switch (Compl to TNE331)	TO220	15.00	100	100	5.0	40 Min.	90.000	3.0 Min.	**3.20**
935-6150	373	NPN-Si	Audio Amp, Driver (Compl to NTE374)	TO126	1.50	180	160	5.0	190	20.000	140.0	**1.80**
935-6152	374	PNP-Si	Audio Amp, Driver (Compl to NTE373)	TO126	1.50	180	160	5.0	190	20.000	140.0	**2.00**
935-6145	375	NPN-Si	Vertical Deflection (Compl to NTE398)	TO220	3.00	200	150	6.0	150	25.000	8.0	**2.69**
935-6158	377	NPN-Si	Power Amp Driver, Output, Switch, (Compl to NTE378)	TO220	10.00	80	80	5.0	60 Min.	50.000	50.0	**2.85**
935-6160	378	PNP-Si	Power Amp Driver, Output, Switch, (Compl to NTE377)	TO220	10.00	80	80	5.0	60 Min.	50.000	50.0	**3.00**
935-6162	379	NPN-Si	Power Amp, High Voltage, Switch tr = 0.45 μS Typ	TO220	12.00 Cont. 24 Peak	700	400	9.0	12	100.000	4.0 Min.	**7.15**
935-6168	382	NPN-Si	Audio Frequency Driver (Compl to NTE383)	R245	1	120	100	5.0	200	.900	140.0	**2.05**
935-6170	383	PNP-Si	Audio Frequency Driver (Compl to NTE382)	R245	1	120	100	5.0	200	.900	140.0	**2.12**
935-6172	384	NPN-Si	High Voltage Power Amp/Switch tr = 0.3 μS Typ	TO66	7.00	375	350	9.0	28	45.000	1.0 Min.	**6.20**
935-6174	385	NPN-Si	Audio Power Amp, Switch tr = 0.085 μS Typ	TO3	10.00 Cont 20 Peak	550	350	6.0	17	150.000	—	**8.65**
935-6176	386	NPN-Si	Audio Power Amp, Switch tr = 0.3 μS Typ	TO3	20.00 Cont	800	500	6.0	20	175.000	—	**18.10**
935-6180	389	NPN-Si	Horizontal Output	TO3	6.00	1500	1500 (CES)	5.0	5 Min.	100.000	4.0 Min.	**6.50**
935-6186	396	NPN-Si	Power Amp & High Speed Switch (Compl to NTE397)	TO39	1.00	450	350	7.0	40 Min.	10*, 1	15 Min.	**3.05**
935-6508	397	PNP-Si	Power Amp & High Speed Switch (Compl to NTE396)	TO39	1.00	350	300	6.0	30 Min.	1.000	15.0 Min.	**3.15**
935-6188	398	PNP-Si	Vertical Deflection, Audio Amp (Compl to NTE375)	TO220	2.00	200	150	5.0	100	25.000	5.0	**3.20**
935-6190	399	NPN-Si	High Voltage Amp, Video	Giant, TO92	.10 Cont. .3 Peak	300	300	6.0	100 Min.	.900	50.0 Min.	**3.00**
935-6192	2302	NPN-Si	High Voltage Horiz Output w/ Internal Damper Diode tf = 0.4 μs	TO3P	5.00	1500	800	7.0	8 Min.	120*	3.0	**6.10**
935-6194	2308	NPN-Si	High Voltage/Current Switch tf = 1.0 μs	TO3P	12.00	500	400	7.0	15 Min.	100*	20.0	**7.00**

NTE

Silicon Unijunction Transistor (UJT)

Stock No.	Mfr.'s Type	Case Style	Maximum RMS Emitter Current	Intrinsic Stand Off Ratio	Interbase Resistance	Maximum Interbase Voltage	Maximum RMS Power Dissipation	Emitter Reverse Current	Valley Point Current	EACH
			I_E mA	Min.-Max.	$R_{B60(KΩ)}$ Min.-Max.	V_{BB} Volts	P_D mW	I_{EO} μAmps	I_V mA	
935-6196	6401	TO18	50	.56-.75	4.7-9.1	35	300	.050 typ 12 max	4 min.	1.73
935-6200	6409	TO18	50	.68-.82	4.7-9.1	35	300	.010 typ .2 max	8 min.	2.83
935-6202	6410	TO92	50	.70-.85	4.0-9.1	35	300	.005 typ	4 min.	1.03

Programmable Unijunction Transistor (PUT)

Stock No.	Mfr.'s Type	Case Style	Maximum Ratings				Gate Current	Peak Current @ V_S = 10 V	Offset Voltage @ V_S = 10 V	Min. Valley Current @ V_S = 10 V	EACH
			BV_{GKF} Volts	BV_{GKR} Volts	BV_{AK} Volts	PD_{mW}	I_{GmA}	I_P μA	V_T Volts	I_V μA	
935-6198	6402	TO98/92	+40	−5	±40	300	±20	2 @ Rs = 1 MEG Ω 5 @ RS = 10 KΩ	1.6 @ Rg = 1 MEG Ω .6 @ Rg = 10 KΩ	70 @ Rg = 1 MEG Ω 1.5 mA @ Rg = 10 KΩ	1.54

Field Effect Transistors

Stock No.	Mfr.'s Type	Polarity and Material	Description and Application	Case Style	Breakdown Voltage Gate To Source Min.	Cutoff Voltage Gate To Source Max. (off)	Drain Current Zero-Gate Min. mA Max.	Drain Current Max. (off) mA	Resistance Drain to Source Ohms Max. (on)	Cap. Input Max. pf	Reverse Transfer Capacitance Max. pf	Transconductance mhos typical	Power Dissipation Max. mW	EACH
					BV_{GSS}	V_{GS}	I_{DSS}	I_D	r_{DSS}	C_{iss}	C_{rss}	pfs	P_D	
935-6204	133	JFET N-CH	Gen Purp AF Amp/Sw	TO106	25	6.0	0.5-15	—	—	6.0	2.00	4000	300	0.98
935-6206	220	MOSFET N-CH	VHF Amp/Mix, NF 5 db Max to 200 MHz	TO72	20	8.0	5.0-25	—	—	7.0	0.35	7500	330	6.36
935-6208	222	Dual Gate MOSFET N-CH	VHF Amp/Mix, NF 6 db Max to 200 MHz Gate Protected	TO72	20	4.0	5.0-35	—	—	6.0 typ	0.03	12000	330	3.07
935-6210	312	JFET N-CH	VHF Amp/Mix, NF 4 db Max at 400 MHz	Y092	30	6.0	5.0-15	—	—	4.5	1.00	5500	360	1.34
935-6212	326	JFET P-CH	Gen Purp AF Amp, NF 2.5 db Max at 100 Hz	TO92	60	7.5	2.0-9	—	—	7.0	2.00	3000	310	1.72
935-6214	454	Dual Gate MOSFET N-CH	UHF/VHF Preamp, NF 4.5 db at 200 MHz Gate Protected	TO72	25 (BVDSX)	5.0	6.0-30	—	—	3.3 typ	0.03	15000	360	2.55
935-6216	457	JFET N-CH	Gen Purp Amp/Sw	TO92	25	6.0	1.0-5	—	—	7.0	3.00	3000	310	1.37
935-6218	459	JFET N-CH	AF Amp/Chopper/Sw	TO72	50	6.0	2.0-10	10 mA	—	6.0	3.00	4500	300	2.16

Silicon Controlled Rectifier (SCR)

Stock No.	Mfr.s Type	Description and Application	Case Style	V_{DRM} Volts	I_{T}RMS Amps	I_{TSM} Amps	V_{GT} Max. Volts	I_{GT} Max. mA	t_{off} Max. μSec	t_{rr} μSec	I_H mA Max.	Max. On-State Voltage V_T Volts	EACH
935-6222	276	SCR, Gate Turn Off TVμApplication	Japanese TO66	1250	5.0	80	1.5	120	.2	1.3	300	5.3	18.40
935-6226	5400	Sensitive Gate	TO92	30	0.8	—	0.8	200μA	—	—	—	—	.86
935-6228	5401	Sensitive Gate	TO92	60	0.8	—	0.8	200μA	—	—	—	—	1.05
935-6230	5402	Sensitive Gate	TO92	100	0.8	—	0.8	200μA	—	—	—	—	1.12
935-6232	5404	Sensitive Gate	TO92	200	0.8	—	0.8	200μA	—	—	—	—	1.25
935-6234	5455	Sensitive Gate	TO202	200	4.0	—	0.8	200μA	—	—	—	—	1.34
935-6236	5457	Sensitive Gate	TO202	400	4.0	—	0.8	200μA	—	—	—	—	1.96
935-6240	5465	SCR	TO220	400	10.0	—	1.5	15	—	—	—	—	3.10

TRIACS

Stock No.	Mfr.'s Type	Description	Pkg.	V_{RRM} DC or Peak Volts	I_T RMS Max. TWD Current	I_{GT} (mA)	V_{GT} (V)	V_{FON} (V)	I Surge (A)	I Hold (mA)	EACH
935-3900	NTE5635	Trial	TO220	400	10.0 A	50	2.5	1.65	100	50	3.40
935-6244	NTE5645	Trial	TO220	600	10.0 A	25/50	2.5	1.65	110	50	3.92
935-6246	NTE5656	Trial	TO92	400	0.8 A	5	2.0	1.50	8	20	1.83

Silicon 3-Layer Bilateral Trigger Diodes (DIACS)

Stock No.	Mfr.'s Type	Max. Peak Pulse	Breakover Voltage (Forward & Reverse)	Maximum Breakover Current $I_{(BR)1}$ & $I_{(BR)2}$	Minimum Switching Voltage Change (Both Direc.)	DO7/35 Maximum Power Diss P_D	TO92 Maximum Power Diss P_D	EACH
		I_{Pulse} Amps	V_{BO}	μA	ΔV	mW	mW	
935-6432	6407	2	28 ± 4	100	6	250	300	1.35
935-6434	6408	2	32 ± 4	100	6	250	300	1.11

Thyristor Diode, Bidirectional (SIDAC)

For Pulse Generating and Switching Applications. Storage Temperature: −30 to +125°C. **Junction Temperature:** +125°C.

Stock No.	Mfr.'s Type	Band Color*	Breakover Voltage	Maximum Effective Current (Amps)	Maximum Surge Current (Amps)	Holding Current (mAmps)	Max. on Voltage	Power Diss (mWatts)	EACH
			V_{BO}	I_{TRMS}	I_{TSM}	I_M	V_T	P_D	
935-6436	6419	Green	110 to 125	1	13	50	1.5	850	2.18

*Note: Color Band Indicates Breakover Voltage (V_{BO}), NOT CATHODE of Device, since device is bidirectional.

Zener Diodes

Stock No.	Mfr.'s Type	DWG	Rated Voltage ±5%	Watt	EACH
935-6298	135A	DO41	5.1	1	.98
935-6300	136A	DO41	5.6	1	.98
935-6302	137A	DO41	6.2	1	.98
935-6304	138A	DO41	7.5	1	.98
935-6306	139A	DO41	9.1	1	.98
935-0940	140A	DO41	10.0	1	.92
935-6308	142A	DO41	12.0	1	.98
935-6310	143A	DO41	13.0	1	.98
935-6312	145A	DO41	15.0	1	.98
935-6314	146A	DO41	15.0	1	.98
935-6316	147A	DO41	33.0	1	.98
935-6318	5001A	DO07	2.5	½	.79
935-6320	5010A	DO07	5.1	½	.79
935-5013	5013A	DO07	6.2	½	.79
935-6324	5069A	DO41	4.7	1	.92
935-6326	5070A	DO41	6.0	1	.92
935-6328	5071A	DO41	6.8	1	.92
935-6330	5072A	DO41	8.2	1	.92
935-6332	5077A	DO41	18.0	1	.92
935-6334	5079A	DO41	20.0	1	.92
935-6336	5080A	DO41	22.0	1	.92
935-6338	5084A	DO41	30.0	1	.92
935-6340	5098A	DO41	130.0	1	.92
935-6342	5127A	DO41	12.0	5	2.18
935-6344	5130A	DO41	15.0	5	2.18
935-6346	5134A	DO41	19.0	5	2.18
935-3115	5155A	DO41	91.0	5	2.18
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General Purpose Diodes and Rectifiers

Stock No.	Mfr.'s Type	Material	Description and Application	Case Style	Maximum Peak Reverse Voltage	Maximum Average Forward Current Amps	Max. Peak Surge Forward Current Amps	Maximum Forward Voltage Drop	Reverse Recovery Time	EACH
					P_{RV}	I_F	I_{FSM}	V_F	t_{rr}	
935-0765	109	Germ	Gen Purp, Fast Switch	DO7	100	200.0 mA	.5	1.0	—	0.65
935-6248	112	Si	TV UHF Mixer	DO7	5	25.0 mA	—	0.5 @ 15 mA	—	1.57
935-6250	177	Si	Fast Sw, Det, etc.	DO35	200	160.0 mA	250.0 mA	1.0 V @ 100 mA	50 nS	0.99
935-2519	519	Si	Fast Sw Diode	DO35	75	200.0 mA	—	1.0 V @ 100 mA	4 nS	0.99
935-6428	525	Si	High Voltage, Fast Recovery Sw	DO41	2000	1.0 A	—	2.0 V @ 2 A	500 μS(Fwd. Rec.)	3.00
935-0795	116	Si	General Purpose Rectifier	DO41	600	1.0	30.0	1.1 V @ 1 A typ	—	0.66
935-6252	117	Si	General Purpose Metal Case Rectifier	DO26	600	1.0	—	1.2 V @ .5 A	—	1.12
935-0850	125	Si	General Purpose Rectifier	DO41	1000	2.5	30.0	0.8 V @ 1 A typ	—	0.79
935-1015	156	Si	General Purpose Rectifier	DO15	1000	3.0	—	1.1 V @ 3 A	—	1.30
935-6254	156A	Si	General Purpose Rectifier	DO27A	1000	3.5	125.0	1.1 @ 3.5 A	—	1.40
935-6256	166	Si	Bridge Rectifier	C207	100	2.0	60.0	1.0 V @ 1 A	—	1.90
935-6258	167	Si	Bridge Rectifier	C207	200	2.0	60.0	1.0 V @ 1 A	—	2.12
935-6260	188	Si	Bridge Rectifier	C207	400	2.0	60.0	1.0 V @ 1 A	—	2.42
935-2055	506	Si	Sw, Fast Recovery, Bst Damper, Blanking	DO41	1400	2.0	3.5 A	1.0 V @ 1 A	50 nS forward	1.64
935-6262	552	Si	Gen Purp Rect, Fast Rec, Fast Sw	DO41	600	1.0	30.0	1.1 V @ 1 A	200 nS	1.26
935-6264	558	Si	Gen Purp Rect, Fast Rec, Fast Sw, HV	DO41	1500	1.0	—	1.2	250 nS	2.17
935-6266	580	Si	Fast Recovery, Gen Purpose Rectifier	—	600	3.0	100.0	1.3 V @ 3 A	250 nS	2.30
935-6268	5304	Si	Bridge Rectifier	C207	400	1.5	50.0	1.0 V @ 1 A	—	1.73
935-6270	5305	Si	Bridge Rectifier	C207	600	1.5	50.0	1.0 V @ 1 A	—	1.87
935-6272	5313	Si	Bridge Rectifier	—	200	8.0	200.0	1.1 V @ 4 A	—	3.67
935-6274	5314	Si	Bridge Rectifier	—	400	8.0	200.0	1.1 V @ 4 A	—	4.10
935-6276	5315	Si	Bridge Rectifier	—	600	8.0	200.0	1.1 V @ 1 A	—	4.95
935-6278	5322	Si	Bridge Rectifier	—	200	25.0	300.0	1.0 V @ 3 A	—	5.75
935-6280	5324	Si	Bridge Rectifier	—	400	25.0	300.0	1.0 V @ 3 A	—	6.40
935-6282	5326	Si	Bridge Rectifier	—	600	25.0	300.0	1.0 V @ 3 A	—	6.80
935-6284	5332	Si	Bridge Rectifier	—	600	1.0	25.0	1.2 V @ 1 A	—	1.67
935-6286	5800	—	Industrial Rectifier	DO27A	50	3.0	200.0	1.2 V Max	—	0.51
935-6288	5801	—	Industrial Rectifier	DO27A	100	3.0	200.0	1.2 V Max	—	0.76
935-4065	5802	—	Industrial Rectifier	DO27A	200	3.0	200.0	1.2 V Max	—	0.87
935-4075	5804	—	Industrial Rectifier	DO27A	400	3.0	200.0	1.2 V Max	—	1.18
935-4085	5806	—	Industrial Rectifier	DO27A	600	3.0	200.0	1.2 V Max	—	1.46
935-6290	5809	—	Industrial Rectifier	DO27A	1000	3.0	200.0	1.2 V Max	—	2.60
935-6292	5812	—	Industrial Rectifier	Axial LD	100	6.0	400.0	0.9 V Max	—	1.58
935-5814	5814	—	Industrial Rectifier	Axial LD	400	6.0	400.0	0.9 V Max	—	1.84
935-6294	5817	—	Industrial Rectifier	Axial LD	1000	6.0	400.0	0.9 V Max	—	3.70
935-6296	5994	—	Industrial Rectifier	DO5	600	40.0	500.0	1.2 V Max	—	7.15

Photon Coupled Interrupter Module

Stock No.	Mfr.'s Type	Output Transistor Configuration	Emmiter Specifications			Detector Specifications			Maximum Total Power Dissipation mW	Typical Switching Speeds		EACH
			Maximum Reverse Breakdown Volts	Maximum Forward Current mA	Forward Voltage Drop Volts	Maximum Collector-Commiter Voltage Volts	Maximum Collector Current mA	Maximum Collector Dark Current nA		Turn-on t_{on}	Turn-off t_{off}	
935-6348	3101	NPN Darlington	6	60	1.7	55	100	100	250	7	45	7.15

ICs

Stock No.	Mfr.'s Type	Pkg.	Description	EACH
935-6360	NTE74LS244	20 Pin Dip	IC-TTL, Quad Driver	3.87
935-6362	NTE712	14 Pin Dip	IC-TV Sound IF	4.85
935-7221	NTE7490	14 Pin Dip	IC-Linear, TV Video IF Amp	1.53
935-6364	NTE745	8 Pin Dip	IC-AF PO, 0.5 W	3.55
935-6366	NTE778A	8 Pin Dip	IC-Dual Op Amp	3.65
935-6368	NTE834	14 Dip Dip	IC-Quad Comparator	2.42
935-6370	NTE815	8 Pin Dip	IC-TV Horiz Processor	3.05
935-6372	NTE852	14 Pin Dip	IC-No Hold Controls	9.95
935-6374	NTE923	10 Ld Metal Can	IC-Precision Voltage Regulator	1.75
935-6376	NTE923D	14 Pin Dip	IC-Prevision Voltage Regulator	1.41
935-6378	NTE928M	8 Pin Dip	IC-Dual Low Power Dual OP-Amp	2.93
935-9372	NTE931	TO-3	IC-Linear, Voltage Regulator	12.45
935-6380	NTE941	8 Ld Metal Can	IC-Frequency Compensated OP-Amp	1.43
935-6382	NTE941D	14 Pin Dip	IC-Frequency Compensated OP-Amp	1.22
935-6384	NTE941M	8 Pin Dip	IC-Frequency Compensated OP-Amp	0.90
935-6386	NTE943M	8 Pin Dip	IC-Dual Comparator	3.65
935-6388	NTE955M	8 Pin Dip	IC-Timer/Oscillator	1.68
935-6390	NTE956	TO-220	IC-Pos VR, 1.2 to 37 V, 1.5 Amp	3.00
935-3020	NTE960	TO-220	IC-Pos VR, 5 V, 1 Amp	3.50
935-6392	NTE964	TO-220	IC-Pos VR, 8 V, 1 A	3.35
935-3050	NTE966	TO-220	IC-Pos VR, 12 V, 1 Amp	3.60
935-3055	NTE967	TO-220	IC-Neg VR, 12 V, 1 A	5.15
935-6394	NTE968	TO-220	IC-Pos VR, 15 V, 1 A	3.60
935-3080	NTE972	TO-220	IC-Pos VR, 24 V, 1 A	3.55
935-6396	NTE977	TO-92	IC-Pos VR, 5 V, 1 A	1.65
935-3110	NTE978	14 Pin Dip	IC-Dual Timing	2.55
935-6398	NTE987	14 Pin Dip	IC-Quad OP-Amp	2.30
935-6400	NTE992	14 Pin Dip	IC-4 Independent Amps	2.60
935-6402	NTE1175	16 Pin Dip	IC-TV Sound IF	6.68
935-6404	NTE1231	12 Pin Dip	IC-TV Sound IF	5.38
935-0136	NTE1394	12 Pin Dip	IC-Linear, Dual Audio Power	8.95
935-6406	NTE1471	16 & 2 Pin Dip	IC-TV Horiz Osciuator	7.25
935-6408	NTE2013	16 Pin Dip	IC-7 Chan. Cmos Input Array	3.90
935-6410	NTE4001B	14 Pin Dip	IC-CMOS, Nor Gate	0.73

Stock No.	Mfr.'s Type	Pkg.	Description	EACH
935-6412	NTE4011B	14 Pin Dip	IC-CMOS, Nand Gate	1.01
935-6414	NTE4013B	14 Pin Dip	IC-CMOS Dual 'D' Flip-Flop	1.27
935-6416	NTE4016B	14 Pin Dip	IC-CMOS Quad Bilateral Switch	1.27
935-6418	NTE4049	16 Pin Dip	IC-CMOS Hex Buffer	1.35
935-6420	NTE4066B	14 Pin Dip	IC-CMOS Quad Bilateral Switch	1.71
935-6422	NTE4069	14 Pin Dip	IC-CMOS Hex Inverter	0.82
935-6424	NTE4081B	14 Pin Dip	IC-CMOS And Gate	0.73
935-6426	NTE4093B	14 Pin Dip	IC-CMOS, Nand Gate	1.12
935-7145	NTE7400	14 Pin Dip	IC-TTL, Nand Gate	0.73
935-7147	NTE7402	14 Pin Dip	IC-TTL, Nor Gate	0.73
935-7148	NTE7403	14 Pin Dip	IC-TTL Quad 2-Input Pos-Nand, OPN Collector	0.69
935-7149	NTE7404	14 Pin Dip	IC-TTL Hex Inverter	0.84
935-7151	NTE7406	14 Pin Dip	IC-TTL Hex Interter	1.57
935-7152	NTE7407	14 Pin Dip	IC-TTL Hex Buffer Driver	1.57
935-7156	NTE7408	14 Pin Dip	IC-TTL, And Gate	0.81
935-7155	NTE7410	14 Pin Dip	IC-TTL Triple 3 Input Pos-And	0.81
935-7160	NTE7416	14 Pin Dip	Hex Inverter Buffer/Driver w/open Col Hi-Vol Outputs	1.45
935-7166	NTE7425	14 Pin Dip	IC-TTL Dual 4 Input Pos-NOR	0.95
935-7194	NTE7432	14 Pin Dip	IC-TTL Quad 2 Input Pos-OR	1.00
935-7195	NTE7437	14 Pin Dip	IC-TTL Quad 2 Input Pos Nand	1.16
935-7199	NTE7442	16 Pin Dip	IC-TTL BCD to Decimal Decoder	1.82
935-7210	NTE7472	14 Pin Dip	IC-TTL J-K Master Slave Flip-Flop	1.60
935-7212	NTE7473	14 Pin Dip	IC-TTL Dual J-K Flip-Flop	1.01
935-7211	NTE7474	14 Pin Dip	IC-TTL Dual 'D' Flip-Flop	1.09
935-7213	NTE7475	16 Pin Dip	IC-TTL 4 Bit Bistable Latch	2.36
935-7214	NTE7476	16 Pin Dip	IC-TTL Dual J-K Flip-Flop	1.26
935-7218	NTE7486	14 Pin Dip	IC-TTL Quad 2 Input Ex-OR	0.95
935-7221	NTE7490	14 Pin Dip	IC-TTL Decade Counter	1.53
935-7226	NTE7493A	14 Pin Dip	IC-TTL 4 Bit Shift Register	1.81
935-7158	NTE74121	14 Pin Dip	IC-TTL Mondstable Multivibrator	1.32
935-7233	NTE74154	16 Pin Dip	IC-TTL Decoder	3.05
935-7239	NTE74192	16 Pin Dip	IC-TTL BCD Counter	3.87
935-7186	NTE74193	16 Pin Dip	IC-TTL Binary Counter	3.87
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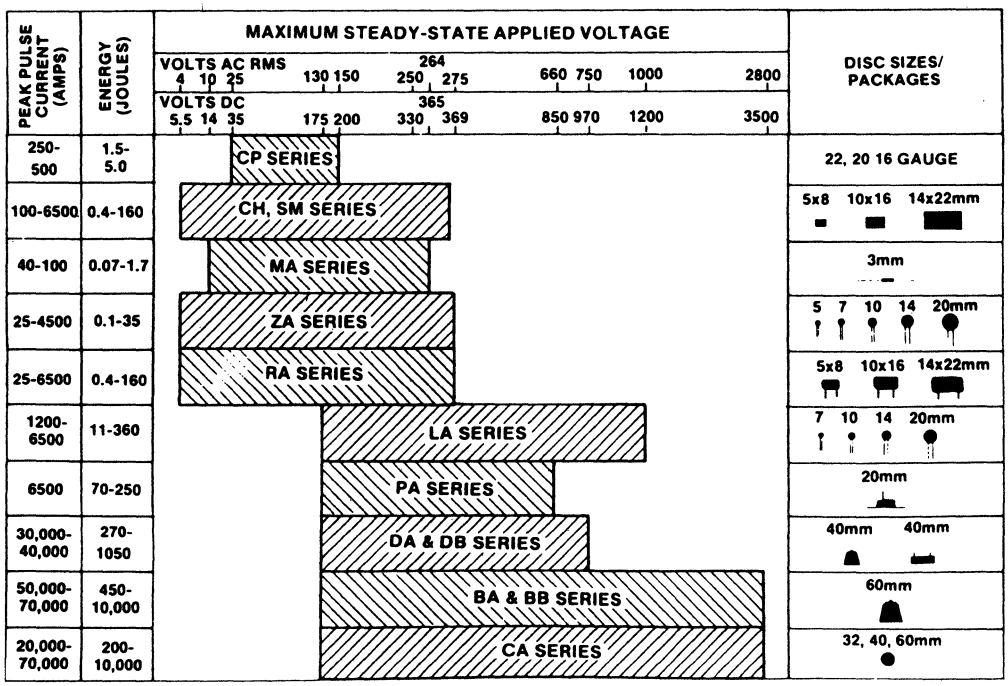
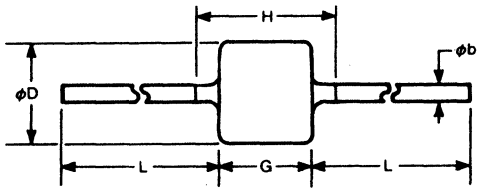
For quantity pricing or parts not listed, contact the Allied facility nearest you at 1-800-433-5700.

Varistor Product Family Selection Guide

All GE MOVs Available At Allied Electronics



MA Series—Axial Lead Varistors



	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
ϕb	0.024	0.026	.60	.66
ϕD	0.135	0.145	3.43	3.68
G	0.098	0.177	2.5	4.5
H	0.118	0.236	3.0	6.0
L	1.13	1.22	28.8	31.0

Typical Weight: 25 grams

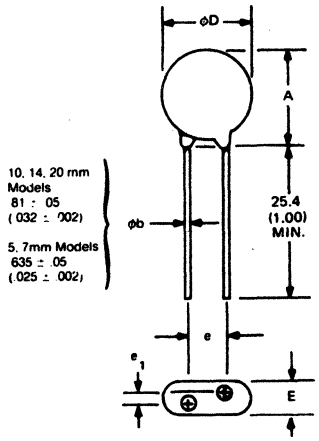
Stock No.	Mfr.'s Type	Device Marking	Maximum Ratings (75°C)				Characteristics (25°C)					EACH	
			Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current			Maximum Clamping Voltage V_c @ I_p = 2 A Test Current (8/20 μs)	Typical Capacitance		
			RMS Voltage	DC Voltage	Energy (10/100 μs)	Peak Current (8/20 μs)							
			$V_{m(ac)}$	$V_{m(dc)}$	W_{tm}	I_{tm}	Min.	$V_{N(dc)}$	Max.	V_c	f = 1 MHz		
			Volts	Volts	Joules	Amps	Volts	Volts	Volts	Volts	Picofarads	1-99	100-199
902-9500	V18MA1B	18B	10	14	0.07	40	15.0	18	21.0	44	550	0.83	0.67
902-9502	V22MA1B	22B	14	18	0.10	40	19.0	22	26.0	51	410	0.83	0.67
902-9504	V27MA1B	27B	17	22	0.11	40	24.0	27	31.0	59	370	0.83	0.67
902-9506	V33MA1A	33A	18	23	0.13	40	26.0	33	40.0	73	300	0.83	0.67
902-9508	V33MA1B	33B	20	26	0.15	40	29.5	33	36.5	67	300	0.83	0.67
902-9510	V39MA2A	39A	22	28	0.16	40	31.0	39	47.0	86	250	0.83	0.67
902-9512	V39MA2B	39B	25	31	0.18	40	35.0	39	43.0	79	250	0.83	0.67
902-9514	V47MA2A	47A	27	34	0.19	40	37.0	47	57.0	99	210	0.83	0.67
902-9516	V47MA2B	47B	30	38	0.21	40	42.0	47	52.0	90	210	0.83	0.67
902-9518	V56MA2A	56A	32	40	0.23	40	44.0	56	68.0	117	180	0.83	0.67
902-9520	V56MA2B	56B	35	45	0.25	40	50.0	56	62.0	108	180	0.83	0.67
902-9522	V68MA3A	68A	38	48	0.26	40	54.0	68	82.0	138	150	0.83	0.67
902-9524	V68MA3B	68B	40	56	0.30	40	61.0	68	75.0	127	150	0.83	0.67
902-9526	V82MA3A	82A	45	60	0.33	40	65.0	82	99.0	163	120	0.83	0.67
902-9528	V82MA3B	82B	50	66	0.37	40	73.0	82	91.0	150	120	0.83	0.67
902-9530	V100MA4A	100	57	72	0.40	40	80.0	100	120.0	200	100	0.83	0.67
902-9532	V100MA4B	101	60	81	0.45	40	90.0	100	110.0	185	100	0.83	0.67
902-9534	V120MA1A	120	72	97	0.40	100	102.0	120	138.0	220	40	0.83	0.67
902-9536	V120MA2B	121	75	101	0.50	100	108.0	120	132.0	205	40	0.83	0.67
902-9538	V150MA1A	150	88	121	0.50	100	127.0	150	173.0	255	32	0.83	0.67
902-9540	V150MA2B	151	92	127	0.60	100	135.0	150	165.0	240	32	0.83	0.67
902-9542	V180MA1A	180	105	144	0.60	100	153.0	180	207.0	310	27	0.83	0.67
902-9544	V180MA3B	181	110	152	0.70	100	162.0	180	198.0	290	27	0.83	0.67
902-9546	V220MA2A	220	132	181	0.80	100	187.0	220	253.0	380	21	0.83	0.67
902-9548	V220MA4B	221	138	191	0.90	100	198.0	220	242.0	360	21	0.83	0.67
902-9550	V270MA2A	270	163	224	0.90	100	229.0	270	311.0	460	17	0.83	0.67
902-9552	V270MA4B	271	171	235	1.00	100	243.0	270	297.0	440	17	0.83	0.67
902-9554	V330MA2A	330	188	257	1.00	100	280.0	330	380.0	570	14	0.83	0.67
902-9556	V330MA5B	331	200	274	1.10	100	297.0	330	363.0	540	14	0.83	0.67
902-9558	V390MA3A	390	234	322	1.20	100	331.0	390	449.0	670	12	0.83	0.67
902-9560	V390MA6B	391	242	334	1.30	100	351.0	390	429.0	640	12	0.83	0.67
902-9562	V430MA3A	430	253	349	1.50	100	365.0	430	495.0	740	11	0.83	0.67
902-9564	V430MA7B	431	264	365	1.70	100	387.0	430	473.0	700	11	0.83	0.67

NOTE: Power dissipation of transients not to exceed 20 milliwatts.

LA Series—Radial Lead Varistors

All GE MOVs Available From Allied Electronics

Series LA Varistors are listed under UL file #E75961 and E56529 as a recognized component.



Dimensions: MM (IN.)

SYMBOL	VARISTOR MODEL SIZE				
	5MM	7MM	10MM	14MM	20MM
A (MAX)†	10.0 (0.394)	11.7 (0.461)	16.0 (0.630)	18.9 (0.744)	25.5 (1.01)
ϕD (MAX)	7.0 (0.296)	8.7 (0.343)	12.5 (0.492)	16.4 (0.646)	22.5 (0.886)
e ± 1MM (.039)	5.0 (0.197)	5.0 (0.197)	7.5 (0.296)	7.5 (0.296)	7.5 (0.296)
Typ. Weight (g)	0.4	0.5	1.2	2	3

†For Models V420LA-V1000LA, A(MAX) for 10, 14, 20MM is 17.0(.669), 20.0(.787), 28.0(1.10) respectively.

SYMBOL	VARISTOR MODEL			
	V8ZA — V56ZA V120ZA — V180ZA	V68ZA — V100ZA V130LA — V320LA	V420LA V660LA	V1000LA
e_1 *± 1MM (.039) ‡ ± 1.5MM (0.59)	* 2.0 (.079)	* 2.5 (.098)	‡ 4.0 (.157)	‡ 7.3 (.287)
E (MAX)	5.0 (.197)	5.6 (.220)	7.3 (.287)	10.8 (.425)

Stock No.	Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Ratings (75°C)				Characteristics (25°C)						EACH	
				Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current			Maximum Clamping Voltage Vc @ Test Current (8/20 μs)		Typical Capacitance		
				RMS Voltage	DC Voltage	Energy (10/100 μs)	Peak Current (8/20 μs)								
				$V_{m(ac)}$	$V_{m(dc)}$	W_{tm}	I_{tm}	Min.	$V_{N(dc)}$	Max.	Vc	I_p	f = 1 MHz		
				Volts	Volts	Joules	Amps	Volts	Volts	Volts	Volts	Amps	Picofarads	1-99	100-199
902-9566	V130LA1	7	1301	130	175	11	1200	184	200	225	390	10	180	0.55	0.43
902-9568	V130LA2	7	1302	130	175	11	1200	184	200	228	340	10	180	0.38	0.32
902-9570	V130LA5	10	1305	130	175	20	2500	184	200	228	340	25	450	1.00	0.83
902-9572	V130LA10A	14	130L10	130	175	38	4500	184	200	228	340	50	1000	0.89	0.74
902-9574	V130LA20A	20	130L20	130	175	70	6500	184	200	228	340	100	1900	0.98	0.85
902-9576	V130LA20B	20	130L20B	130	175	70	6500	184	200	220	325	100	1900	1.12	0.97
902-9578	V140LA2	7	1402	140	180	12	1200	198	220	242	360	10	160	0.62	0.48
902-9580	V140LA5	10	1405	140	180	22	2500	198	220	242	360	25	400	1.00	0.83
902-9582	V140LA10A	14	140L10	140	180	42	4500	198	220	242	360	50	900	1.03	0.86
902-9584	V150LA1	7	1501	150	200	13	1200	212	240	284	430	10	150	0.55	0.43
902-9586	V150LA2	7	1502	150	200	13	1200	212	240	268	395	10	150	0.34	0.29
902-9588	V150LA5	10	1505	150	200	25	2500	212	240	268	395	25	360	1.00	0.83
902-9590	V150LA10A	14	150L10	150	200	45	4500	212	240	268	395	50	800	0.89	0.74
902-9592	V150LA20A	20	150L20	150	200	80	6500	212	240	268	395	100	1600	0.98	0.87
902-9594	V150LA20B	20	150L20B	150	200	80	6500	212	240	243	360	100	1600	0.73	0.62
902-9596	V15LA2	7	1752	175	225	15	1200	247	270	303	455	10	130	0.62	0.48
902-9598	V175LA10A	14	175L10	175	225	55	4500	247	270	303	455	50	700	1.03	0.86
902-9600	V230LA4	7	2304	230	300	20	1200	324	360	396	595	10	100	0.62	0.48
902-9602	V230LA10	10	230L	230	300	35	2500	324	360	396	595	25	250	1.03	0.86
902-9604	V230LA20A	14	230L20	230	300	70	4500	324	360	396	595	50	550	1.03	0.86
902-9606	V250LA2	7	2502	250	330	21	1200	354	390	473	730	10	90	0.55	0.43
902-9608	V250LA4	7	2504	250	330	21	1200	354	390	429	650	10	90	0.62	0.48
902-9610	V250LA10	10	250L	250	330	40	2500	354	390	429	650	25	220	1.03	0.86
902-9612	V250LA20A	14	250L20	250	330	72	4500	354	390	429	650	50	500	0.66	0.56
902-9614	V250LA40A	20	250L40	250	330	130	6500	354	390	429	650	100	1000	1.50	1.25
902-9616	V250LA40B	20	250L40B	250	330	130	6500	354	390	413	620	100	1000	1.65	1.39
902-9618	V275LA2	7	2752	275	369	23	1200	389	430	515	775	10	80	0.55	0.43
902-9620	V275LA4	7	2754	275	369	23	1200	389	430	473	710	10	80	0.62	0.48
902-9622	V275LA10	10	275L	275	369	45	2500	389	430	473	710	25	200	1.03	0.86
902-9624	V275LA20A	14	275L20	275	369	75	4500	389	430	473	710	50	450	0.55	0.50
902-9626	V275LA40A	20	275L40	275	369	140	6500	389	430	473	710	100	900	1.50	1.25
902-9628	V275LA40B	20	275L40B	275	369	140	6500	389	430	453	680	100	900	1.65	1.39
902-9630	V300LA2	7	3002	300	405	25	1200	420	470	565	870	10	70	0.55	0.43
902-9632	V300LA4	7	3004	300	405	25	1200	420	470	517	775	10	70	0.62	0.48
902-9634	V320LA20A	14	320L20	320	420	90	4500	462	510	565	850	50	380	1.30	1.10
902-9636	V320LA40B	20	320L40	320	420	160	6500	462	510	540	810	100	750	0.95	0.80
902-9638	V420LA10	10	420L	420	560	45	2500	610	680	748	1120	25	140	1.03	0.86
902-9640	V420LA20A	14	420L20	420	560	90	4500	610	680	748	1120	50	300	2.65	2.20
902-9642	V420LA40B	20	420L40	420	560	160	6500	610	680	720	1060	100	600	4.40	3.70
902-9644	V480LA40A	14	480L40	480	640	105	4500	670	750	825	1240	50	270	2.65	2.20
902-9646	V480LA80B	20	480L80	480	640	180	6500	670	750	790	1160	100	550	4.40	3.70
902-9648	V510LA40A	14	510L40	510	675	110	4500	735	820	910	1350	50	250	2.65	2.20
902-9650	V510LA80B	20	510L80	510	675	190	6500	735	820	860	1280	100	500	4.40	3.70
902-9652	V575LA40A	14	575L40	575	730	120	4500	805	910	1000	1500	50	220	2.65	2.20
902-9654	V575LA80B	20	575L80	575	730	220	6500	805	910	960	1410	100	450	4.40	3.70
902-9656	V660LA50A	14	660L50	660	850	140	4500	940	1050	1210	1820	50	200	2.65	2.20
902-9658	V660LA100B	20	660L100	660	850	250	6500	940	1050	1100	1650	100	400	4.40	3.70
902-9660	V1000LA80A	14	1000L80	1000	1200	220	4500	1425	1600	1800	2700	50	130	4.20	3.50
902-9662	V1000LA160B	20	1000L160	1000	1200	360	6500	1425	1600	1600	2420	100	250	7.00	5.85

NOTE: Power dissipation of transients not to exceed 0.25, 0.4, 0.6, 1.0 watts for sizes 7, 10, 14 and 20 mm respectively.

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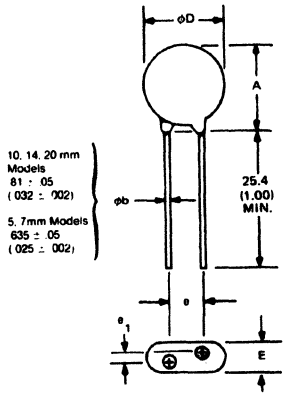
ZA Series—Radial Lead Varistors

All GE MOVs Available From Allied Electronics



Dimensions: MM (IN.)

SYMBOL	VARISTOR MODEL SIZE				
	5MM	7MM	10MM	14MM	20MM
A (MAX)†	10.0 (0.394)	11.7 (0.461)	16.0 (0.630)	18.9 (0.744)	25.5 (1.01)
ϕD (MAX)	7.0 (0.296)	8.7 (0.343)	12.5 (0.492)	16.4 (0.646)	22.5 (0.886)
e ± 1MM (.039)	5.0 (0.197)	5.0 (0.197)	7.5 (0.296)	7.5 (0.296)	7.5 (0.296)
Typ. Weight (g)	0.4	0.5	1.2	2	3

†For Models V420LA-V1000LA, A(MAX) for 10, 14, 20MM is 17.0(.669), 20.0(.787), 28.0(1.10) respectively

SYMBOL	VARISTOR MODEL			
	V8ZA — V56ZA V120ZA — V180ZA	V68ZA — V100ZA V130LA — V320LA	V420LA V660LA	V1000LA
e1 *± 1MM (.039) ‡ ± 1.5MM (0.59)	* 2.0 (.079)	* 2.5 (.098)	‡ 4.0 (.157)	‡ 7.3 (.287)
E (MAX)	5.0 (.197)	5.6 (.220)	7.3 (.287)	10.8 (.425)

Stock No.	Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Ratings (75°C)				Characteristics (25°C)						EACH	
				Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current			Maximum Clamping Voltage Vc @ Test Current (8/20 μs)		Typical Capacitance		
				RMS Voltage	DC Voltage	Energy (10/100 μs)	Peak Current (8/20 μs)	Min.	$V_{N(dc)}$	Max.	Vc	I_p	f = 1 MHz		
				$V_{m(ac)}$	$V_{m(dc)}$	W_{tm}	I_{tm}								
				Volts	Volts	Joules	Amps	Volts	Volts	Volts	Volts	Amps	Picofarads	1-99	100-199
902-9664	V8ZA05	5	Z08	4	5.5	0.1	25	6.0	8.2	11.0	30	2	700	0.67	0.52
902-9666	V8ZA1	7	08Z1	4	5.5	0.40	100	6.0	8.2	11.0	22	5	3000	0.48	0.40
902-9668	V8ZA2	10	08Z2	4	5.5	0.80	250	6.0	8.2	11.0	20	5	7500	0.90	0.75
902-9670	V12ZA05	5	Z12	6	8.0	0.14	50	9.0	12.0	16.0	37	2	600	0.67	0.52
902-9672	V12ZA1	7	12Z1	6	8.0	0.60	250	9.0	12.0	16.0	34	5	2500	0.70	0.55
902-9674	V12ZA2	10	12Z2	6	8.0	1.20	250	9.0	12.0	16.0	30	5	6000	0.90	0.75
902-9676	V18ZA05	5	Z18	10	14.0	0.17	50	14.4	18.0	21.6	44	2	500	0.55	0.42
902-9678	V18ZA1	7	18Z1	10	14.0	0.80	250	14.4	18.0	21.6	42	5	2000	0.30	0.25
902-9680	V18ZA2	10	18Z2	10	14.0	1.50	500	14.4	18.0	21.6	39	5	5000	0.90	0.75
902-9682	V18ZA3	14	18Z3	10	14.0	3.50	1000	14.4	18.0	21.6	39	10	11000	1.00	0.85
902-9684	V18ZA40	20	18Z40	10	14.0	80.00*	2000	14.4	18.0†	21.6	37	20	22000	1.25	1.05
902-9686	V22ZA05	5	Z22	14	18.0‡	0.20	50	18.7	22.0	26.0	51	2	400	0.55	0.42
902-9688	V22ZA1	7	22Z1	14	18.0‡	0.90	250	18.7	22.0	26.0	47	5	1600	0.38	0.32
902-9690	V22ZA2	10	22Z2	14	18.0‡	2.00	500	18.7	22.0	26.0	43	5	4000	0.90	0.75
902-9692	V22ZA3	14	22Z3	14	18.0‡	4.00	1000	18.7	22.0	26.0	43	10	9000	1.00	0.85
902-9694	V24ZA50	20	24Z50	14	18.0‡	100.00*	2000	19.2	24.0‡	26.0	43	20	18000	2.25	1.85
902-9696	V27ZA05	5	Z27	17	22.0	0.25	50	23.0	27.0	31.1	59	2	300	0.55	0.42
902-9698	V27ZA1	7	27Z1	17	22.0	1.00	250	23.0	27.0	31.1	57	5	1300	0.60	0.45
902-9700	V27ZA2	10	27Z2	17	22.0	2.50	500	23.0	27.0	31.1	53	5	3000	0.90	0.75
902-9702	V27ZA4	14	27Z4	17	22.0	5.00	1000	23.0	27.0	31.1	53	10	7000	1.00	0.85
902-9704	V27ZA60	20	27Z60	17	22.0	120.00*	2000	23.0	27.0†	31.1	50	20	15000	1.25	1.05
902-9706	V33ZA05	5	Z33	20	26.0	0.30	50	29.5	33.0	38.0	67	2	250	0.55	0.42
902-9708	V33ZA1	7	33Z1	20	26.0	1.20	250	29.5	33.0	36.5	68	5	1100	0.60	0.45
902-9710	V33ZA2	10	33Z2	20	26.0	3.00	500	29.5	33.0	36.5	64	5	2700	0.90	0.75
902-9712	V33ZA5	14	33Z5	20	26.0	6.00	1000	29.5	33.0	36.5	64	10	6000	0.45	0.38
902-9714	V33ZA70	20	33Z70	21	27.0	150.00*	2000	29.5	33.0†	36.5	58	20	13000	1.25	1.05
902-9716	V36ZA80	20	36Z80	23	31.0	160.00*	2000	32.0	36.0†	40.0	63	20	12000	1.25	1.05
902-9718	V39ZA05	5	Z39	25	31.0	0.35	50	35.0	39.0	46.0	79	2	220	0.55	0.42
902-9720	V39ZA1	7	39Z1	25	31.0	1.50	250	35.0	39.0	43.0	79	5	900	0.25	0.22
902-9722	V39ZA3	10	39Z3	25	31.0	3.50	500	35.0	39.0	43.0	76	5	2200	0.90	0.75
902-9724	V39ZA6	14	39Z6	25	31.0	7.20	1000	35.0	39.0	43.0	76	10	5000	1.00	0.85
902-9726	V47ZA05	5	Z47	30	38.0	0.40	50	42.0	47.0	55.0	90	2	200	0.55	0.42
902-9728	V47ZA1	7	47Z1	30	38.0	1.80	250	42.0	47.0	52.0	92	5	800	0.25	0.22
902-9730	V47ZA3	10	47Z3	30	38.0	4.50	500	42.0	47.0	52.0	89	5	2000	0.90	0.75
902-9732	V47ZA7	14	47Z7	30	38.0	8.80	1000	42.0	47.0	52.0	89	10	4500	0.50	0.43
902-9734	V56ZA05	5	Z56	35	45.0	0.50	50	50.0	56.0	66.0	108	2	180	0.55	0.42
902-9736	V56ZA2	7	56Z2	35	45.0	2.30	250	50.0	56.0	62.0	107	5	700	0.35	0.30
902-9738	V56ZA3	10	56Z3	35	45.0	5.50	500	50.0	56.0	62.0	103	5	1800	0.90	0.75
902-9740	V56ZA8	14	56Z8	35	45.0	10.00	1000	50.0	56.0	62.0	103	10	3900	1.00	0.85
902-9742	V68ZA05	5	Z68	40	56.0	0.60	50	61.0	68.0	80.0	127	2	150	0.55	0.42
902-9744	V68ZA2	7	68Z2	40	56.0	3.00	250	61.0	68.0	75.0	127	5	600	0.32	0.28
902-9746	V68ZA3	10	68Z3	40	56.0	6.50	500	61.0	68.0	75.0	123	5	1500	0.90	0.75
902-9748	V68ZA10	14	68Z10	40	56.0	13.00	1000	61.0	68.0	75.0	123	10	3300	1.00	0.85
902-9750	V82ZA05	5	Z82	50	66.0	0.70	200	73.0	82.0	97.0	145	2	120	0.55	0.42
902-9752	V82ZA2	7	82Z2	50	66.0	4.00	1200	73.0	82.0	91.0	135	10	500	0.60	0.45
902-9754	V82ZA4	10	82Z4	50	66.0	8.00	2500	73.0	82.0	91.0	135	25	1100	0.90	0.75
902-9756	V82ZA12	14	82Z12	50	66.0	15.00	4500	73.0	82.0	91.0	145	50	2500	1.00	0.85
902-9758	V100ZA05	5	Z100	60	81.0	0.80	200	90.0	100.0	117.0	175	2	90	0.55	0.42
902-9760	V100ZA3	7	100Z	60	81.0	5.00	1200	90.0	100.0	110.0	165	10	400	0.60	0.45
902-9762	V100ZA4	10	100Z4	60	81.0	10.00	2500	90.0	100.0	110.0	165	25	900	0.90	0.75
902-9764	V100ZA15	14	100Z15	60	81.0	20.00	4500	90.0	100.0	110.0	175	50	2000	1.00	0.85
902-9766	V120ZA05	5	Z120	75	102.0	1.00	200	108.0	120.0	138.0	205	2	70	0.55	0.42
902-9768	V120ZA1	7	120Z	75	102.0	6.00	1200	108.0	120.0	132.0	205	10	300	0.60	0.45
902-9770	V120ZA4	10	120Z4	75	102.0	12.00	2500	108.0	120.0	132.0	200	25	750	0.90	0.75
902-9772	V120ZA6	14	120Z6	75	102.0	22.00	4500	108.0	120.0	132.0	210	50	1700	1.00	0.85
902-9774	V150ZA05	5	Z150	92	127.0	1.30	200	135.0	150.0	173.0	240	2	60	0.55	0.42
902-9776	V150ZA1	7	Z051	95	127.0	8.00	1200	135.0	150.0	165.0	250	10	250	0.60	0.45
902-9778	V150ZA4	10	150Z4	95	127.0	15.00	2500	135.0	150.0	165.0	250	25	600	0.90	0.75
902-9780	V150ZA8	14	150Z8	95	127.0	30.00	4500	135.0	150.0	165.0	255	50	1400	1.00	0.85
902-9782	V180ZA05	5	Z180	110	153.0	1.70	200	162.0	180.0	207.0	290	2	50	0.55	0.42
902-9784	V180ZA1	7	180Z	115	153.0	10.00	1200	162.0	180.0	198.0	295	10	200	0.60	0.45
902-9786	V180ZA5	10	180Z5	115	153.0	18.00	2500	162.0	180.0	198.0	300	25	500	0.90	0.75
902-9788	V180ZA10	14	180Z10	115	153.0	35.00	4500	162.0	180.0	198.0	300	50	1100	1.00	0.85
902-9790	V220ZA05	5	Z220	140	180.0	2.00	200	198.0	220.0	253.0	360	2	45	0.55	0.42
902-9792	V270ZA05	5	Z270	175	225.0	2.50	200	243.0	270.0	311.0	440	2	35	0.55	0.42
902-9794	V330ZA05	5	Z330	210	275.0	3.10	200	297.0	330.0	380.0	540	2	30	0.55	0.42
902-9796	V390ZA05	5	Z390	250	330.0	3.60	200	351.0	390.0	449.0	640	2	25	0.55	0.42
902-9798	V430ZA05	5	Z430	275	369.0	4.00	200	387.0	430.0	495.0	700	2	22	0.55	0.42

NOTE: Power dissipation of transients not to exceed 0.2, 0.25, 0.4, 0.6, 1.0 watts for sizes 5, 7, 10, 14 and 20 mm respectively. *Energy rating for impulse duration of 30 milliseconds minimum to one half of peak current value. †10 mA dc test current. ‡Also rated to withstand 24V for 5 minutes.

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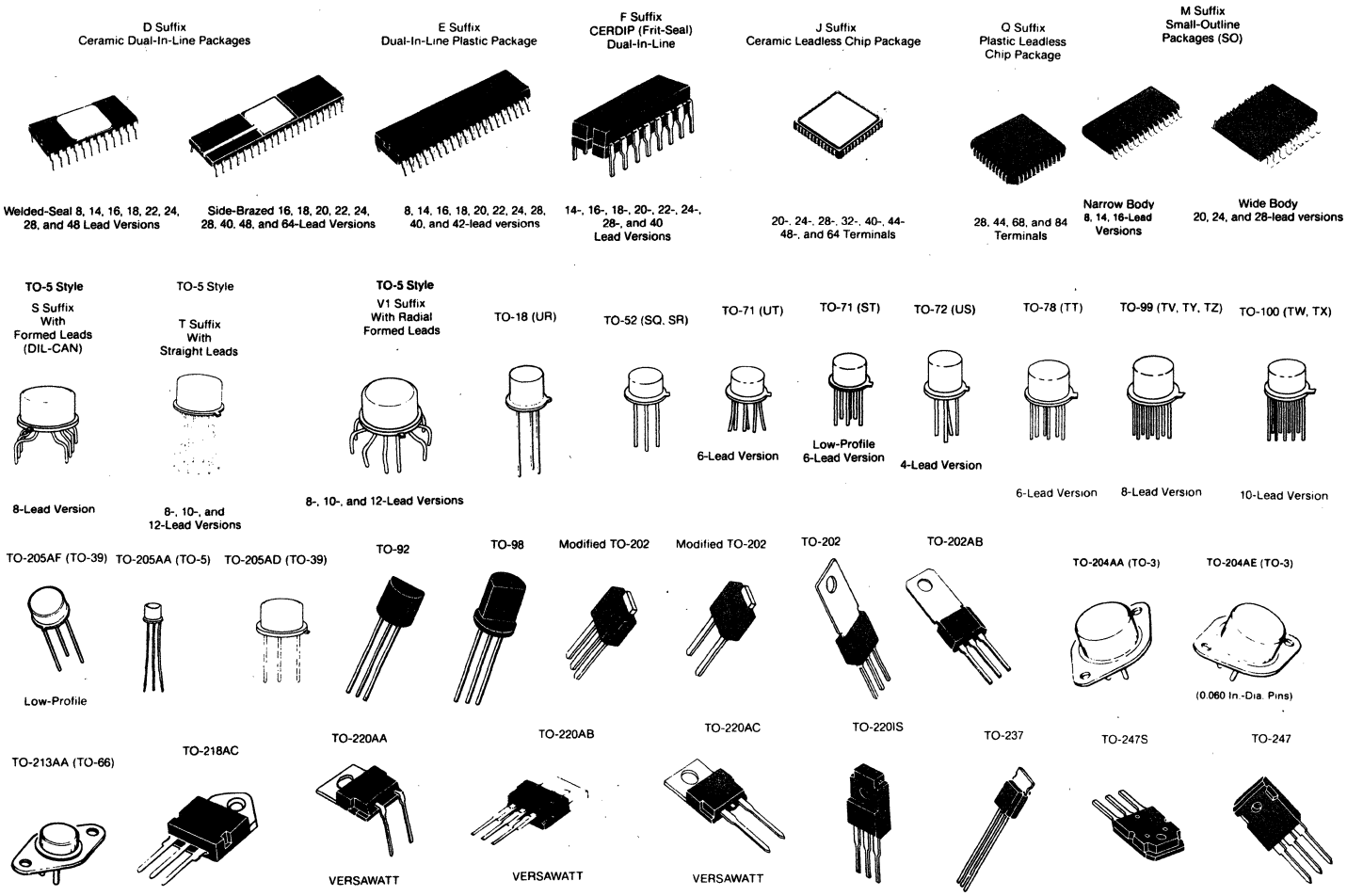
Package Information



Prefix CA: Linear Integrated Circuits

Suffix (First Letter)—Test Specification Designator
Not always present—absence indicates that the device adheres to standard GE databook specifications.
A = Premium tested
B = Premium tested (best specification)
C = Commercial temperature range (0 to 70 degrees C)

Suffix (Last Letter)—Package Style Designator
D = Dual-in-line size-brazed or welded-seal ceramic
E = Dual-in-line plastic
F = Dual-in-line frit-seal (CERDIP)
M = Small outline ("Surface Mount")
Q = Quad-in-line plastic
S = Dual-in-line formed lead TO-5
T = TO-5

Prefix CD74: CMOS Digital Integrated Circuits

Operating Temperature Range Designator
74 = −40 to +125 degrees C

Logic Speed and Input Voltage Level Compatibility Designator
AC = Advanced CMOS logic; compatible with input voltage levels
ACT = Advanced CMOS logic; compatible with TTL input voltage levels
HC = High-speed CMOS logic; compatible with CMOS input voltage levels
HCT = High-speed CMOS logic; compatible with TTL input voltage levels

Suffix (First Letter)—Basic Device Type Designation
A two-, three-, or four-digit number sometimes followed by a letter indicating the revision level (A = 1st, B = 2nd)

Suffix (Last Letter)—Package Style Designator
F = Dual-in-line frit-seal (CERDIP)—CD54 only
E = Dual-in-line plastic—CD74 only
EN = Same as "E"
M = Small outline package ("Surface Mount")—CD74 only

Prefix CD1 through CD4: CMOS Digital Integrated Circuits, Standard Logic

Suffix (First Letter(s))—Supply Voltage and Input Buffering Designator
A = Absolute maximum DC supply voltage is 15 volts
B = Absolute maximum DC supply voltage is 20 volts
UB = Same as 'B' plus inputs are unbuffered

Suffix (Last Letter)—Package Style Designator
D = Dual-in-line side-brazed or welded-seal ceramic
E = Dual-in-line plastic
F = Dual-in-line frit-seal (CERDIP)
K = Flat pack
M = Small outline package ('Surface Mount')
T = TO-5

CMOS Logic Integrated Circuits

Single Level NOR/NAND, OR/AND Gates

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3399	CD4001AE	Quad 2-input NOR gate	14E	.58	.54	.51	.48
902-3400	CD4001BF	Quad 2-input NOR gate	14F	.85	.80	.75	.71
902-3401	CD4001BE	Quad 2-input NOR gate	14E	.41	.39	.37	.35
902-3402	CD4002BE	Dual 4-input NOR gate	14E	.41	.39	.37	.35
902-3500	CD4011AE	Quad 2-input NAND gate	14E	.69	.52	.44	.39
902-3411	CD4011BE	Quad 2-input NAND gate	14E	.41	.39	.37	.35
902-3501	CD4011BF	Quad 2-input NAND gate	14F	.99	.82	.74	.59
902-3502	CD4011UBE	Quad 2-input NAND gate (unbuffered)	14E	.49	.42	.34	.29
902-3412	CD4012BE	Dual 4-input NAND gate	14E	.41	.39	.37	.35
902-3423	CD4023BE	Triple 3-input NAND gate	14E	.41	.39	.37	.35
902-3425	CD4025BE	Triple 3-input NOR gate	14E	.41	.39	.37	.35
902-5654	CD4068BE	8-input NAND/AND	14E	.41	.39	.37	.35
902-3471	CD4071BE	Quad 2-input or gate	14E	.49	.42	.34	.29
902-3475	CD4073BE	triple 3-input and gate	14E	.49	.42	.34	.29
902-3476	CD4078BE	8-input NOR gate	14E	.49	.42	.34	.29
902-3481	CD4081BE	Quad 2-input and gate	14E	.49	.42	.34	.29
902-3482	CD4082BE	Dual 4-input and gate	14E	.49	.42	.34	.29
902-3905	CD40107BE	Dual 2-input NAND buffer	14E	1.39	1.20	1.09	.89

Buffers/Inverters

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3771	CD4503BE	Hex buffer (3-state, non-inverting)	16E	.79	.72	.60	.49
902-3406	CD4007AE	Dual pair plus inverter	14E	.58	.54	.51	.48
902-3407	CD4007UBE	Dual pair plus inverter (unbuffered)	14E	.41	.39	.37	.35
902-3409	CD4009UBE	Hex buffer/converter (inverting, unbuffered)	16E	.79	.72	.60	.49
902-3410	CD4010BE	Hex buffer/converter (non-inverting)	16E	.79	.72	.60	.49
902-3449	CD4049UBE	Hex buffer/converter (inverting, unbuffered)	16E	.59	.51	.47	.35
902-3450	CD4050BE	Hex buffer/converter (non-inverting)	16E	.59	.51	.47	.35
902-3469	CD4069UBE	Hex inverter (unbuffered)	14E	.49	.42	.34	.29

Multifunctional/AOI

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3430	CD4030BE	Quad exclusive-OR gate	14E	1.49	1.30	1.19	.99
902-3448	CD4048BE	Multifunction expandable 8-input gate (3-state)	16E	1.49	1.30	1.19	.99
902-3470	CD4070BE	Quad exclusive-OR gate	14E	.49	.42	.34	.29
902-3473	CD4077BE	Quad exclusive-NOR gate	14E	.49	.42	.34	.29

Schmitt Triggers

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3493	CD4093BE	Quad 2-input NND Schmitt trigger	14E	.59	.51	.47	.35
902-3904	CD40106BE	Hex Schmitt trigger	14E	.79	.62	.54	.49

Interface Circuits

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3907	CD40109BE	Quad low-to-high level shifter	16E	1.09	.92	.84	.69
902-3914	CD40116E	High-speed 8-bit bidirectional, CMOS/TTL interface level counter	22E	13.99	12.98	12.09	11.29

Multivibrators

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3447	CD4047BE	Monostable/astable multivibrator	14E	1.09	.92	.84	.69
902-3498	CD4098BE	Dual monostable multivibrator	16E	1.09	.92	.84	.69
902-3776	CB4538BE	Dual precision monostable multivibrator	16E	1.19	1.05	.99	.89

Flip-Flop

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3413	CD4013BE	Dual 'D' flip-flop	14E	.41	.39	.37	.35
902-3427	CD4027BE	Dual J-K flip-flop	16E	.59	.51	.47	.35
902-3472	CD4076BE	4-bit 'D' flip-flop (3-state)	14E	1.09	.92	.84	.69
902-3503	CD4013AE	Dual 'D' flip-flop	14E	1.19	1.05	.99	.89
902-3945	CD40174BE	Hex 'D' flip-flop	16E	.99	.82	.74	.59

Latches

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3443	CD4043BE	Quad 3-state NOR R/S latch	16E	.99	.82	.74	.59
902-8910	CD4099BE	8-bit addressable	16E	1.09	.99	.89	.69
902-8908	CD4508BE	Dual 4-bit	24E	2.69	2.49	2.29	1.69
902-8912	CD4724BE	8-bit addressable	16E	2.19	1.99	1.79	1.39

Registers

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-8914	CD4006BE	18-stage static shift register	14E	.99	.89	.79	.59
902-8920	CD4014BE	8-stage static shift register	16E	1.09	.99	.89	.69
902-3415	CD4015BE	Dual 4-state static shift register	16E	.99	.82	.74	.59
902-3421	CD4021BE	8-stage shift register	16E	.99	.82	.74	.59
902-8916	CD4031BE	64-stage static shift register	16E	4.39	3.89	3.39	2.79
902-8924	CD4034BE	8-stage static shift register	24E	3.59	3.19	2.79	2.28
902-8922	CD4035BE	4-stage parallel in/out shift register	16E	1.09	.99	.89	.69
902-3474	CD4094BE	8-stage shift and store bus register	16E	1.09	.92	.84	.69
902-3903	CD40105BE	4 x 16 FIFD register	16E	2.19	2.02	1.89	1.79
902-8918	CD4517BE	Dual 64-stage static shift register	16E	2.09	1.89	1.69	1.39

Counters

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3417	CD4017BE	Decade counter/divider	16E	.94	.82	.74	.59
902-3418	CD4018BE	Presettable diide-by-'N' counter	16E	1.09	.92	.84	.69
902-5656	CD4020BE	14-stage binary ripple	16E	.99	.82	.74	.59
902-3424	CD4024BE	7-stage binary counter	14E	.69	.52	.44	.39
902-3429	CD4029BE	Presettable up/down counter	16E	.99	.82	.74	.59
902-3440	CD4040BE	12-stage binary/ripple counter	16E	.99	.82	.74	.59
902-3505	CD4017BE	Decade counter/divider	16E	2.09	1.89	1.69	1.59
902-3506	CD4022AE	Divide-by-8 counter/divider	16E	.99	.82	.74	.59
902-3774	CD4516BE	4-bit binary up/down counter	16E	1.09	.94	.84	.69
902-3765	CD4518BE	Dual BCD up counter	16E	1.09	.92	.84	.69
902-5658	CD40192BE	4 bit BCD	16E	1.99	1.75	1.59	1.39
902-5660	CD40193BE	4 bit binary	16E	2.19	1.95	1.79	1.49
902-3900	CD40103BE	Presettable 8-bit binary down counter	16E	1.39	1.20	1.09	.89

Multiplexers/Demultiplexers

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-3504	CD4016AE	Quad Bilateral Switch	14E	1.19	1.05	.99	.89
902-3416	CD4016BE	Quad Bilateral Switch	14E	.59	.52	.48	.39
902-3451	CD4051BE	Single 8 Channel	16E	.99	.82	.74	.59
902-5662	CD4052BE	Differential 4 Channel	16E	.99	.82	.74	.59
902-5664	CD4053BE	Triple 2 Channel	16E	.99	.82	.74	.59
902-3465	CD4066AE	Quad Bilateral Switch	14E	1.19	1.05	.99	.89
902-3466	CD4066BE	Quad Bilateral Switch	14E	.59	.52	.44	.39
902-3773	CD4512BE	8 Channel	16E	.99	.82	.74	.59

OP-Amps and Comparators

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-5650	CA124E	Quad OP-Amp	14E	1.89	1.69	1.49	1.29
902-5502	CA158T	Dual OP-Amp	8T	3.39	3.09	2.79	2.19
902-5005	CA224E	Quad OP-Amp	14E	.79	.62	.54	.49
902-5014	CA324E	Quad OP-Amp	14E	.79	.72	.60	.49
902-5020	CA339E	Quad Volt Comparator	14E	.59	.54	.49	.45
902-5050	CA741CE	Single Gen. Purp. OP-Amp	8E	.69	.64	.59	.49
902-5506	CA741E	Single OP-Amp	8E	.79	.71	.63	.49
902-5045	CA741T	Single OP-Amp	8T	2.29	2.09	1.89	1.59
902-5065	CA747CE	Dual 741	8E	.89	.80	.70	.59
902-5510	CA747E	Dual 741	14E	.99	.91	.83	.69
902-5075	CA1458E	Dual 748	8E	.89	.80	.70	.59
902-5085	CA1458T	Dual OP-Amp	8T	2.19	1.99	1.69	1.39
902-5652	CA3078T	OTA	8T	2.29	2.09	1.79	1.49
902-5216	CA3080E	High Slew Rate OTA	8E	1.09	.99	.90	.79
902-5255	CA3094AE	High Current OP Amp	8E	2.19	1.99	1.69	1.39
902-5512	CA3094E	Programable	8E	1.69	1.57	1.44	1.09
902-5514	CA3100E	Wideband BiMOS OP-Amp	8E	1.99	1.79	1.59	1.29
902-5266	CA3130AE	BiMOS OP-Amp with MOS Input and MOS Output	8E	1.89	1.72	1.51	1.29
902-5516	CA3130E	BiMOS OP-Amp	8E	1.39	1.27	1.15	.89
902-5265	CA3130S	BiMOS OP-Amp	8S	2.39	2.19	1.99	1.69
902-5520	CA3130T	BiMOS OP-Amp	8T	2.29	2.09	1.89	1.49
902-5272	CA3140AE	MOS Input and Bipolar output	8E	1.19	1.09	.99	.79
902-5273	CA3140AS	Wideband Single OP Amp	8S	2.49	2.29	2.09	1.69
902-5274	CA3140AT	Wideband Single OP Amp	8T	2.39	2.19	1.99	1.59
902-5276	CA3140E	BiMOS OP-Amp	8E	.79	.74	.69	.59
902-5275	CA3140S	BiMOS OP-Amp	8S	2.19	1.99	1.69	1.39
902-5280	CA3140T	Wideband Single OP-Amp	8T	1.99	1.75	1.59	1.39
902-5295	CA3160AE	Wideband Singles OP-Amp	8E	1.99	1.79	1.59	1.29
902-5300	CA3160E	BiMOS OP-Amp	8E	1.19	1.09	.99	.79
902-5528	CA3240AE	Dual BiMOS OP-Amp	8E	2.59	2.39	2.09	1.69
902-5376	CA3240E	Dual BiMOS OP-Amp with MOS Input and Bipolar Output	8E	1.69	1.57	1.44	1.19
902-5530	CA3260AE	Dual BiMOS OP-Amp	8E	3.19	2.95	2.69	2.19
902-5395	CA3260E	Dual BiMOS OP-Amp with MOS In/Out	8E	2.19	1.99	1.79	1.34
902-5532	CA3280E	Dual OTA	16E	2.59	2.39	2.09	1.69
902-5425	CA3290E	Dual BiMOS	8E	.99	.90	.80	.69
902-5534	CA3440AE	Nano Power	8E	1.49	1.36	1.23	.99
902-8050	LM301AN	General Purpose OP-Amp	8E	.69	.64	.59	.49
902-8060	LM311N	Single Volt Comp	8E	.59	.54	.49	.39
902-8070	LM339N	Quad Voltage Comp	14E	.59	.54	.49	.39
902-8075	LM358N	Dual OP-Amp	8E	.59	.54	.49	.39
902-8090	LM741CH	General Purpose OP-Amp	14E	1.99	1.79	1.59	1.29

Arrays

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-5536	CA3018A	Transistors	12T	2.99	2.69	2.39	1.89
902-5538	CA3045	Transistors	14D	7.99	7.39	6.79	5.99
902-5190	CA3046	Transistors	14E	.99	.90	.81	.69
902-5220	CA3081	NPN transistor	16E	1.19	1.09	.98	.79
902-5024	CA3082	NPN transistor	16E	1.19	1.05	.99	.89
902-5025	CA3083	NPN transistor	16E	1.19	1.05	.99	.89
902-5245	CA3086	NPN transistor	14E	.89	.80	.70	.59
902-5540	CA3096CE	NPN/PNP transistor	16E	.99	.89	.79	.59
902-5285	CA3141E	Diodes	16E	1.29	1.19	1.09	.89
902-5290	CA3146E	High voltage transistor	16E	1.39	1.29	1.19	.99

Regulators

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-5040	CA723E	Adjustable; 2 to 37 volts	14E	.99	.85	.79	.69
902-5235	CA3085	Adjustable; 1.8 to 26 volts	8E	2.29	2.09	1.79	1.49
902-5236	CA3085A	Adjustable; 1.7 to 36 volts	8E	2.69	2.49	2.29	1.79
902-8085	LM723CN	Adjustable; 2 to 37 volts	14E	.69	.64	.59	.49

Special Function Circuits

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-5542	CA555CE	Timer for timing delays and oscillator applications	8E	.79	.71	.63	.49
902-5031	CA555E	Timer for timing delays and oscillator applications	8E	.89	.80	.70	.59
902-5035	CA555CT	—	8T	1.99	1.75	1.59	1.39
902-8080	LM555CN	Timer for timing delays and oscillator applications	8E	.79	.71	.63	.49
902-5247	CA3088E	General Purpose Amp Array	16E	2.49	2.29	2.09	1.69
902-5250	CA3089E	FM/IF System	16E	1.49	1.35	1.22	.99
902-5544	CA3098E	Programable Schmitt trigger with memory	8E	1.59	1.49	1.39	1.19
902-5305	CA3161E	BCD-to-seven segment decoder/driver	16E	1.99	1.79	1.59	1.29
902-5310	CA3162E	A/D converter for 3-digit digital readout system	16E	7.99	7.39	6.79	5.99
902-5330	CA3189E	Hi-Fi FM	16E	1.69	1.57	1.44	1.19
902-5340	CA3199E	Tuning Control	8E	1.59	1.47	1.35	1.09

Differential Amplifiers

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-5546	CA3028A	CAS code, amplifier	8T	2.29	2.09	1.89	1.49
902-5195	CA3053	Diff/Cascade AMP	8E	1.99	1.75	1.59	1.39
902-5200	CA3054	Dual Independent	14E	1.09	.99	.90	.79
902-5548	CA3102E	Dual, high frequency amplifier	14E	4.69	4.19	3.69	2.99

Zero-Voltage Switches

Stock No.	Mfr.'s Type	Description	Package	EACH 1-24	25-49	50-99	100-Up
902-5205	CA3059	For 24 to 277 volts at 50, 60, 400 Hz	14E	1.49	1.35	1.22	.99
902-5210	CA3079	For 24 to 277 volts at 50, 60, 400 Hz	14E	.99	.90	.81	.69

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MOS Field Effect Transistors (N-Channel Depletion Types)

Stock No.	Mfr.'s Type	Device Class (Gate Type)	Limit Conditions: Device Dissipation P_T W	Drain Current I_D mA	Drain to Source Voltage V_{DS} V	Gate to Source Voltage V_{GS} V	Characteristics: Typical Forward Transconductance g_{fs} μmho	Noise Figure NF dB	Zero Bias Drain Current I_{DSS} mA	Power Gain G_{PS} dB	Case Style	EACH 1-24	25-49	50-99	100-Up
902-3050	3N187	Dual	0.33	50	+20	−6	12,000 + 3	3.50 @ 200 MHz	15	16.0	TO-72	**3.91**	**3.69**	**3.47**	**3.26**
902-3055	3N200	Dual	0.33	50	−0.2, +20	−6, +3	15,000	3.50 @ 400 MHz	5	12.5	TO-72	**6.19**	**5.85**	**5.50**	**5.16**
902-4105	40841	Dual	0.33	50	−0.2, +18	−4.5, +3	12,000	0.46 @ 1 kHz	10	—	TO-72	**1.89**	**1.69**	**1.52**	**1.39**

Silicon Controlled Rectifiers

Stock No.	Mfr.'s Type	I_T (RMS)	I_{TSM} (60 Hz)	V_{DROM} (V)	I_{GT} (mA)	V_{GT} (V)	dv/dt (V/Os)	Case Style	EACH 1-24	25-49	50-99	100-Up
902-7100	50RIA60	80 A	1490 A	600	100	2.5	200	TO-208AC	**27.99**	**24.99**	**21.00**	**17.99**

Stud Rectifiers

Stock No.	Mfr.'s Type	I @ Tc (Tc = Case Temp.)	I_{FSM}	I_R	V_{RRM} (V) (PRV)	Case Style	EACH 1-24	25-49	50-99	100-Up
902-1020	IN3768	35 A @ 140°C	500 A	10 mA	1000	DO-203MB	**13.27**	**12.53**	**11.79**	**11.06**
902-7000	12F60B	12 A @ 150°C	200 A	3 A	600	DO-203MA	**4.99**	**4.59**	**4.19**	**3.49**
902-7060	40HF60	40 A @ 140°C	500 A	7 mA	600	DO-203MB	**7.89**	**7.09**	**6.29**	**5.09**
902-7135	70H60A	85 A @ 115°C	1500 A	10 mA	600	DO-203MB	**15.46**	**14.60**	**13.74**	**12.89**

Transistors

Silicon N-P-N Bipolar Transistors

Stock No.	Mfr.'s Type	Limit Conditions: Device Dissipation Watts P_T	Collector Current: Continuous Amps I_C	Peak (Surge) Amps I_{CM}	Breakdown Voltage: Collector to Base V_{CBO}	Collector to Emitter V_{CEO}	Emitter to Base V_{EBO}	Characteristics: Current Gain h_{FE}	V_{CE} Volts	I_C Amps	Max. Saturation Voltage V_{CE} (SAT)	I_C Amps	Typical Gain Bandwidth Product, MHz f_T	Case Style	EACH 1-24	25-49	50-99	100-Up
902-2002	2N697*	2.0	0.5	—	60	40	5	40-120	10	0.15	1.50	0.15	100.0	TO-205AF	**0.77**	**0.73**	**0.69**	**0.65**
902-2015	2N2102	5.0	1.0	—	120	65	7	40-120	10	0.15	0.50	0.15	60.0	TO-205AF	**1.10**	**1.04**	**0.98**	**0.92**
902-2026	2N3053A	5.0	0.7	—	80	60	5	50-250	10	0.15	0.30	0.15	60.0	TO-205AF	**1.31**	**1.24**	**1.17**	**1.10**
902-2035	2N3584	35.0	2.0	5	375	250	6	25-100	10	1.00	0.75	1.00	10.0	TO-213MA	**2.25**	**2.13**	**2.00**	**1.88**
902-2040	2N3585	35.0	2.0	5	500	300	6	25-100	10	1.00	0.75	1.00	10.0	TO-213MA	**2.34**	**2.21**	**2.08**	**1.95**
902-2085	2N3773	150.0	16.0	30	160	140	7	15-60	4	8.00	1.40	8.00	0.2	TO-204AA	**2.39**	**2.26**	**2.13**	**2.00**
902-2120	2N4240	35.0	2.0	5	500	300	6	10-100	2	0.75	1.00	0.75	15.0	TO-213MA	**2.45**	**2.31**	**2.18**	**2.04**
902-2138	2N5038*	140.0	20.0	30	150	90	7	20-100	5	12.00	1.00	12.00	60.0	TO-204AA	**4.99**	**4.50**	**3.98**	**3.39**
902-2140	2N5039*	140.0	20.0	30	125	75	7	20-100	5	10.00	1.00	10.00	60.0	TO-204AA	**4.99**	**4.79**	**4.39**	**3.39**
902-2157	2N5301	200.0	30.0	50	40	40	5	15-60	3	15.00	2.00	20.00	2.0	TO-204AA	**3.17**	**2.99**	**2.82**	**2.64**
902-2160	2N5302	200.0	30.0	50	60	60	5	15-60	3	15.00	2.00	20.00	2.0	TO-204AA	**3.17**	**2.99**	**2.82**	**2.64**
902-2162	2N5320	10.0	2.0	—	100	75	7	30-130	4	0.50	0.50	0.50	50.0	TO-205AF	**1.20**	**1.19**	**1.09**	**0.89**
902-2164	2N5321	10.0	2.0	—	75	50	5	40-250	4	0.50	0.80	0.50	50.0	TO-205AF	**1.08**	**1.02**	**0.96**	**0.90**
902-2195	2N5496	50.0	7.0	—	90	70	5	20-100	4	3.50	1.00	3.50	0.8	TO-220AB	**1.30**	**1.22**	**1.15**	**1.08**
902-2290	2N5631	200.0	16.0	20	120	120	7	20-80	2	8.00	1.00	10.00	1.0	TO-204AA	**6.25**	**5.90**	**5.55**	**5.21**
902-2305	2N5885	200.0	25.0	50	60	60	5	20-100	4	10.00	1.00	15.00	4.0	TO-204AA	**3.47**	**3.28**	**3.09**	**2.90**
902-2210	2N5886	200.0	25.0	50	80	80	5	20-100	4	10.00	1.00	15.00	4.0	TO-204AA	**3.99**	**3.79**	**3.57**	**3.35**
902-2256	2N6259	250.0	16.0	30	170	150	7	15-60	2	3.00	1.00	8.00	0.2	TO-204AA	**7.18**	**6.78**	**6.38**	**5.99**
902-6560	TIP29	30.0	3.0	—	40	40	5	15-150	4	1.00	0.70	1.00	3.0	TO-220AB	**0.69**	**0.64**	**0.59**	**0.49**
902-6566	TIP31	40.0	5.0	—	40	40	5	10-50	4	3.00	1.20	3.00	3.0	TO-220AB	**0.69**	**0.64**	**0.59**	**0.49**
902-6567	TIP31B	40.0	5.0	—	80	80	5	10-50	4	3.00	1.20	3.00	3.0	TO-220AB	**0.69**	**0.64**	**0.59**	**0.49**
902-6570	TIP41	65.0	7.0	10	40	40	5	15-150	4	3.00	2.00	6.00	3.0	TO-220AB	**0.69**	**0.64**	**0.59**	**0.49**
902-6571	TIP41A	65.0	7.0	10	60	60	5	15-150	4	3.00	2.00	6.00	3.0	TO-220AB	**0.69**	**0.64**	**0.59**	**0.49**

Silicon P-N-P Bipolar Transistors

902-2115	2N4037	7.0	− 1.0	—	− 60	− 40	−7	50-250	− 10	− 0.15	−1.40	− 0.15	60.0	TO-205AF	**0.92**	**0.87**	**0.82**	**0.77**
902-2255	2N4904	87.5	− 5.0	—	− 40	− 40	−5	25-100	− 2	− 2.50	−1.00	− 2.50	4.0	TO-204AA	**2.34**	**2.21**	**2.08**	**1.95**
902-2165	2N5322	10.0	− 2.0	—	−100	− 75	−7	30-130	− 4	− 0.50	−0.70	− 0.50	20.0	TO-205AF	**1.80**	**1.70**	**1.60**	**1.50**
902-2170	2N5415	10.0	− 1.0	—	−200	−200	−4	30-150	− 10	− 0.05	−2.50	− 0.05	15.0	TO-205AF	**1.51**	**1.43**	**1.34**	**1.26**
902-2209	2N5875	150.0	− 5.0	− 10	− 60	− 60	−5	20-100	− 4	− 4.00	−1.00	− 4.00	4.0	TO-204AA	**1.82**	**1.72**	**1.62**	**1.52**
902-2240	2N6124	40.0	− 4.0	—	− 45	− 45	−5	25-100	− 2	− 1.50	−0.60	− 1.50	2.5	TO-220AB	**0.72**	**0.68**	**0.60**	—
902-2380	2N6421*	35.0	− 1.0	− 5	−275	−250	−6	25-100	− 10	− 1.00	−0.75	− 1.00	10.0	TO-213MA	**2.27**	**2.14**	**2.02**	**1.89**
902-6565	TIP30	30.0	− 3.0	—	− 40	− 40	−3	15-150	− 4	− 1.00	−0.70	− 1.00	3.0	TO-220AB	**0.69**	**0.64**	**0.59**	**0.49**

N-P-N Darlington Transistors

902-2315	2N6044	75.0	8.0	16	80	80	5	1.00-20K	4	4.00	2.00	4.00	4.0	TO-220AB	**2.34**	**2.21**	**2.08**	**1.95**
902-2212	2N6055	100.0	8.0	16	60	60	5	0.75-18K	3	4.00	2.00	4.00	4.0	TO-204AA	**2.36**	**2.23**	**2.10**	**1.97**
902-2325	2N6056	100.0	8.0	16	80	80	5	0.75-18K	3	4.00	2.00	4.00	4.0	TO-204AA	**2.36**	**2.23**	**2.10**	**1.97**
902-2340	2N6282	160.0	20.0	40	60	60	5	0.75-18K	3	10.00	2.00	10.00	4.0	TO-204AA	**3.64**	**3.43**	**3.23**	**3.03**
902-2370	2N6385	100.0	10.0	15	80	80	5	1.00-20K	3	5.00	2.00	5.00	20.0	TO-204AA	**2.45**	**2.31**	**2.18**	**2.04**
902-2371	2N6386	65.0	8.0	15	40	40	5	1.00-20K	3	3.00	2.80	3.00	20.0	TO-220AB	**1.01**	**0.95**	**0.90**	**0.84**
902-2375	2N6388	65.0	10.0	15	80	80	5	1.00-20K	3	5.00	2.80	5.00	20.0	TO-220AB	**1.40**	**1.33**	**1.25**	**1.17**
902-2350	2N6285†	160.0	− 20.0	− 40	− 60	− 60	−5	0.75-18K	− 3	− 0.00	−2.00	−10.00	4.0	TO-204AA	**4.21**	**3.98**	**3.74**	**3.51**

* Switching Type. † P-N-P Darlington Transistor.

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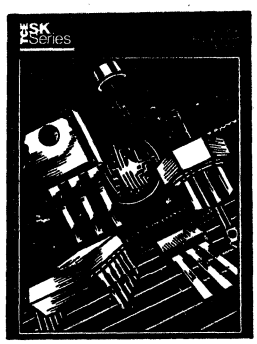
Thomson Consumer Electronics SK Replacement Guide



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902-5600. SKG202F ..... **EACH 4.00**

Transistor Replacements

Stock No.	SK No.	Polarity/ Material	Description	Pkg.	EACH
902-9102	3004	PNP-Ge	AF Low Power	TO-1	1.84
902-9104	3009	PNP-Ge	AF High Power	TO-3	8.30
902-9106	3024	NPN-Si	AF Medium Power	TO-39	1.95
902-8926	3025	PNP-Si	AF Medium Power	TO-39	1.98
902-8928	3027	NPN-Si	AF High Power	TO-3	3.90
902-8930	3054	NPN-Si	AF Deflection	TO-220	2.99
902-5602	3083	PNP-Si	AF/Deflection	TO-220	2.72
902-8932	3114A	PNP-Si	AF Power Amp	TO-92	1.38
902-8934	3115	NPN-Si	Deflection	TO-3	13.50
902-9175	3124A	NPN-Si	AF Power	TO-92	1.32
902-8938	3180	NPN-Si	Darlington High Power	TO-220	2.40
902-8940	3190	NPN-Si	AF High Power	TO-126	2.10
902-8942	3220	NPN-Si	AF Deflection	TO-220	3.20
902-8944	3245	NPN-Si	AF Preamp	TO-92	.95
902-8946	3274	PNP-Si	AF Out/Power Switch	TO-220	2.90
902-5614	3275	NPN-Si	FM AF Driver/Output	TO-92	1.05

Stock No.	SK No.	Polarity/ Material	Description	Pkg.	EACH
902-8948	3440	NPN-Si	AF Medium Power	YO-220	2.97
902-8950	3441	PNP-Si	AF Medium Power	TO-220	3.25
902-8952	3444	NPN-Si	RF/AF Osc./Amp.	TO-92	1.39
902-8954	3466	PNP-Si	AF Med Pwr Preamp	TO-92	1.64
902-8956	3710	NPN-Si	Deflection	TO-3	15.75
902-8958	3854	NPN-Si	RF/AF Out/Amp	TO-92	1.17
902-8960	3893	NPN-Si	Audio Amp Switch	TO-220	2.39
902-8962	3896	NPN-Si	Power Amp	TO-92	1.95
902-5616	9041	NPN-Si	AF Driver	TO-126	1.80
902-8964	9085	NPN-Si	High Volt/Speed Switch	TO-220	7.15
902-5618	9112	NPN-Si	AF/Gen. Purpose	TO-220	2.85
902-8966	9118	NPN-Si	Vert Deflection/Amp	TO-220	2.69
902-8968	9119	NPN-Si	Hor Deflection/horz	TO-3	11.29
902-5620	9363	PNP-Si	TV Vert Defl/AFAmp	TO-220	3.20
902-8970	9229	NPN-Si	Gen. Purp. Amp Sw	TO-92	.88
902-5622	9422	NPN-Si	Damper Diode	TO-3P	6.60

SCR/Triac

Stock No.	SK No.	Type	Volt	Amp	Pkg.	EACH
902-8972	3503	SCR	600	7.0	TO-5	4.60
902-8974	3506	TRIAC	400	2.5	TO-5	2.70
902-8976	3533	TRIAC	400	16.0	TO-220	3.40
902-8978	3597	SCR	200	4.0	TO-202	1.34
902-8980	3598	SCR	400	4.0	TO-202	1.96
902-5606	3627	SCR	200	0.8	TO-92	1.25
902-8982	3638	SCR	100	0.8	TO-92	1.12

Stock No.	SK No.	Type	Volt	Amp	Pkg.	EACH
902-5608	3659	TRIAC	400	15.0	TO-220	4.90
902-8984	3666	TRIAC	400	4.0	TO-126	2.35
902-8986	3683	SCR	200	5.0	TO-66	2.70
902-8988	3950	SCR	30	0.8	TO-92	.86
902-8990	5237	SCR	400	10.0	TO-220	2.28
902-8992	5538	TRIAC	400	8.0	TO-220	2.85
902-5624	5545	TRIAC	600	10	TO-220	3.92

Stock No.	SK No.	Type	Volt	Amp	Pkg.	EACH
902-8994	5551	TRIAC	200	2.5	TO-5	4.55
902-8996	5552	TRIAC	400	2.5	TO-5	6.90
902-8998	5556	TRIAC	200	0.8	TO-92	1.83
902-9002	6707	TRIAC	200	8.0	TO-220	2.25
902-9004	6708	TRIAC	400	8.0	TO-220	2.35
902-9006	9292	SCR	200	10.0	TO-220	2.60
902-9008	9293	SCR	400	10.0	TO-220	3.10

Rectifier Diode

Stock No.	SK No.	Volt	Amp	Pkg.	EACH
902-9010	3017B	600	1.00	—	1.46
902-9012	3051	1000	3.00	DO-201AD	1.05
902-9014	3081	1000	2.50	DO-41	0.79
902-5610	3090	100	0.20	DO-7	0.65
902-9016	3100	80	0.20	DO-35	.99
902-9018	3105	200	1.50	—	2.25
902-9020	3107	1000	1.50	—	2.56
902-9022	3311	200	1.00	DO-41	0.30
902-5612	3312	400	1.00	DO-41	3.50

Stock No.	SK No.	Volt	Amp	Pkg.	EACH
902-9024	3313	600	1.00	DO-41	4.50
902-9026	3639	200	6-22	—	1.58
902-9028	3647	200	2.00	—	2.12
902-9030	3649	1000	2.00	—	4.98
902-9032	3650	200	35.00	—	12.00
902-9034	3680	200	25.00	—	5.75
902-9036	3682	600	25.00	—	6.80
902-9038	3848	600	3.00	DO-27	1.46
902-9040	3925	2000	2.00	DO-201AD	3.00

Stock No.	SK No.	Volt	Amp	Pkg.	EACH
902-9042	3985	100	8.00	—	3.42
902-9044	3988	400	8.00	—	4.95
902-9046	3998	1500	1.00	DO-15	2.17
902-9048	9000	600	1.00	DO-15	1.26
902-9050	9007	400	3.00	DO-27	1.18
902-9052	9010	1000	3.00	DO-27	2.60
902-9054	9091	200	.02	DO-35	.99
902-9056	9388	1000	35.00	—	22.80
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Voltage Regulators

Stock No.	SK No.	Volt	Pkg.	EACH
902-9058	3462	+5	TO-92	1.65
902-9060	3591	+5	TO-220	3.50
902-9062	3592	+12	TO-220	3.60
902-9064	3593	+15	TO-220	3.60
902-9066	3630	+8	TO-220	3.35
902-9068	3670	+24	TO-220	3.55
902-9070	3671	−5	TO-220	4.80
902-9072	3673	−12	TO-220	5.15

Stock No.	SK No.	Volt	Pkg.	EACH
902-9074	3674	−15	TO-220	4.90
902-9076	3675	−24	TO-220	4.95
902-9078	3724	+8	TO-92	1.88
902-9080	9169	+12	TO-92	2.07
902-9082	9170	+15	TO-92	2.26
902-9084	9215	+1.2 to +37	TO-220	3.00
902-9086	9216	+1.2 to +37	TO-220	3.52
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Stock No.	SK No.	Volt	Pkg.	EACH
902-9088	9219	−5	TO-92	3.35
902-9090	9221	−12	TO-92	1.90
902-9092	9222	−15	TO-92	1.90
902-9094	9340	+5	TO-3	15.20
902-9096	9341	+12	TO-3	15.15
902-9098	9343	+15	TO-3	11.00
902-9100	9344	+1.2 to +32	TO-3	14.40
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Zener Diode

Stock No.	SK No.	Watt	Volt	EACH
902-5626	3V3	1.0	3.3	.92
902-5628	5A1	0.5	5.1	.62
902-5630	5V1	1.0	5.1	.92
902-5632	6A2	0.5	6.2	.62

Stock No.	SK No.	Watt	Volt	EACH
902-5634	6V2	1.0	6.2	.92
902-5636	10V	1.0	10.0	.92
902-5638	12A	0.5	12.0	.62
902-5640	12V	1.0	12.0	.92

Stock No.	SK No.	Watt	Volt	EACH
902-5642	13V	1.0	13.0	.92
902-5644	15V	1.0	15.0	.92
902-5646	18A	0.5	18.0	.62
902-5648	24V	1.0	24.0	.92

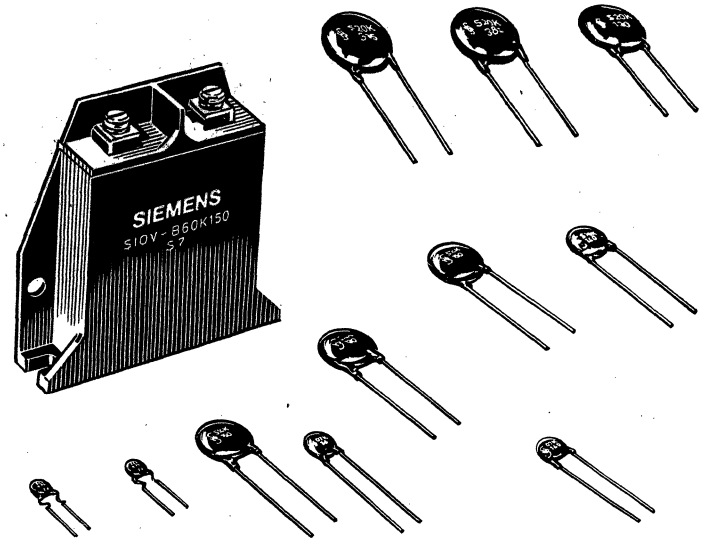
SIOV™ Metal Oxide Varistors

The SIOV will fit applications requiring protection at operating voltage levels as low as 11 volts and as high as 1100 volts with energies rated up to 15000 Joules, depending on the device selected.

Typical Protection Applications:
- ► Protection of semiconductors (diodes, transistors, thyristors, ICs, etc.)
- ► Appliances connected to 110V or 220VAC.
- ► Industrial equipment vulnerable to transients on the AC power line (computers, traffic controls, motor controllers, etc.)
- ► Protection of equipment connected to telephone or signal lines, such as security systems, railroad equipment, fire alarm systems, etc.
- ► Arc suppression across relay and switch contacts.
- ► Protection of instrument input terminals from accidentally connected high voltages.
- ► Power control equipment for power distribution lines.
- ► GFI(Ground Fault Interrupters).

Features:
- ► Nanosec. Switching Response Time, < 15 nsec., with minimal lead length.
- ► High Transient Current Capability (up to 100,000 Amps).
- ► No Extinguishing or Follow-on Current Limitations.
- ► Small Size for Compact Designs.
- ► Wide Operating Temperature Range −40 to +85 Degrees C.
- ► Compatible with Automatic insertion. Tape and reel configuration available on S05, S07, S10 and S14 series.
- ► Excellent Clamping Characteristics.
- ► Low Standby Power Consumption.

Benefits:
- ► Eliminates Dangerous Voltage Transients.
- ► Lowers Overall System Costs by Reducing Downtime and Maintenance Costs.
- ► Improves Component and System Reliability.
- ► Reduces Lightning Effects.
- ► Reduces EMP/RFI Interference.
- ► Promotes Personal Safety.



Stock No.	Mfr.'s Type	Rated Voltage AC Volts (RMS)	Rated Voltage DC Volts	Varistor Voltage (±10%) Volts	Rated Single Pulse Transient Energy Joules	Rated Transient Average Power Dissipation Watts	Maximum Clamping Voltage Volts	EACH
586-0002	S05K11	11	14	18	0.3	0.10	47@5A	.36
586-0004	S07K11	11	14	18	0.7	0.25	39@5A	.40
586-0006	S10K11	11	14	18	1.8	0.40	40@10A	.53
586-0008	S14K11	11	14	18	3.4	0.60	36@10A	.64
586-0010	S20K11	11	14	18	80.0	1.00	36@20A	.89
586-0012	S05K14	14	18	22	0.3	0.10	56@5A	.36
586-0014	S07K14	14	18	22	0.8	0.25	47@5A	.40
586-0016	S10K14	14	18	22	2.1	0.40	48@10A	.53
586-0018	S14K14	14	18	22	4.0	0.60	42@10A	.64
586-0020	S20K14	14	18	22	100.0	1.00	44@20A	.89
586-0022	S05K17	17	22	27	0.4	0.10	72@5A	.39
586-0024	S07K17	17	22	27	1.0	0.25	58@5A	.40
586-0026	S10K17	17	22	27	2.6	0.40	58@10A	.53
586-0028	S14K17	17	22	27	5.0	0.60	52@10A	.64
586-0030	S20K17	17	22	27	120.0	1.00	54@20A	.89
586-0032	S05K20	20	27	33	0.5	0.10	86@5A	.36
586-0034	S07K20	20	27	33	1.2	0.25	70@5A	.40
586-0036	S10K20	20	27	33	3.2	0.40	70@10A	.53
586-0038	S14K20	20	27	33	6.0	0.60	65@10A	.64
586-0040	S20K20	20	27	33	150.0	1.00	67@20A	.89
586-0042	S05K25	25	31	39	0.6	0.10	102@5A	.36
586-0044	S07K25	25	31	39	1.5	0.25	85@5A	.40
586-0046	S10K25	25	31	39	3.8	0.40	85@10A	.53
586-0048	S14K25	25	31	39	7.2	0.60	75@10A	.64
586-0050	S20K25	25	31	39	160.0	1.00	80@20A	.89
586-0052	S05K30	30	38	47	0.7	0.10	127@5A	.36
586-0054	S07K30	30	38	47	1.7	0.25	100@5A	.40
586-0056	S10K30	30	38	47	4.4	0.40	100@10A	.53
586-0058	S14K30	30	38	47	8.8	0.60	90@10A	.64
586-0060	S05K35	35	45	56	0.9	0.10	143@5A	.36
586-0062	S07K35	35	45	56	2.1	0.25	120@5A	.40
586-0064	S10K35	35	45	56	5.6	0.40	120@10A	.53
586-0066	S14K35	35	45	56	10.0	0.60	110@10A	.64
586-0068	S05K40	40	56	68	1.1	0.10	175@5A	.36
586-0070	S07K40	40	56	68	2.5	0.25	148@5A	.40
586-0072	S10K40	40	56	68	6.8	0.40	145@10A	.53
586-0074	S14K40	40	56	68	13.0	0.60	135@10A	.64
586-0076	S05K50	50	66	82	1.8	0.10	143@5A	.32
586-0078	S07K50	50	66	82	6.7	0.25	132@5A	.36
586-0080	S10K50	50	66	82	15.0	0.40	130@10A	.46
586-0082	S14K50	50	66	82	27.0	0.60	125@10A	.60
586-0084	S05K60	60	85	100	2.2	0.10	172@5A	.32
586-0086	S07K60	60	85	100	8.2	0.25	160@5A	.36
586-0088	S10K60	60	85	100	20.0	0.40	160@10A	.46
586-0090	S14K60	60	85	100	30.0	0.60	155@10A	.60
586-0092	S05K75	75	102	120	2.6	0.10	210@5A	.32
586-0094	S07K75	75	102	120	10.0	0.25	200@10A	.36
586-0096	S10K75	75	102	120	24.0	0.40	215@50A	.46
586-0098	S14K75	75	102	120	38.0	0.60	200@50A	.60
586-0100	S20K75	75	102	120	55.0	1.00	200@100A	.76
586-0102	S05K95	95	127	150	3.2	0.10	260@5A	.32
586-0104	S07K95	95	127	150	12.0	0.25	250@10A	.36
586-0106	S10K95	95	127	150	26.0	0.40	270@50A	.46
586-0108	S14K95	95	127	150	45.0	0.60	250@50A	.60
586-0110	S07K130	130	175	205	15.0	0.25	340@10A	.36
586-0112	S10K130	130	175	205	32.0	0.40	365@50A	.49
586-0114	S14K130	130	175	205	55.0	0.60	340@50A	.60
586-0116	S20K130	130	175	205	80.0	1.00	340@100A	.72
586-0118	B32K130	130	175	205	350.0	1.50	350@300A	12.10
586-0120	B40K130	130	175	205	520.0	2.00	380@1000A	24.30
586-0122	B60K130	130	175	205	770.0	2.50	370@1000A	56.00
586-5000	B80K130	130	175	205	1800.0	3.00	345@1000A	144.00
586-0124	S07K140	140	185	220	15.0	0.25	360@10A	.36
586-0126	S14K140	140	185	220	60.0	0.60	370@50A	.60
586-0128	S07K150	150	200	240	17.0	0.25	400@10A	.36
586-0130	S10K150	150	200	240	40.0	0.40	420@50A	.49
586-0132	S14K150	150	200	240	65.0	0.60	395@50A	.60
586-0134	S20K150	150	200	240	95.0	1.00	395@100A	.72
586-0136	B32K150	150	200	240	425.0	1.50	410@300A	12.10
586-0138	B40K150	150	200	240	680.0	2.00	430@1000A	24.30
586-0140	B60K150	150	200	240	1120.0	2.50	420@1000A	56.00
586-5002	B80K150	150	200	240	2000.0	3.00	390@1000A	144.00
586-0142	S07K175	175	225	270	19.0	0.25	460@10A	.36
586-0144	S14K175	175	225	270	68.0	0.60	460@50A	.60
586-0146	S07K230	230	300	360	25.0	0.25	600@10A	.36
586-0148	S14K230	230	300	360	85.0	0.60	610@50A	.60
586-0150	S07K250	250	330	390	26.0	0.25	650@10A	.36
586-0152	S10K250	250	330	390	55.0	0.40	700@50A	.49
586-0154	S14K250	250	330	390	92.0	0.60	650@50A	.60
586-0156	S20K250	250	330	390	140.0	1.00	650@100A	.76
586-0158	B32K250	250	330	390	800.0	1.50	680@300A	12.10
586-0160	B40K250	250	330	390	1440.0	2.00	730@1000A	24.30
586-0162	B60K250	250	330	390	2300.0	2.50	710@1000A	56.00
586-5004	B80K250	250	330	390	3400.0	3.00	630@1000A	144.00
586-0164	S07K275	275	370	430	28.0	0.25	700@10A	.36
586-0166	S10K275	275	370	430	60.0	0.40	770@50A	.49
586-0168	S14K275	275	370	430	100.0	0.60	710@50A	.60
586-0170	S20K275	275	370	430	150.0	1.00	710@100A	.76
586-0172	B32K275	275	370	430	950.0	1.50	770@300A	12.10
586-0174	B40K275	275	370	430	1680.0	2.00	815@1000A	24.30
586-0176	B60K275	275	370	430	2520.0	2.50	800@1000A	56.00
586-0178	S07K300	300	405	470	32.0	0.25	800@10A	.36
586-0180	S14K300	300	405	470	110.0	0.60	800@50A	.60
586-0182	S20K300	300	405	470	160.0	1.00	775@100A	.76
586-0184	S14K385	385	505	620	140.0	0.60	1025@50A	.92
586-0186	S20K385	385	505	620	220.0	1.00	1025@100A	1.13
586-0188	B32K385	385	505	620	1100.0	1.50	1100@300A	12.10
586-0190	B40K385	385	505	620	1960.0	2.00	1150@1000A	24.30
586-0192	B60K385	385	505	620	3360.0	2.50	1130@1000A	56.00
586-0194	S14K420	420	560	680	150.0	0.60	1120@50A	.92
586-0196	S20K420	420	560	680	230.0	1.00	1120@100A	1.13
586-0198	B32K420	420	560	680	1250.0	1.50	1200@300A	12.10
586-0200	B40K420	420	560	680	2200.0	2.00	1250@1000A	24.30
586-0202	B60K420	420	560	680	3500.0	2.50	1230@1000A	56.00
586-0204	S14K460	460	615	750	170.0	0.60	1240@50A	.92
586-0206	S20K460	460	615	750	260.0	1.00	1240@100A	1.13
586-0208	B32K460	460	615	750	1400.0	1.50	1350@300A	12.10
586-0210	B40K460	460	615	750	2400.0	2.00	1350@1000A	24.30
586-0212	B60K460	460	615	750	3920.0	2.50	1330@1000A	56.00
586-0214	S14K510	510	675	820	185.0	0.60	1355@50A	1.19
586-0216	S20K510	510	675	820	280.0	1.00	1355@100A	1.45
586-0218	S14K550	550	745	910	200.0	0.60	1500@50A	1.19
586-0220	S20K550	550	745	910	300.0	1.00	1500@100A	1.45
586-0222	B32K550	550	745	910	1750.0	1.50	1600@300A	12.10
586-0224	B40K550	550	745	910	3000.0	2.00	1720@1000A	24.30
586-0226	B60K550	550	745	910	4480.0	2.50	1700@1000A	56.00
586-0228	S14K625	625	825	1000	210.0	0.60	1650@50A	1.19
586-0230	S20K625	625	825	1000	330.0	1.00	1650@100A	1.45
586-0232	S14K680	680	895	1100	225.0	0.60	1815@50A	1.19
586-0234	S20K680	680	895	1100	365.0	1.00	1815@100A	1.45
586-0242	B40K750	750	1060	1200	3600.0	2.00	2350@1000A	24.30
586-0244	B60K750	750	1060	1200	6100.0	2.50	2320@1000A	56.00
586-0246	S14K1000	1000	1465	1800	360.0	0.60	2970@50A	3.05
586-0248	S20K1000	1000	1465	1800	500.0	1.00	2970@100A	3.82
586-0250	B60K1000	1100	1465	1800	10300.0	2.50	3180@1000A	56.00
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The B80 series is available with operating voltage levels through 1100 volts AC (RMS).

Varistor Cross Reference Guide

Comp	Siemens	Comp	Siemens	Comp	Siemens	Comp	Siemens	Comp	Siemens	Comp	Siemens	Comp	Siemens	Comp	Siemens
V18ZA05	S05K11	V36ZA80	S20K25	V82ZA12	S10K50	V390ZA05	S05K250	V251BA60	B60K250	V150LA20A	S20K150	V275LA40B	S20K275	V550LA40A	S14K550
V18ZA1	S07K11	V39ZA05	S05K25	V100ZA05	S05K60	V430ZA05	S05K275	V271BA60	B60K275	V150LA20B	S20K150	V300LA2	S07K300	V550LA80A	S20K550
V18ZA2	S10K11	V39ZA1	S07K25	V100ZA3	S05K60	V131DA40	B40K130	V321BA60	B60K385	V175LA2	S07K175	V300LA4	S07K300	V550LA80B	S20K550
V18ZA3	S14K11	V39ZA3	S10K25	V100ZA4	S07K60	V151DA40	B40K150	V421BA60	B60K420	V175LA10A	S14K175	V320LA15A	S14K320	V575LA20A	S14K625
V18ZA40	S20K11	V39ZA6	S14K25	V100ZA15	S10K60	V251DA40	B40K250	V511BA60	B60K550	V230LA4	S07K230	V320LA20A	S14K320	V575LA40A	S14K625
V22ZA05	S05K14	V47ZA05	S05K30	V120ZA05	S05K75	V271DA40	B40K275	V751BA60	B60K750	V230LA10	S10K230	V320LA40A	S20K320	V575LA80A	S20K625
V22ZA1	S07K14	V47ZA1	S07K30	V120ZA1	S07K75	V321DA40	B40K385	V112BB60	B60K1000	V230LA20A	S14K230	V320LA40B	S20K320	V575LA80B	S20K625
V22ZA2	S10K14	V47ZA3	S10K30	V120ZA4	S10K75	V421DA40	B40K420	V130LA1	S07K130	V250LA2	S07K250	V420LA10	S10K420	V660LA50A	S14K680
V22ZA3	S14K14	V47ZA7	S14K30	V120ZA6	S14K75	V511DA40	B40K550	V130LA2	S07K130	V250LA4	S07K250	V420LA20A	S14K420	V660LA100B	S20K680
V24ZA50	S20K14	V56ZA05	S05K35	V150ZA05	S05K95	V751DA40	B40K750	V130LA5	S10K130	V250LA10	S10K250	V420LA40A	S20K420	V1000LA80A	S14K1000
V27ZA05	S05K17	V56ZA2	S07K35	V150ZA1	S07K95	V131DB40*	B40K130	V130LA10A	S14K130	V250LA15A	S14K250	V420LA40B	S20K420	V1000LA160A	S20K1000
V27ZA1	S07K17	V56ZA3	S10K35	V150ZA4	S10K95	V151DB40*	B40K150	V130LA20A	S20K130	V250LA20A	S14K250	V480LA20A	S14K510	V1000LA160B	S20K1000
V27ZA2	S10K17	V56ZA8	S14K35	V150ZA8	S14K95	V251DB40*	B40K250	V130LA20B	S20K130	V250LA40A	S20K250	V480LA40A	S14K510	V130HE150	B32K130*
V27ZA4	S14K17	V68ZA05	S05K40	V180ZA05	S05K115	V271DB40*	B40K275	V140LA2	S07K140	V250LA40B	S20K250	V480LA80A	S20K510	V150HE150	B32K150*
V27ZA60	S20K17	V68ZA2	S07K40	V180ZA1	S07K115	V321DB40*	B40K385	V140LA5	S10K140	V275LA2	S07K275	V480LA80B	S20K510	V250HE250	B32K250*
V33ZA05	S05K20	V68ZA3	S10K40	V180ZA5	S10K115	V421DB40*	B40K420	V140LA10A	S14K140	V275LA4	S07K275	V510LA20A	S14K510	V275HE250	B32K275*
V33ZA1	S07K20	V68ZA10	S14K40	V180ZA10	S14K115	V511DB40*	B40K550	V150LA1	S07K150	V275LA10	S10K275	V510LA40A	S14K510	V320HE300	B32K320*
V33ZA2	S10K20	V82ZA05	S05K50	V220ZA05	S05K140	V751DB40*	B40K750	V150LA2	S07K150	V275LA15A	S14K275	V510LA80A	S20K510	V420HE400	B32K420*
V33ZA5	S14K20	V82ZA2	S05K50	V270ZA05	S05K175	V131BA60	B60K130	V150LA5	S10K150	V275LA20A	S14K275	V510LA80B	S20K510	V510HE500	B32K550*
V36ZA70	S20K20	V82ZA4	S07K50	V330ZA05	S05K230	V151BA60	B60K150	V150LA10A	S14K150	V275LA40A	S20K275	V550LA20A	S14K550	—	—

SVP—Surge Voltage Protectors

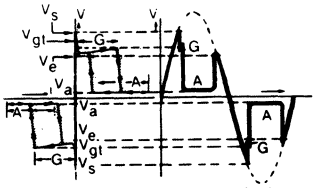
- **High Surge Current Capacity at 20KA Maximum**
- **High Insulation Resistance at $\geq 10^{10}$ Ohm**
- **Low Capacitance — Down to 1 pF**
- **High Breakdown Speed**
- **Small Size**
- **Low Cost**
- **Designed to Meet Industry Specifications**
- **Proven Performance: Millions in Service**

Surge Voltage Protectors. SVPs are gas discharge tubes, hermetically sealed, composed of 2 or 3 electrodes properly spaced by insulators and filled with a rare gas. SVPs mainly serve to provide a conductive path for unwanted, excessive transients, which prevents the transient energy and associated voltages from damaging sensitive equipment and components, and from harming personnel. Designed for rapid switching at a specific voltage level (breakdown voltage) from a non-conductive state to a conductive state (arc mode) when subjected to an excessive voltage transient. The SVP momentarily carries very high currents during conduction. After discharge of the transient, the circuit allows the SVP to restore itself. In the restored conduction, the high impedance of the SVP causes very little loss. Normal AC or DC operating circuit voltages may cause the SVP to remain in a conducting mode after the transient has passed, unless the following precautions are taken: For AC Applications — the AC follow current must not be exceeded. For DC Applications — if the normal operating voltage across the tube is greater than the glow voltage, and the current into the SVP while in arc mode, (10-20V across the SVP) does not exceed 0.2A, a 0.68 μfd. capacitor placed in parallel with the tube will cause it to extinguish. If the DC current is greater than the given values, current must be momentarily interrupted.

Environmental Specifications

Operating and Storage Temperature Range	– 55°C to + 130°C
Thermal Shock Humidity	MIL-STD-202E, Method 107D, Condition B MIL-STD-202E, Method 103B, Condition D
High Temp. Storage Explosion	MIL-STD-202E, Method 108A, Condition D MIL-STD-202E, Method 109B
Seal Shock	MIL-STD-202E, Method 112B, Condition D MIL-STD-202E, Method 213B, Condition F
Vibration Terminal Strength	MIL-STD-202E, Method 204C, Condition D MIL-STD-202E, Condition A (1kg)

The SVP is bipolar and has a symmetrical V-I characteristic as shown below.



Voltage-current characteristic and voltage variation across the protector

V_s striking voltage V_e extinguishing voltage
V_{gt} glow voltage G glow range
V_a arc voltage A arc range

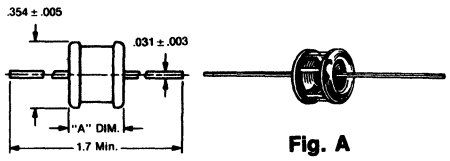


Fig. A

Button Type SVPs. Compact medium-duty 2-electrode tubes provide protection for most circuit applications. Features high breakdown speed by means of a patented process. Economical; easily mounted onto PC boards.

Special Button Type SVPs. Special types for AC applications undergo AC burn-in to guarantee good extinguishing characteristics at high follow currents — excellent for CATV amplifiers and other applications where AC Voltage is present.

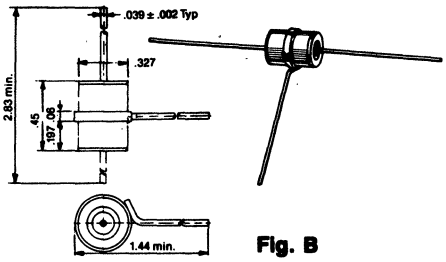


Fig. B

Three-Electrode Type SVPs. Developed and refined through experience gained from actual use in telecommunications equipment. These units are designed to meet or exceed parameters specified in REA Specification PE-80.

Stock No.	Mfr.'s Type	DC Breakdown Voltage (Volts)	Impulse Breakdown Voltage (Volts)		DC Holdover Voltage (Volts)	Max. Single Impulse Discharge (K Amp)	Impulse Life (No. of Pulses)	AC Discharge Current (Amps rms)	AC Follow Current (Amps pk)	Fig.	Dimension "A" (Inches)	EACH
			100V/μS	10KV/μS								
586-0252	B1-C75	75 ± 20%	<700	<1000	>60	5.0	>200	20.0	20	A	.272 ± .012	**2.26**
586-0254	B1-C90/20	90 ± 20%	<700	<1000	>60	5.0	>200	20.0	20	A	.272 ± .012	**2.34**
586-0256	B1-F90	90-130	<700	<1000	>60	5.0	>200	20.0	20	A	.272 ± .012	**2.57**
586-0258	B1-A230	230 ± 15%	<750	<1200	>130	5.0	>200	20.0	25	A	.238 ± .008	**2.30**
586-0260	B1-A350	350 ± 15%	<750	<1200	>150	5.0	>200	20.0	25	A	.236 ± .012	**2.18**
586-0262	B2-B600	630 ± 15%	<1200	<2500	>180	5.0	—	20.0	25	A	.256 ± .012	**2.13**
586-0264	B2-H10	1000 ± 20%	<1800	<3000	—	5.0	>200	20.0	25	A	.281 ± .008	**3.55**
586-0266	B2-H25	2.5KV ± 20%	<4000	<6000	—	2.5	—	10.0	—	A	.433 ± .02	**5.20**
586-0268	B2-H45	4.5KV ± 20%	<5000	<8000	—	10.0	—	0.4	—	A	.433 ± .02	**4.16**
586-0270	B2-H80X	6.5KV-9.5KV	<10000	<12500	—	1.0	—	—	—	A	.433 ± .02	**4.34**
586-0272	B2-H100X	9KV min.	<12000	<14000	—	1.0	—	—	—	A	.455 Max.	**4.09**
Special Button Types												
586-0274	B1-C145	145 ± 20%	<750	<1100	—	5.0	>200	20.0	35	A	.276 ± .012	**1.77**
586-0276	B2-B270	270 ± 15%	<1000	<2000	—	5.0	>200	20.0	35	A	.276 ± .020	**3.88**
586-0278	B2-B470	470 ± 15%	<1200	<2500	—	5.0	>200	20.0	35	A	.295 ± .012	**2.97**
586-0280	B2-B800	800 ± 15%	<1500	<3000	—	5.0	>200	20.0	35	A	.315 ± .012	**2.69**
3-Electrode Types												
586-0282	T61-C350	300-500(L-G)	<750	<1200	>150	2 × 12	>600	2 × 90	—	B	—	**3.30**

Silicon Bipolar Transistors

Metal Ceramic Package

Stock No.	Mfr.'s Type*	Max. Ratings			Characteristics (T_{amb} = 25°C)										Fig.	EACH
		V_{CEO} V	I_C mA	P_{tot} mW	f_T GHz	NF dB	I_C mA	V_{CE} V	f GHz	GP dB	I_C mA	V_{CE} V	f GHz	R_S Ω		
586-0446	BFQ57 N	16	35	450	6.5	2.6	15	15	2.0	10.5	25	15	4.0	opt	F	48.05

"CEREC X" Package

586-0448	BFQ70 N	15	30	290	4.8	1.8	4	6	0.8	—	—	—	—	50	A	11.40
586-0450	BFQ74 N	16	30	290	6.5	2.2	10	10	2.0	12.0	10	10	2.0	opt	A	12.90
586-1000	BFQ76 P	15	30	250	5.0	2.5	4	10	2.0	17.0	4	10	0.8	—	A	13.18
586-0452	BFQ77 N	15	20	250	7.0	1.8	4	10	2.0	12.0	4	10	2.0	opt	A	22.90

*NPN = N; PNP = P

T-Plast Plastic Package

Stock No.	Mfr.'s Type*	Max. Ratings			Characteristics (T_{amb} = 25°C)									Fig.	EACH
		V_{CEO} V	I_C mA	P_{tot} mW	f_T GHz	NF dB	I_C mA	V_{CE} V	GP dB	I_C mA	V_{CE} V	f MHz	R_S Ω		
586-0454	BFQ69 N	15	30	200	5.5	1.5	5	10	15.0	5	10.0	800.0	opt	G	1.51
586-0456	BFR90 N	15	30	200	5.0	2.0	2	6	14.0	15	6.0	800.0	60	G	1.07
586-0458	BFR91A N	12	35	300	6.0	1.6	4	8	14.0	30	8.0	800.0	opt	G	1.30
586-0460	BFR96S N	15	100	700	5.0	4.0	70	10	11.5	70	10.0	800.0	opt	G	1.27
586-0462	BFT97 N	15	30	200	4.8	1.8	4	6	—	—	—	800.0	60	G	1.10
586-0464	BFT98T N	20	150	800	3.2	—	—	—	12.0	80	8.0	800.0	opt	G	3.51

SOT 23 Plastic Package for Surface Mounting (SMD)

586-0466	BFQ81 N	16	30	280	5.8	1.5	5	10	15.0	5	10.0	800.0	50	C	1.05
586-0468	BFR92P N	15	30	280	5.0	2.0	2	6	14.0	15	6.0	800.0	50	C	1.19
586-1002	BFR93A N	12	50	250	5.5	1.6	5	8	13.5	30	8.0	800.0	—	C	1.42
586-0472	BFS17P N	15	25	280	2.5	3.8	2	5	11.0	10	5.0	800.0	50	C	0.44
586-0474	BFT92 P	−15	−25	200	5.0	2.7	−2	−10	18.0	−14	−10.0	500.0	opt	C	1.81
586-0476	BFT93 P	−12	−35	200	5.0	2.4	−2	−5	16.5	−30	−5.0	500.0	opt	C	3.34

SOT 89 Plastic Package for Surface Mounting (SMD)

586-0478	BFQ17P N	25	150	1000	1.4	—	—	—	16.0	60	15.0	200.0	opt	D	1.44
586-0480	BFQ19S N	15	75	1000	4.8	3.8	50	10	11.5	70	10.0	800.0	opt	D	1.42
586-0482	BFQ64 N	20	200	1000	1.0	—	—	—	10.0	100	10.0	800.0	opt	D	1.05

SOT 143 Plastic Package for Surface Mounting (SMD)

586-1004	BFP81 N	16	30	300	5.8	1.4	5	10	15.0	5	10.0	800.0	—	E	1.54
586-1006	BFP193 N	12	80	300	7.0	1.3	30	8	30.0	8	0.8	0.6	—	E	1.60

*NPN = N; PNP = P

GaAs MMICs

Broadband Amplifiers in Metal Package

Stock No.	Mfr.'s Type	Characteristics (T_{amb} = 25°C)									Fig.	EACH
		V_S V	I_{OP} mA	f MHZ	G_{OP} dB	< G_{OP} dB	NF dB	V_{OUT} 1) mV	P_{1dB} dBm	VSWR		
586-0492	CGY21	3.0...6.0	180	40... 860	22.0	1.0	3.7(<5.0)	350	19.0	1.25:1	H	36.20
586-0494	CGY31	3.0...6.0	180	800...1800	19.0	1.0	3.8(<5.0)	350	19.0	1.50:1	H	39.60

Broadband Amplifier

586-0496	CGY40	3.0...5.5	60	800...1800	9.0	0.9	3.0(<4.0)	320	17.5	1.70:1	A	19.00
586-1030	CGY50	3.0...5.5	60	200...1000	10.0	0.4	3.0(<4.0)	—	—	—	E	7.35
	Test Conditions: V_S = 4.5V; R_S = R_L = 50Ω 1) V_{OUT} at d_{IM} = 60 dB and two-tone keying f_1 = 806 MHz; f_2 = 810 MHz											

GaAs FETS

SOT143 Plastic

Stock No.	Mfr.'s Type	Max. Ratings				Characteristics (T_{amb} = 25°C)							Fig.	EACH
		V_{DS} V	V_{GS} V	I_{DS} mA	P_{tot} mW	g_m mS	NF dB	G_{NF} dB	NF dB	G_{NF} dB	MAG dB	P_{1dB} dBm		
586-1008	CFY30	5	−4...+0.5	80	250	30	<1.6	11.5	—	—	—	—	E	7.35

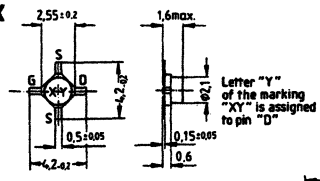
"CEREC" Package

586-0490	CFY18-20	5	−5...+0.5	100	300	35	1.1	12.5	<2.0	>8.5	11.5*)	—	B	25.99
586-1010	CFY19-18	5	−5...+0.5	100	350	35	<1.8	> 9.5	—	—	12.5	14	B	13.80
	Test Conditions						I_{DS} = 15mA V_{DS} = 3.5V f = 6 GHz		I_{DS} = 15mA V_{DS} = 3.5V f = 12 GHz		I_{DS} = 40mA V_{DS} = 4V f = 6 GHz/12 GHz*)			

SOT 23 Plastic Package for Surface Mounting (SMD)

Stock No.	Mfr.'s Type	Characteristics (T_{amb} = 25°C)							Fig.	EACH
		V_{BR} V	P_{tot} W	C_T pF	R_F Ω	R_F KΩ	T_L μS	V_F V		
586-0042	BAR14-1	100	0.25	0.35	10.0	2.0	1.5	1.00	C	.60
586-1012	BAR15-1	100	0.25	0.25	7.0	3.0	1.0	1.05	C	.95
586-0044	BAR16-1	100	0.25	0.35	10.0	2.0	1.5	1.00	C	.60
586-1014	BAR17	100	—	0.35	3.5	0.9	4.0	0.90	C	2.99
586-1016	BAR60	100	—	0.25	7.0	3.0	1.0	1.05	E	2.96
586-1018	BAR61	100	—	0.25	7.0	3.0	1.0	1.05	E	1.93
	Notes:	I_R = 10μA (1)		V_R = 50V (7) f = 1 MHz (3)	I_F = 10mA (9) f = 100 MHz (10)	I_F = 10μA f = 100 MHz	I_F = 10mA (9) I_R = 6mA (12)	I_F = 100mA (14)		

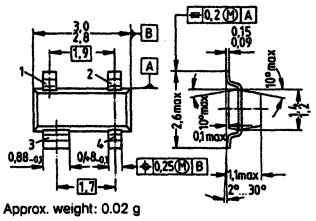
Cerec-X



Approx. weight: 0.02 g

Fig. A

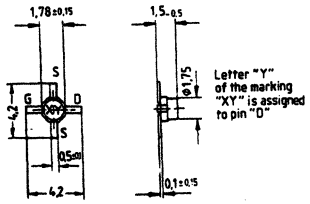
SOT 143



Approx. weight: 0.02 g

Fig. E

Cerec-XF



Approx. weight: 0.02 g

Fig. B

100 mil

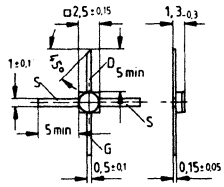
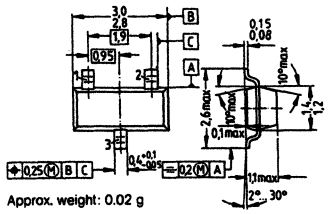


Fig. F

SOT-23



Approx. weight: 0.02 g

Fig. C

T-plast

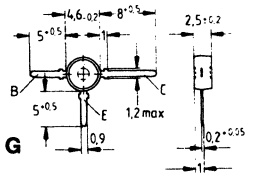


Fig. G

SOT-89

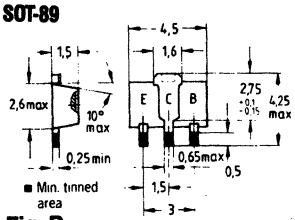


Fig. D

TO-12

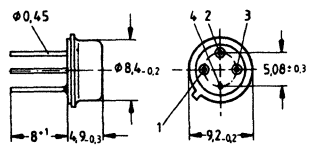


Fig. H

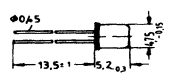
Silicon Schottky Diodes SOT 23

Stock No.	Mfr.'s Type	Characteristics (T_{amb} = 25°C)						Fig.	EACH
		$V_{F\,max}$ mV	I_F mA	V_{BR} V	C_T pF	I_R μA	τ *) ps		
586-1020	BAS40	380	40	40	<5	1.0 1)	—	C	.48
586-0405	BAS40-04	380	40	40	<5	1.0 1)	—	C	.54
586-0407	BAS40-05	380	40	40	<5	1.0 1)	—	C	.54
586-0409	BAS40-06	380	40	40	<5	1.0 1)	—	C	.54
586-1022	BAS70	410	15	70	<2	0.2 2)	100	C	.67
586-0411	BAS70-04	410	15	70	<2	0.2 2)	100	C	.82
586-0413	BAS70-05	410	15	70	<2	0.2 2)	100	C	.82
586-0415	BAS70-06	410	15	70	<2	0.2 2)	100	C	.82
586-1024	BAS70-07	410	15	70	<2	0.2 2)	100	E	.87
	Test Conditions	I_F = 1mA	V_F = 1V	I_R = 10μA	V_R = 0V f = 1 MHz	1) V_R = 30V 2) V_R = 50V	I_F = 5mA		
586-0417	BAT17	600	30	4	<1	0.1	—	C	.43
586-0502	BAT17-04	600	30	4	<1	0.1	—	C	.69
586-1026	BAT17-05	600	30	4	<1	0.1	—	C	.69
586-1028	BAT17-06	600	30	4	<1	0.1	—	C	.69
	Test Conditions	I_F = 10mA		I_R = 10μA	V_R = 0V f = 1 MHz	V_R = 3V			

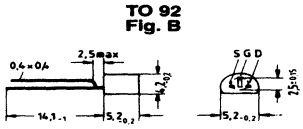
Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

SIPMOS® Small Signal and Power Transistors

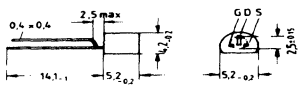
TO 18
Fig. A



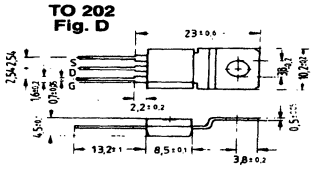
TO 92
Fig. B



TO 92
Fig. C



TO 202
Fig. D



Dimensions in mm

Stock No.	Mfr.'s Type	V_{DS} V	I_D A	$R_{DS(on)}$ Ω	P_D W	R_{thJA} K/W	Fig.	EACH
586-0668	BSS98*	50	0.30	3.5	0.63	≤ 200	B	0.45
586-0670	BSS100*	100	0.23	6.0	0.63	≤ 200	B	0.45
586-0672	BSS89*	240	0.30	6.0	1.00	≤ 125	C	0.67
586-1034	SN7000*	60	0.28	5.0	0.63	≤ 200	D	0.45
586-1036	BS107*	200	0.50	28.0	0.63	≤ 280	B	0.45
586-1038	BS170*	60	0.50	5.0	0.63	≤ 200	B	0.51
586-0680	BSS101*	240	0.16	12.0	0.63	≤ 200	B	0.47
586-0682	BSS88*	240	0.30	6.0	1.00	≤ 125	C	0.78
586-0684	BSS129*†	240	0.25	20.0	1.00	≤ 125	C	0.87
586-0686	BSS125*	600	0.10	40.0	1.00	≤ 125	C	0.73
586-0688	BSS92**	−200	−0.15	20.0	1.00	≤ 125	C	0.79
586-0609	BSS110**	− 50	−0.17	10.0	0.63	≤ 200	B	0.52

*"N" Channel. **"P" Channel. †Depletion Type.

Modules for Line Commutated Converters

Fig. E

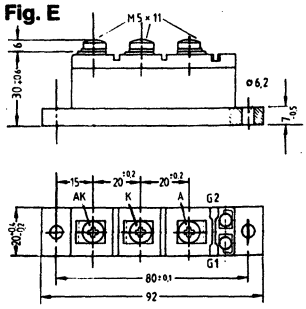


Fig. F

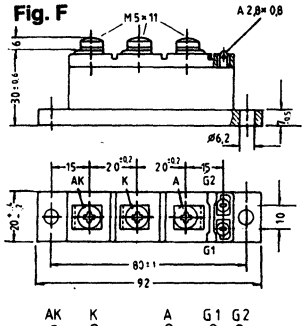


Fig. G
Fully Controlled

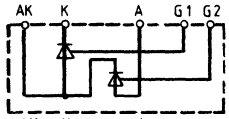


Fig. H
Uncontrolled

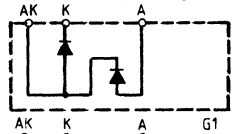
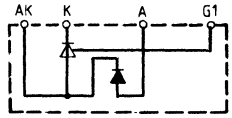


Fig. J
Half Controlled



Fully and Half Controlled Thyristor Modules

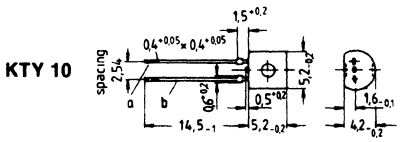
Stock No.	Mfr.'s Type	V_{DRM} V_{RRM} V	V_{RMS} V	I_{TAV} I_{FAV} A	I_{TRMS} I_{FRMS} A	$\int i^2dt$ 10mS 25°C A^2S	dv/dt V/µS	di/dt A/µS	Fig.	EACH
586-0692	MTT40A6N	600	700-1700	2 × 48	2 × 75	3600	500/1000	100	E, G	61.60
586-0694	MTD40A6N	600	700-1700	2 × 48	2 × 75	3600	500/1000	100	E, J	59.40
586-0698	MTT95A6N	600	700-1700	2 × 95	2 × 150	18000	500/1000	100	E, G	68.40
586-0700	MTD95A6N	600	700-1700	2 × 95	2 × 150	18000	500/1000	100	E, J	66.20

Diode Module (Uncontrolled)

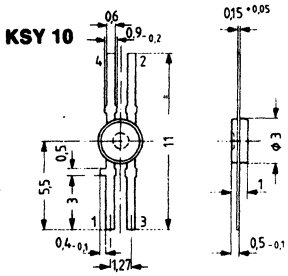
586-0704	MDD95A6N	600	700-1700	2×95	2×150	65000	—	—	F, H	60.90

Sensors

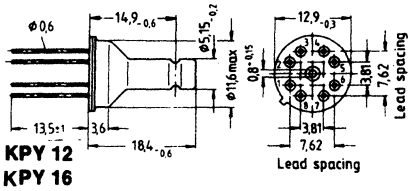
KTY 10



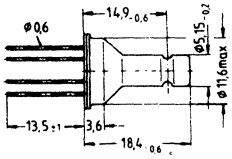
KSY 10

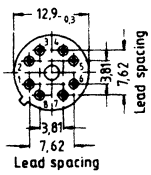


KPY 12
KPY 16

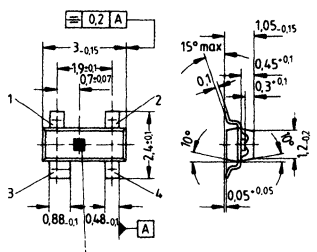


KPY 10
KPY 14





KSY 13



Position Sensors

Stock No.	Mfr.'s Type	Material	I_{1N} mA	V_{20} mV	V_{R0} mV	R_{10} Ω	EACH
586-0706	KSY10	GaAs	5	85...115	≤ ±25	900...1200	2.42
586-0708	KSY13	GaAs	5	95...145	≤ ±30	900...1200	2.13

Silicon Temperature Sensors

Stock No.	Mfr.'s Type	R_{25} I_N = 1mA Ω	R_{25}-tol I_N = 1mA %	I_{max} 25°C mA	τ Air s	Oil s	T_{amb} °C	EACH
586-0710	KTY10	1890...2110	†	5	20	4	−50... + 150	0.64

†Available in 7 resistance groups with a tolerance of ± 1% each.

Absolute Pressure Sensors

Stock No.	Mfr.'s Type	ϱ_{max} bar	ϱ bar	$S_{typ.}$ mV/V bar	$V_{IN\,max}$ V	T_{amb} °C	EACH
586-0712	KPY10*	4	0...2	10	16	−40... + 125	21.30

Relative Pressure Sensors

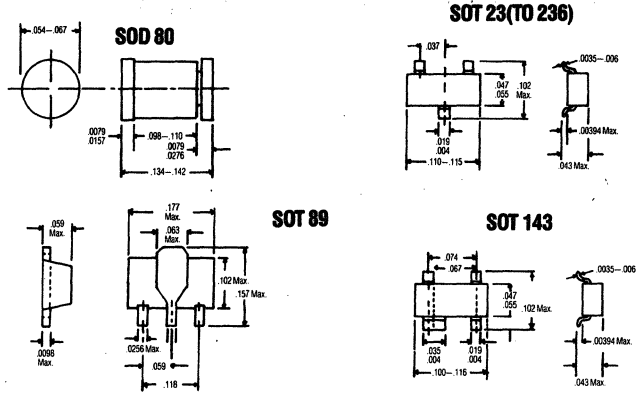
586-0714	KPY12*	4	0...2	10	16	−40... + 125	22.10
586-0716	KPY16*	20	0..10	4	16	−40... + 125	22.53

*These types are available with gel filling and passive external temperature compensation at an extra price.

Surface Mount Discrete Semiconductors

- ► Full Parameter Tested and Guaranteed
- ► Passivated Chips for High Reliability
- ► Chip Protection Comparable to Standard Packaging Styles for Reliable Handling, Shipping and Performance
- ► High Power Dissipation for Package Size
- ► Small Substrate Space Requirement
- ► Ideal for Thick and Thin Film Hybrid Circuits
- ► Compatible with Chip Assembly
- ► Standardized Rigid Lead Dimensions Eliminates Lead Forming
- ► Automated Assembly Equipment Compatible

These microminiature semiconductors represent the latest packaging technology and are ideal for circuit miniaturization, automatic assembly, or as an alternative to chips. They are available for a wide range of applications from audio to microwave, in amplification, mixing, switching, detection and high voltage functions.



Schottky Diodes (SOT 23)

Stock No.	Mfr.'s Type	(V_R) (at $I_R = 10\mu A$) V	(V_f) (at $I_F = 1mA$) mV	(I_R) (at $V_R = 1V$) mA	(C_J) (at $V_R = 0$; $f = 1mHz$) pF	EACH
586-0502	BAT17-04	4	≤450	≤30	≤1	.69

Varactor (Tuning) Diodes (SOT 23)

Stock No.	Mfr.'s Type	V_R (V)	Diode Capacitance C_{D1} (pF)	at V_{R1} (V)	C_{D2} (pF)	at V_{R2} (V)	Ratio	r_s Ω	EACH
586-0504	BB801	28	9	1	1	28	9.0	1.00	.92
586-0506	BB804	18	42-47.5	2	25	8	1.7	0.25	.67

Pin Diodes (Tuner Applications)

Stock No.	Mfr.'s Type	Reverse Voltage V_R (V)	Diode Capacitance C_{D1} (pF)	at V_{R1} (V)	C_{D2} (pF)	at V_{R2} (V)	(f = 200 MHz: I_F = 10mA) RF (Ω)	Case	EACH
586-0512	BA885	30	0.30	10	0.23	0	≤7.0	SOT-23	.45

Switching Diodes

Stock No.	Mfr.'s Type	V_{RRM} (V)	I_F (mA)	Forward Voltage V_f at I_F (V)	(mA)	Reverse Recovery Time (nS)	Case	EACH
586-0514	BAL99/BAR99	70	250	≤1.25	150	≤ 6	SOT-23	.16
586-0516	BAS21	250	200	≤1.00	100	≤ 50	SOT-23	.21
586-0518	BAS28 (Dual)	70	250	≤1.25	150	≤ 6	SOT-143	.34
586-0520	BAV70 (Dual)	70	250	≤1.25	150	≤ 6	SOT-23	.13
586-0522	BAV99 (Dual)	70	250	≤1.25	150	≤ 6	SOT-23	.14
586-0524	BAW56 (Dual)	70	250	≤1.25	150	≤ 6	SOT-23	.14
586-0526	BAW101 (Dual)	300	50	≤1.30	100	—	SOT-143	.43
586-0528	BGX50A (Bridge)	50	140	≤2.60	100	1 (Typ.)	SOT-143	.64
586-0530	SMBD914	100	200	≤1.00	10	≤ 4	SOT-23	.13

Rectifier Diodes (SOT 89)

Stock No.	Mfr.'s Type	V_{RRM} (V)	I_F (A)	Forward Voltage V_f (V) @1A	@2A	Reverse Recovery Time T_{RR} (μS)	Case	EACH
586-0532	BAW78 D	400	1.0	≤1.6	≤2.0	1	SOT-89	.63
586-0534	BAW79 D (Dual)	400	1.0	≤1.6	≤2.0	1	SOT-89	.68

Dual Gate MOS Field Effect Transistors (SOT-143)

Stock No.	Mfr.'s Type*	Maximum Ratings: Drain Source Voltage V_{DS} (V)	Peak Gate Current I_{G1}; I_{G2} (mA)	Drain Current I_{DSS} (mA)	Chanel Temp. T_J (°C)	P_{tot} (mW)	$R_{th}JA$ (°C/W)	g_{fs} (mS)	Characteristics (T_{amb} = 25°C): Power Gain G_{ps} (dB)	V_{DS} (V)	I_D (mA)	f (MHz)	Remarks	EACH
586-0536	BF989	20	10	30	150	200	450	12	16.5	15	7	800	NF = 2.8 dB at I_D = 7mA; V_{DS} = 15V; f = 800 MHz; y_{fs} = 2mS	.89
586-0538	BF993	20	10	50	150	200	450	25	25.0	15	10	200	NF = 1.5 dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	.97
586-0540	BF994S	20	10	30	150	200	450	18	25.0	15	10	200	NF = 1.0 dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	.97
586-0542	BF995	20	10	30	150	200	450	15	23.0	15	10	200	NF = 1.8 dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	.76
586-0544	BF996S	20	10	30	150	200	450	18	18.0	15	10	800	NF = 1.8 dB at I_D = 10mA; V_{DS} = 15V; f = 800 MHz; y_{fs} = 2mS	1.09
586-0546	BF997	20	10	30	150	200	450	18	25.0	15	10	200	NF = 1.0 dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	1.03

*n-channel.

13

General Purpose Transistors

Stock No.	Mfr.'s Type*	Maximum Ratings: V_{CBO} (V)	V_{CEO} (V)	V_{EBO} (V)	I_{CM} (mA)	T_j (°C)	P_{tot} (mW)	Characteristics (T_{amb} = 25°C): f_T (MHz)	I_{CBO} at V_{CBO} / I_{CES} at V_{CES} (nA) (V)	h_{FE1} at I_C (mA)	V_{CE} (V)	h_{FE2} at I_C (mA)	V_{CE} (V)	V_{CEsat} (V) at I_C (mA), I_B (mA)	Case	EACH
586-0548	BC807 P	50	45	5	1000	150	330	200	≤100 25	100 to 630	100.0	1	60-220	300.00	1	≤0.70 500 50.00	SOT-23	.23
586-0550	BC817 N	50	45	5	1000	150	330	170	≤100 25	100 to 630	100.0	1	60-220	300.00	1	≤0.70 500 50.00	SOT-23	.23
586-0552	BC846 N	80	65	6	200	150	330	200	≤ 15 30	110 to 450	2.0	5	90	.01	5	≤0.60 100 5.00	SOT-23	.19
586-0554	BC856 P	80	65	5	200	150	330	250	≤ 15 30	125 to 475	2.0	5	90	.01	5	≤0.60 100 5.00	SOT-23	.20
586-0556	BCW60 N	32	32	5	200	150	330	200	≤ 20 32	120 to 630	2.0	5	≥ 50	50.00	1	≤0.25 10 0.25	SOT-23	.14
586-0558	BCW61 P	32	32	5	200	150	330	250	≤ 20 32	120 to 630	2.0	5	≥ 60	50.00	1	≤0.25 10 0.25	SOT-23	.14
586-0560	BCW66 N	75	45	5	1000	150	330	170	≤ 20 45	100 to 630	100.0	5	≤ 35	500.00	2	≤0.70 500 50.00	SOT-23	.17
586-0562	BCW68 P	60	45	5	1000	150	330	200	≤ 20 45	100 to 630	100.0	5	≥ 35	500.00	2	≤0.70 500 50.00	SOT-23	.17
586-0564	BCX41 N	125	125	5	1000	150	330	100	≤100 100	≥ 63	100.0	1	≥ 40	200.00	1	≤0.90 300 30.00	SOT-23	.20
586-0566	BCX42 P	125	125	5	1000	150	330	150	≤100 100	≥ 63	100.0	1	≥ 40	200.00	1	≤0.90 300 30.00	SOT-23	.20
586-0568	BCX53 P	100	80	5	1500	150	1000	125	≤100 30	40 to 160	150.0	2	≥ 25	500.00	2	≤0.50 500 50.00	SOT-89	.46
586-0570	BCX56 N	100	80	5	1500	150	1000	100	≤100 30	40 to 160	150.0	2	≥ 25	500.00	2	≤0.50 500 50.00	SOT-89	.46
586-0572	BCX68 N	25	20	5	2000	150	1000	100	≤100 25	63 to 400	500.0	1	≥ 60	1000.00	1	≤0.50 1000 100.00	SOT-89	.52
586-0574	BCX69 P	25	20	5	2000	150	1000	100	≤100 25	63 to 400	500.0	1	≥ 60	1000.00	1	≤0.50 1000 100.00	SOT-89	.52
586-0576	BCX70 N	45	45	5	200	150	330	200	≤ 20 25	120 to 630	2.0	5	≥ 50	50.00	1	≤0.25 10 0.25	SOT-23	.15
586-0578	BCX71 P	45	45	5	200	150	330	250	≤ 20 25	120 to 630	2.0	5	≥ 60	50.00	1	≤0.25 10 0.25	SOT-23	.15
586-0580	SMBT2222A N	75	40	6	600	150	330	≥ 300	≤ 10 60	≥ 35	0.1	10	≥ 100	150.00	10	≤0.30 150 15.00	SOT-23	.15
586-0582	SMBT2907A P	60	60	5	600	150	330	≥ 200	≤ 10 50	≥ 75	0.1	10	≥ 100	150.00	10	≤0.40 150 15.00	SOT-23	.15
586-0584	SMBT3904 N	60	40	6	200	150	330	≥ 300	≤ 50 30	≥ 40	0.1	1	≥ 100	10.00	1	≤0.30 50 5.00	SOT-23	.14
586-0586	SMBT3906 P	40	40	5	200	150	330	≥ 250	≤ 50 30	≥ 60	0.1	1	≥ 100	10.00	1	≤0.40 50 5.00	SOT-23	.14
586-0588	SMBTA06 N	80	80	4	500	150	330	≥ 100	≤100 80	≥ 50	10.0	1	≥ 50	100.00	1	≤0.25 100 10.00	SOT-23	.16
586-0590	SMBTA20 N	—	40	4	200	150	330	≥ 125	≤100 30	≥ 50	5.0	10	—	—	—	≤0.25 10 1.00	SOT-23	.15
586-0592	SMBTA56 P	80	80	4	500	150	330	≥ 50	≤100 80	≥ 50	10.0	1	≥ 50	100.00	1	≤0.25 100 10.00	SOT-23	.16

Darlington Transistors

586-0594	BCV27 N	40	30	10	800	150	360	170	≤100 30	≥ 20,000	100.0	5	≥ 4,000	500.00	5	≤1.0 100 0.10	SOT-23	.27
586-0596	BCV47 N	80	60	10	800	150	360	170	≤100 60	≥ 10,000	100.0	5	≥ 2,000	500.00	5	≤1.0 100 0.10	SOT-23	.30
586-0598	SMBTA14 N	30	30	10	500	150	330	≥ 125	≤100 30	≥ 10,000	10.0	5	≥ 20,000	100.00	5	≤1.5 100 0.10	SOT-23	.20
586-0600	SMBTA64 P	30	30	10	500	150	330	≥ 125	≤100 30	≥ 10,000	10.0	5	≥ 20,000	100.00	5	≤1.5 100 0.10	SOT-23	.20

*PNP = P; NPN = N.

Fig. A (TO-92)

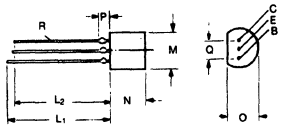


Fig. B (Plastic T-Pack)

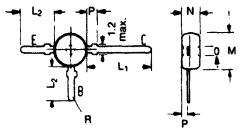


Fig. C (Plastic X-Pack)

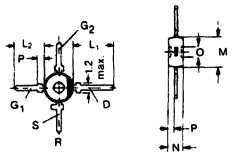


Fig. D (TO-92)

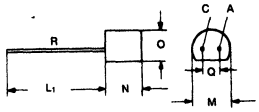


Fig. E (TO-92)

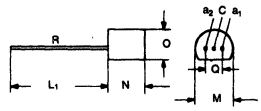
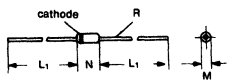


Fig. F (Axial)



Dimension Chart

Dimensions in Inches

	M	N	O	P	Q	R	L_1	L_2
Fig. A TO-92	0.205-.008	0.205-.008	0.165-.008	0.06 ± 006	0.1 ± .006	.016 × .016	≤0.58	≥0.504
Fig. B T-pack	0.18-.008	0.1 ± .008	0.06	0.04	—	.034 × .008	0.315 ± .004	0.2 ± .004
Fig. C X-pack	0.18-.008	0.1 ± .008	0.06	0.04	—	.034 × .008	0.315 ± .004	0.2 ± .004
Fig. D TO-92	0.205-.008	0.205-.008	0.165-.008	—	0.1	.016 × .016	0.555-.008	—
Fig. E TO-92	0.205-.008	0.205-.008	0.165-.008	—	0.1	.016-.016	0.555-.008	—
Fig. F Axial	0.063	0.15	—	—	—	0.02	1.14	—

Dimensions in Millimeters

	M	N	O	P	Q	R	L_1	L_2
Fig. A TO-92	5.2-0.2	5.2-0.2	4.2-0.2	1.5 ± 0.2	2.5 ± 0.15	0.4 × 0.4	≤4.2	≥12.8
Fig. B T-pack	4.6-0.2	2.5 ± 0.2	1.2	1.0	—	0.9 × 0.2	8.0-0.1	5.0-0.1
Fig. C X-pack	4.6-0.2	2.5 ± 0.2	1.2	1.0	—	0.9 × 0.2	8.0-0.1	5.0-0.1
Fig. D TO-92	5.2-0.2	5.2-0.2	4.2-0.2	—	2.54	0.4 × 0.4	14.1-0.2	—
Fig. E TO-92	5.2-0.2	5.2-0.2	4.2-0.2	—	2.54	0.4 × 0.4	14.1-0.2	—
Fig. F Axial	1.6	3.8	—	—	—	0.53	28.9	—

High Frequency Semiconductors

Varactor (Tuning) Diodes

Stock No.	Mfr.'s Type	Reverse Voltage V_R (V)	Diode Capacitance C_{D1} (pF) at V_{R1} (V)	Diode Capacitance C_{D2} (pF) at V_{R2} (V)	Capacitance Ratio	r_s	Fig.	EACH
586-0602	BB112	12	440-540 1	17-29 8.5	>18	1.4	D	**0.60**
586-0604	BB204G	30	34-39 3	14 30.0	2.4-2.8	0.2	E	**0.45**
586-0606	BB304	30	42-47.5 2	25 8.0	1.65-1.75	0.2	E	**0.47**
586-0608	BB409	28	26-32 3	4.5-5.6 25.0	5-6.5	0.4	F	**0.44**
586-0610	BB505B	28	17.5 1	1.85-2.25 28.0	7.7-9.4	0.7	F	**0.32**
586-0612	BB609A	30	>32.5 1	2.5-3.0 28.0	12-15	0.7	F	**0.42**
586-0614	BB609B	30	>33.5 1	2.8-3.2 28.0	12-15	0.7	F	**0.42**

Band Switch Diodes

Stock No.	Mfr.'s Type	Reverse Voltage V_R (V)	Diode Capacitance C_{D1} (pF) at V_{R1} (V)	Diode Capacitance C_{D2} (pF) at V_{R2} (V)	Forward Resistance (f = 200M Hz; I_F = 10mA) $R_F(\Omega)$	Fig.	EACH
586-0616	BA243S	35	<1.5 5	1.85 1	<0.7	F	**0.16**
586-0618	BA244S	35	<1.5 5	1.85 1	<0.5	F	**0.16**
586-0620	BA282	35	<1.2 3	1.50 1	<0.5	F	**0.16**
586-0622	BA389	30	.55 10	0.35 0	<40 at 1.5mA	F	**0.42**
—	—	—	— —	— —	—	—	—
—	—	—	— —	— —	—	—	—
—	—	—	— —	— —	—	—	—

Dual Gate MOS Field Effect Transistors

Stock No.	Mfr.'s Type	Drain Source Voltage V_{DS} (V)	Peak Gate Current $I_{G1/2}$ (mA)	Drain Current I_{DS} (mA)	Channel Temp. T_J (°C)	P_{tot} (mW)	$R_{(th)CA}$ (°C/W)	g_{fs} (mS)	Power Gain G_{ps} (dB)	V_{DS} (V)	I_D (mA)	f (MHz)	Remarks	Fig.	EACH
586-0624	BF960	20	10	30	150	200	450	≥ 10 (12typ)	16.5	15	7	800	NF = 2.2dB at I_D = 7mA; V_{DS} = 15V; f = 800 MHz; y_{fs} = 2mS	C	**0.78**
586-0626	BF961	20	10	30	150	200	450	≥ 12 (15typ)	23	15	10	200	NF = 1.8dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	C	**0.76**
586-0628	BF963	20	10	50	150	200	450	≥ 17 (25typ)	26	15	10	200	NF = 1.5dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	C	**0.97**
586-0630	BF964S	20	10	30	150	200	450	≥ 15 (18typ)	25	15	10	200	NF = 1.0dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	C	**0.97**
586-0632	BF965	20	10	30	150	200	450	≥ 15 (18typ)	25	15	10	200	NF = 1.0dB at I_D = 10mA; V_{DS} = 15V; f = 200 MHz; y_{fs} = 2mS	C	**1.03**
586-0634	BF966S	20	10	30	150	200	450	≥ 15 (18typ)	18	15	10	800	NF = 1.8dB at I_D = 10mA; V_{DS} = 15V; f = 800 MHz; y_{fs} = 2mS	C	**1.09**

RF Transistors

Stock No.	Mfr.'s Type*	Maximum Ratings V_{CBO} (V)	V_{CEO} (V)	V_{EBO} (V)	I_C (mA)	T_j (°C)	P_{tot} (mW)	$R_{(th)JA}$ (°C/W)	f_T (MHz)	Characteristics (T_{amb} = 25°C) h_{FE} at I_C (mA)	V_{CE} (V)	I_{CBO} (nA) at V_{CBO} (V)	Remarks	Fig.	EACH
586-0636	BF763N	25	15	3.5	25	150	500	≤ 250	1800	25-250 5	10	≤ 50	15 NF = 2.5dB at I_C = 5mA; V_{CE} = 10V; f = 200 MHz	A	**0.57**
586-0638	BF970P	−40	−35	−3.0	30	150	160	≤ 600	850	25 3	−10	≤ 100	−20 G_{pb} = 14.5dB at I_C = 3mA; V_{CB} = 10V; f = 800 MHz	B	**0.85**
586-0640	BF979SP	−30	−25	−3.0	50	150	160	≤ 600	1600	≥ 20 10	−10	≤ 100	−20 G_{pb} = 16.5dB at I_C = 10mA; V_{CB} = 10V; f = 800 MHz	B	**0.93**

* PNP = P; NPN = N.

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Surface Mount Discrete Semiconductors

Switching Transistors

Stock No.	Mfr.'s Type*	Maximum Ratings V_{CBO} (V)	V_{CEO} (V)	V_{EBO} (V)	I_{CM} (mA)	T_j (°C)	P_{tot} (mW)	Characteristics (T_{amb} = 25°C) f_T (MHz)	I_{CBO} at V_{CBO} I_{CES} at V_{CES} (nA) (V)	h_{FE1} at I_C (mA)	V_{CE} (V)	h_{FE2} at I_C (mA)	V_{CE} (V)	$V_{CE\,sat}$ (V) at I_C (mA)	I_B (mA)	Case	EACH
586-0642	BSS79N	75	40	6	1000	150	330	250	≤ 10 60	40 to 300*	150	10	≥ 25	500	10	≤ 1.3 500	50	SOT-23	**0.15**
586-0664	BSS82P	60	60	5	1000	150	330	250	≤ 10 50	40 to 300*	150	10	≥ 40	500	10	≤ 1.6 500	50	SOT-23	**0.15**

* PNP = P; NPN = N.

High Voltage Transistors

Stock No.	Mfr.'s Type*	Maximum Ratings V_{CBO} (V)	V_{CEO} (V)	V_{EBO} (V)	I_{CM} (mA)	T_j (°C)	P_{tot} (mW)	Characteristics (T_{amb} = 25°C) f_T (MHz)	I_{CBO} at V_{CBO} I_{CES} at V_{CES} (nA) (V)	h_{FE1} at I_C (mA)	V_{CE} (V)	h_{FE2} at I_C (mA)	V_{CE} (V)	$V_{CE\,sat}$ (V) at I_C (mA)	I_B (mA)	Case	EACH
586-0646	BFN18N	300	300	5	500	150	1000	70	≤ 100 250	≥ 40	10	10	≥ 30	30	10	≥ 0.5 20	2	SOT-89	**0.53**
586-0648	BFN19P	300	300	5	500	150	1000	100	≤ 100 250	≥ 40	10	10	≥ 30	30	10	≤ 0.5 20	2	SOT-89	**0.55**
586-0650	BFN26N	300	300	5	500	150	360	70	≤ 100 250	≥ 40	10	10	≥ 30	30	10	≤ 0.5 20	2	SOT-23	**0.23**
586-0652	BFN27P	300	300	5	500	150	360	100	≤ 100 250	≥ 40	10	10	≥ 30	30	10	≤ 0.5 20	2	SOT-23	**0.23**
586-0654	SMBTA42N	300	300	6	500	150	360	≥ 50	≤ 100 200	≥ 25	1	10	≥ 40	30	10	≤ 0.5 20	2	SOT-23	**0.21**
586-0656	SMBTA92P	300	300	5	500	150	360	≥ 50	≤ 250 200	≥ 25	1	10	≥ 25	30	10	≤ 0.5 20	2	SOT-23	**0.21**

* PNP = P; NPN = N.

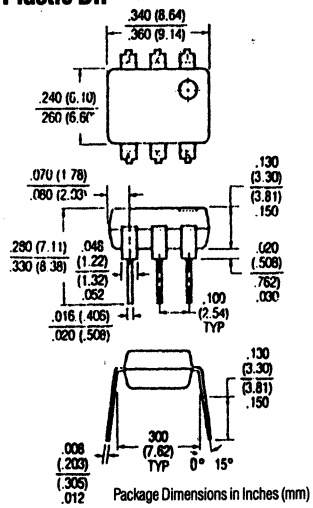
SIPMOS Low Power MOSFETS (SOT23)

Stock No.	Mfr.'s Type**	Maximum Ratings V_{DS} (V)	V_{DG} (mA)	I_{DS} (mA)	P_{tot} (mW)	T_j (°C)	$R_{(th)JA}$ (°C/W)	Characteristics (T_{amb} = 25°C) $V_{GS(th)}$ (V) at I_D (mA)	I_{DSS} (nA) at V_{GS} (V)	I_{DSS} (μA) at V_{DS} (V)	$R_{DS(on)}$ (Ω) at I_D (mA)	V_{GS} (V)	C_{ISS} (pF)	g_{fs} (mS)	EACH
586-0658	BSS84P	50	50	100	330	150	375	≤ 2.8 1.0	≤ 100 20	≤ 15 50	≤ 10.0 100	10	40	70	**0.58**
586-1032	SN7002N	60	60	280	330	150	375	≤ 2.0 —	≤ 50 20	≤ 15 100	≤ 5.0 100	10	20	120	**1.02**
586-0662	BSS123N	100	100	160	330	150	375	≤ 2.8 1.0	≤ 50 20	≤ 15 100	≤ 6.0 100	10	20	120	**0.51**
586-0665	BSS131N	200	200	160	360	150	350	≤ 2.8 1.0	≤ 100 20	≤ 15 200	≤ 12.0 80	10	20	120	**0.55**
586-0666	BSS138N	50	50	200	360	150	350	≤ 1.5 1.0	≤ 100 20	0.5 50	≤ 5.0 200	10	20	200	**0.55**

** n Channel = N; p Channel = P.

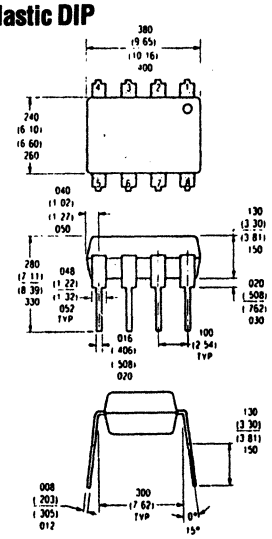
Optocouplers

6 Pin Plastic DIP



Package Dimensions in Inches (mm)

8 Pin Plastic DIP



Package Dimensions in Inches (mm)

Siemens offers couplers in single, dual, quad, and small outline surface mount packages. In addition to our true surface mount couplers, most of the standard couplers can be ordered with optional gull wing, surface mount butt lead bends. Among the couplers offered are high reliability, high voltage, and high current transfer ratio types All couplers are Underwriters Lab approved #E42744 and most VDE approved #0883.

Stock No.	Mfr.'s Type	Features	Current Transfer Ratio (%)IF = 10 mA	(V_{DC}) Isolation Breakdown Voltage	BV_{CEO}	EACH			
						1-99	100-999	1000-4999	5000-Up
587-3084	4N25	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3086	4N26	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3090	4N28	1	10 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3092	4N35	1	100 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3094	4N36	1	100 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-3096	4N37	1	100 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4520	H11A1	1	50 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4522	H11A2	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4524	H11A3	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4526	H11A4	1	10 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4528	H11A5	1	30 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4530	MCT2	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-4532	MCT2E	1	20 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-5000	MCT270	1	50 Min.	7500	30	**0.50**	**0.34**	**0.24**	**0.23**
587-5002	MCT271	1	45 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5004	MCT272	1	75 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5006	MCT273	1	125 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5008	MCT274	1	225 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5010	MCT275	1	70 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5012	MCT276	1	15 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-5014	MCT277	1	100 Min.	7500	30	**0.92**	**0.63**	**0.45**	**0.41**
587-3150	H11AA1	2	20 Min.	7500	30	**1.01**	**0.68**	**0.49**	**0.45**
587-3098	ILCT6	3	20 Min.	7500	30	**1.75**	**1.25**	**1.10**	**0.74**
587-4552	MCT6	3	20 Min.	7500	30	**1.06**	**0.72**	**0.51**	**0.48**
587-3128	4N32	4	500 Min.	7500	30	**0.99**	**0.90**	**0.75**	**0.60**
587-3130	4N33	4	500 Min.	7500	30	**0.99**	**0.90**	**0.75**	**0.60**
587-4534	H11B1	5	500 Min.*	7500	25	**0.87**	**0.59**	**0.42**	**0.39**
587-4536	H11B2	5	200 Min.*	7500	25	**0.84**	**0.57**	**0.41**	**0.38**
587-4538	H11B3	5	100 Min.*	7500	25	**0.84**	**0.57**	**0.41**	**0.38**
587-4540	MCA230	5	100 Min.	7500	30	**0.84**	**0.57**	**0.41**	**0.38**
587-4542	MCA231	5	200 Min.	7500	30	**0.87**	**0.59**	**0.42**	**0.39**
587-4544	MCA255	5	100 Min.	7500	55	**0.87**	**0.59**	**0.42**	**0.39**

1 = Photoxtr. output. Low cost industry standard. Single channel 6 pin DIP. **2** = Bi-directional 3:1 CTR matching Two IR Phoxtr. **3** = Photoxtr. output Dual channel 8 pin DIP. **4** = Photodarlington output. High gain. **5** = Photodarlington output. Low cost. Industry standard Single channel 6 pin DIP. * IF = 1 mA.

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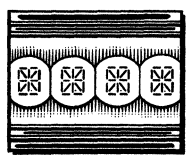
Intelligent Display® Devices

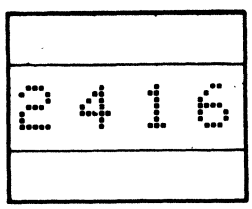
Siemens introduced Intelligent Display devices in 1977. These are LED alphanumeric displays with built-in CMOS drive circuitry for easy interface with microprocessors.

Stock No.	Mfr.'s Type	Character Height	Color	Description	EACH		
					1-99	100-249	250-999
587-1000	DL1414T	.112″	Red	1	**18.00**	**15.75**	**13.75**
587-1006	DL2416T	.160″	Red	1	**18.00**	**17.00**	**15.10**
587-1012	DL3416	.225″	Red	1	**41.00**	**33.75**	**25.50**
587-5016	DLR1414	.150″	Red	2	**19.95**	**18.50**	**15.75**
587-5018	DLO1414	.150″	HER	2	**22.80**	**21.00**	**17.95**
587-5020	DLG1414	.150″	Green	2	**22.80**	**21.00**	**17.95**
587-5022	DLR2416	.200″	Red	2	**22.80**	**21.00**	**17.95**
587-5024	DLO2416	.200″	HER	2	**22.80**	**21.00**	**17.95**
587-5026	DLG2416	.200″	Green	2	**22.80**	**21.00**	**17.95**
587-5028	DLR3416	.270″	Red	2	**28.00**	**25.95**	**22.10**
587-5030	DLO3416	.270″	HER	2	**32.00**	**29.60**	**18.90**
587-5032	DLG3416	.270″	Green	2	**32.00**	**29.60**	**25.20**

1 = 17 segment magnified lens, 4 character display, 64 character set. **2** = 5 × 7 Dot matrix flat lens, 4 character display, 128 character set. Direct drop-in replacement for 17 segment displays.



DL1414T



DLR/DLO/DLG2416

Please See Page 6 for Local Allied Facility Addresses and Phone Numbers

Digital and Interface Circuits

XXX XXXXX XXXX XX X

A B C D E

A—Prefix

SN	Standard Circuits
SNJ	MIL STD-883 Method 5004 Level B JEDEC Standard 101
JANB	JAN-Qualified Circuits, Level B
(Blank)	Advanced CMOS Logic

B—Family

Series		Description
–55°C to 125°C	**0°C to 70°C**	
74	74	Standard TTL Circuits
54LS	74LS	Low-power Schottky TTL
54S	74S	Schottky TTL
55	75	Standard Interface Circuits
54AS	74AS	Advanced Schottky TTL
54ALS	74ALS	Advanced Low-power Schottky TTL
—	76	Advanced Circuits
54HC	74HC	High-Speed CMOS
54HCT	74HCT	High-Speed CMOS TTL
54AC11	74AC11	Advanced CMOS
54ACT11	75ACT11	Advanced CMOS TTL
54BCT	74BCT	BiCMOS

C—2- to 4-character unique device designator, possibly including an A or B in the last position.

D—Package, See Table A

E—PEP Level or Lead modification

Linear Control Circuits

XXX XXXXX X XX B

A B C D E

A—Prefix

TLC	TI LinCMOS™
TL	TI Linear Control Circuits
*ADC	National
*AM	Advanced Micro Devices
*DS	National
LF	National
*LM	National
LT, LTC	Linear Technology
*MC	Motorola
*N, NE, SE	Signetics
*OP	PMI
*RC,RM	Raytheon
*SG	Silicon General
*UA	Fairchild
*ULN, UCN, UDN	Sprague

*Direct-replacement parts for products initiated by other manufacturers.

B—Unique device designator, possibly with an A or B in the last position.

C—Temperature Range (TL and TLC Prefix)

M	– 55°C to 125°C
I	– 25°C to 85°C (some exceptions)
E	– 40°C to 85°C
C	0°C to 70°C

D—Package type, see Table A

E—MIL STD-883B Processing

Packages
Table A

D	Small Outline (SOIC)
DW	Wide Body SOIC
DR, DWR	SOIC Tape & Reel
FD, FK, FE, FG, FV	Ceramic Chip Carrier (leadless)
FJ	Ceramic Chip Carrier (leaded)
FN, FP, FM	Plastic Chip Carrier
FNR	PLCC Tape & Reel
FT	Ceramic Flat Pack
GB	Ceramic 68-pin Grid Array
HA, HB	Quad Ceramic Flat Pack
J, JG, JT	Ceramic DIP
JD	Side Braze Ceramic DIP

KC	TO-220
KH, KV	TO-5
KJ	Metal Can
L, LD	Metal Can
LP	TO-226A
LU	3 Leaded Rectangular Body
N, NE, NT, NW	Plastic DIP
P	Plastic DIP
RA	Ceramic Flat Pack
U	Ceramic Flat Pack
W, WA, WC	Ceramic Flat Pack
—	—

Linear Package Cross Reference

Package Types		Texas Instruments
Plastic DIP	8 Pin	P
Plastic DIP	14 Pin or Larger	N,NE
Ceramic DIP	8 Pin	JG
Ceramic DIP	14 Pin or Larger	J
TO-226A	Plastic	LP
TO-92	Plastic	LP
TO-220	Plastic	KC, KV
SOIC	—	D, W
PLCC	—	FN
TO-3	—	KJ
TO-46	—	LD, L
TO-5	—	L

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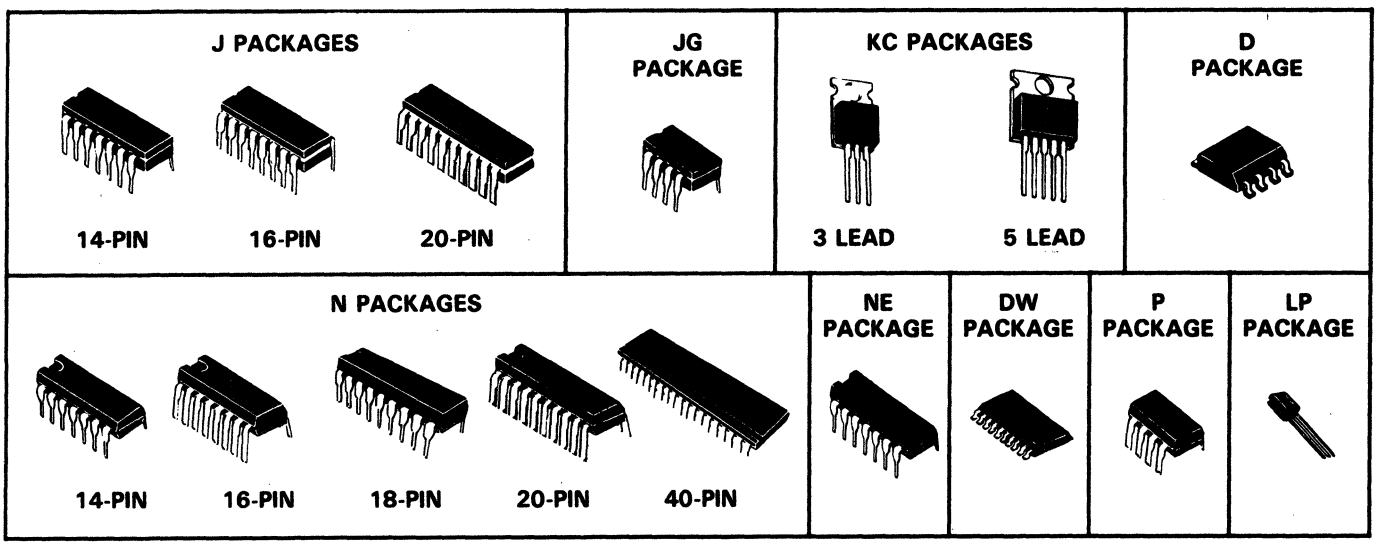
TI Packages



Standard TTL Technology

Positive NAND Gates and Inverters

Stock No.	Mfr.'s Type	Description	EACH
735-2014	SN7404N	Hex inverter	0.51
735-2011	SN7400N	Quad 2-input gate	0.29
735-2023	SN7410N	Triple 3-input gate	0.31
735-5000	SN7420N	Dual 4-input gate	0.49
735-5002	SN7430N	8-input gate	0.69

w/Open-Collector Outputs

735-2015	SN7405N	Hex inverter	0.51
735-5004	SN7401N	Quad 2-input gate	0.29
735-5006	SN7403N	Quad 2-input gate	0.49
735-5008	SN7412N	Triple 3-input gate	0.49
735-2071	SN7422N	Dual 4-input gate	0.56

Schmitt Triggers

735-2036	SN7414N	Hex inverter	0.69
735-5010	SN7413N	Dual 4-input gate	0.31
735-5012	SN74132N	Quad 2-input	0.73

Positive AND Gates

735-1524	SN7408N	Quad 2-input	0.49
735-5014	SN7409N	(w/open collector)	0.29

Positive OR, NOR Gates

735-2073	SN7423N	Dual 4-input NOR	0.56
735-2091	SN7432N	Quad 2-input OR	0.49
735-5016	SN7425N	Dual 4-input NOR	0.31
735-2013	SN7402N	Quad 2-input NOR	0.49

AND-OR-Invert Gates

735-5018	SN7454N	4-wide 2-input	0.29
735-5020	SN7451N	Dual 2-wide 2-input	0.36

Buffer and Interface Gates w/Open Collector Outputs

735-2020	SN7407N	Hex	0.31
735-2057	SN7417N	Hex	0.69
735-2017	SN7406N	Hex inverter	0.38
735-2049	SN7416N	Hex inverter	0.69
735-2077	SN7426N	Quad 2-input NAND	0.49
735-2096	SN7438N	Quad 2-input NAND	0.69
735-5022	SN7433N	Quad 2-input NOR	0.29

Buffers/Drivers w/3-State Outputs

735-2092	SN74367AN	Noninverting	0.47
735-5024	SN74366AN	Inverting	0.47
735-5026	SN74368AN	Inverting	0.47
735-5028	SN74125N	Qd. w/ind. controls	0.54
735-5030	Sn74-126N	Qd. w/ind. controls	0.54

Line Driver

735-2033	SN74128N	Quad 2-input NOR	0.64

Buffers, Clock/Memory Drivers

735-7195	SN7437N	Quad 2-input NAND	0.29

Flip-Flops

735-5034	SN7476N	Dual pulse-trigger	0.42
735-2106	SN7474N	Dual D-type	0.34
735-2060	SN74174N	Hex D-type, Q output	0.78
735-2061	SN74175N	Quad D-type, Q/Q output	0.78
735-2083	SN74276N	Quad JK, Q output	2.78
735-2095	SN74376N	Quad JK, Q output	1.55
735-2080	SN74273N	Octal 2-state w/clear	2.44

Monostable Multivibrators

735-5036	SN74122N	Single retriggerable	0.69
735-2031	SN74123N	Dual retriggerable	0.73
735-2030	SN74121N	Single Schmitt-Trigger	0.69
735-5038	SN74221N	Dual Schmitt-Trigger	1.00

Latches

735-5040	SN7475N	4 Bit	0.42
735-2087	SN74279N	Quad 2-state SR	0.84
735-5044	SN74116N	Dual 4 Bit	1.58
735-5042	SN74259N	8 Bit Addressable	2.44

Arithmetic Operators

735-2107	SN7482N	2-bit binary adder	3.02
735-2088	SN74283N	4-bit binary adder	1.44
735-2054	SN74167N	Decade multiplier	3.55
735-5046	SN7486N	Quad 2-in OR w/T-pole	0.58
735-2034	SN74136N	Quad 2-in OR w/OC	0.78

Multiplexers

735-2042	SN74150N	16-to-1 2-state	1.35
735-5048	SN74151AN	8-to-1 2-state	0.49
735-2045	SN74157N	Quad 2-to-1 2-state	0.64

Demultiplexers

735-2044	SN74154N	4-to-16 3-state	1.80
735-2046	SN74159N	4-to-16 w/OC	2.00
735-5050	SN7442AN	4-to-10 BCD-to-decimal	0.60
735-5052	SN74156N	Dual 2-to-4 w/OC	0.78

Priority Encoders/Registers

735-5054	SN74147N	Full BCD	1.35
735-2041	SN74148N	Cascadable octal	0.88
735-2085	SN74278N	4-bit cascade w/reg.	3.09

Open Collector Display Decoder/Drivers

735-2103	SN7445N	BCD-to-decimal(30V)	1.00
735-5056	SN74145N	BCD-to-decimal(15V)	0.98
735-5058	SN7446AN	BCD-to-7-seg.(30V)	0.86
735-2104	SN7447AN	BCD-to-7-seg.(15V)	1.07

(w/Counters/Latch)

735-2037	SN74143N	BCD-to-7-seg.	4.44

Clock Generator Circuits

735-2027	SN74120N	Synchrenous dual pulse	1.67

Shift Registers

735-2070	SN74198N	8-bit parallel bidir	1.67
735-5060	SN7496N	5-bit parallel in/out	0.71
735-5062	SN74195N	4-bit parallel in/out	0.95
735-2051	SN74164N	Serial-in/parallel-out	0.84
735-2052	SN74165N	Parallel-in/serial-out	0.91
735-2053	SN74166N	Parallel-in/serial-out	1.00

Other Registers

735-2058	SN74172N	8 × 2 bit reg. file	5.55
735-5064	SN74173N	Quad bus buffer	1.22

Synchronous Counters

735-2050	SN74161N	Sync. 4-bit binary	0.84
735-2067	SN74191N	Asyn. 4-bit bin. up/down	0.95
735-2068	SN74193N	Asys. 4-bit bin. up/down	0.95
735-2111	SN7497N	6-bit bin. multiplexer	2.07

Asynchronous Counters (Ripple Clock)

735-2109	SN7490AN	Decade(set-to-9 load)	1.28
735-5066	SN74176N	Decade('yes' load)	1.07
735-5068	SN74196N	Decade('yes' load)	1.07
735-5070	SN7493AN	4-bit binary(no load)	0.62
735-5072	SN74177N	4-bit bin.('yes' load)	1.07
735-2089	SN74293N	4-bit bin.(no load)	1.44
735-5074	SN7492AN	Divide-by-12(no load)	0.64
735-2098	SN74390N	Dual decade(no load)	1.84
735-2099	SN74393N	Dual 4-bit bin.(no ld.)	1.84

Low Power Schottky TTL Technology

Positive NAND Gates

Stock No.	Mfr.'s Type	Description	EACH
735-1616	SN74LS04N	Hex inverter	0.27
735-1610	SN74LS00N	Quad 2-input	0.27
735-1624	SN74LS10N	Triple 3-input	0.27
735-1698	SN74LS20N	Dual 4-input	0.33
735-5076	SN74LS30N	8-input	0.27

Positive NAND Gates (Cont.) w/Open Collector Output

735-1619	SN74LS05N	Hex inverter	0.27
735-5078	SN74LS01N	Quad 2-input	0.27
735-5080	SN74LS03N	Quad 2-input	0.27

Schmitt Trigger

735-1644	SN74LS14N	Hex inverter	0.33
735-1637	SN74LS132N	Quad 2-input	0.91

Positive AND Gates

735-1621	SN74LS08N	Quad 2-input	0.27
735-1628	SN74LS11N	Triple 3-input	0.27
735-5082	SN74LS21N	Dual 4-input	0.33
735-5084	SN74LS09N	Quad 2-input w/OC	0.27
735-1651	SN74LS15N	Triple 3-input w/OC	0.27

Positive OR, NOR Gates

735-1747	SN74LS32N	Quad 2-input OR	0.33
735-1613	SN74LS02N	Quad 2-input NOR	0.27
735-1725	SN74LS27N	Triple 3-input NOR	0.27

AND-OR-Invert Gates

735-1804	SN74LS51N	Dual 2-wide 2-input	0.33

Buffer and Interface Positive Gates

735-1780	SN74LS38N	Quad 2-in NAND w/OC	0.36

Buffers/Drivers w/3-State Outputs

735-5086	SN74LS241N	Noninverting octal	0.58
735-1711	SN74LS244N	Noninverting octal	0.58
735-5088	SN74LS541N	Noninverting octal	0.89
735-1706	SN74LS240N	Inverting octal	0.58
735-1802	SN74LS466N	Inverting octal	1.55

Buffers/Drivers w/3-State Outputs

Stock No.	Mfr.'s Type	Description	EACH
735-1806	SN74LS540N	Inverting octal	1.55
735-1764	SN74LS365AN	Noninverting hex	0.51
735-1767	SN74LS367AN	Noninverting hex	0.51
735-1765	SN74LS366AN	Inverting hex	0.51
735-1634	SN74LS125AN	Quad w/ind. output	0.44
735-5090	SN74LS126AN	Quad w/ind. output	0.44

Transceivers w/3-State Outputs

735-1714	SN74LS245N	Octal	0.60

Bus Transceivers

735-1796	SN74LS442N	Quad 3-state	5.00
735-1858	SN74LS645N	Oct. 3-state low-power	1.02
735-1856	SN74LS645-1N	(High IOL version)	3.33
735-5092	SN74LS640N	Oct. 3-state low power	1.44
735-1859	SN74LS646NT	Oct. 3-st., multiplex	4.33
735-1861	SN74LS648NT	Inv. oct. 3-st., mltplx.	4.33

Flip-Flops

735-5094	SN74LS73AN	Dual JK w/clear	0.44
735-1626	SN74LS107AN	Dual JK: clear	0.38
735-1627	SN74LS109AN	Dual JK: clear, preset	0.38
735-1629	SN74LS112AN	Dual JK: clear, preset	0.38
735-1888	SN74LS74AN	Dual D: clear, preset	0.29
735-1683	SN74LS174N	Hex D-type Q output	0.42
735-1778	SN74LS378N	HEX D-type Q output	0.82
735-1686	SN74LS175N	Quad D-type Q/Q output	0.42
735-1774	SN74LS374N	Octal 3-state	0.58
735-1727	SN74LS273N	2-state octal w/clear	0.60
735-1777	SN74LS377N	2-state oct. w/enable	0.80

Latches Transparent

735-1890	SN74LS75N	4-bit bistable	0.49
735-5096	SN74LS375N	4-bit bistable	0.51
735-1731	SN74LS279AN	Quad SR	0.44
735-1771	SN74LS373N	3-state octal	0.58

Non-Transparent

735-1723	SN74LS259BN	Oct. 2-st. addressable	0.69

Monostable Multivibrators

735-1631	SN74LS123N	Dual retriggerable	0.56
735-5098	SN74LS221N	Dual w/Schmitt Trigger	0.80

Comparators

Stock No.	Mfr.'s Type	Description	EACH
735-1892	SN74LS85N	Quad 2-state	0.51
735-1874	SN74LS682N	Octal 2-state	2.00
735-1877	SN74LS684N	Octal 2-state	2.44
735-1881	SN74LS688N	Octal 2-state enable	1.67
735-1733	SN74LS280N	9-bit parity checker	0.75

Arithmetic Circuits

735-1736	SN74LS283N	4-bit par. bin. adder	0.62
735-5100	SN74LS183N	Dual 1-bit carry-save	7.04
735-1782	SN74LS381AN	Quad. funct. generator	3.11
735-1895	SN74LS86AN	Qd. 2-in OR w/T-pole	0.51
735-6594	SN74LS136N	Quad 2-in OR w/OC	0.37
735-1724	SN74LS266N	Quad 2-in NOR gate	0.40

Multiplexers

735-1653	SN74LS151N	8-to-1 2-state	0.42
735-1718	SN74LS251N	8-to-1 3-state	0.44
735-1655	SN74LS153N	Dual 4-to-1 2-state	0.42
735-1719	SN74LS253N	Dual 4-to-1 3-state	0.44
735-1742	SN74LS298N	Quad 2-to-1 2-state	0.78
735-1790	SN74LS399N	Quad 2-to-1 2-state	0.89
735-1660	SN74LS157N	Quad 2-to-1 2-state	0.42
735-5102	SN74LS158N	Quad 2-to-1 2-state	0.42
735-1721	SN74LS257BN	Quad 2-to-1 3-state	0.44

Demultiplexers

735-1791	SN74LS42N	4-to-10 BCD-to-decimal	0.51
735-1639	SN74LS138N	3-to-8 2-state	0.42
735-5104	SN74LS139AN	Dual 2-to-4 2-state	0.51
735-1657	SN74LS155AN	Dual 2-to-4 2-state	0.42
735-1658	SN74LS156N	Dual 2-to-4 OC	0.42

Open-Collector Display Decoder/Drivers

735-1647	SN74LS145N	BCD-to-decimal(15V)	0.60
735-1803	SN74LS47N	BCD-to-7-segment(15V)	0.80
735-1716	SN74LS247N	BCD-to-7-segment(15V)	0.84

Voltage-Controlled Oscillators

735-1832	SN74LS624N	Single VCO w/enable	1.86
735-1840	SN74LS628N	Single VCO w/enable	1.86
735-1835	SN74LS625N	Dual VCO	2.55
735-1838	SN74LS627N	Dual VCO	5.06
735-1843	SN74LS629N	Dual VCO w/enable	2.55

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Low Power Schottky TTL Technology

Clock Generator Circuits

Stock No.	Mfr.'s Type	Description	EACH
735-1750	SN74LS321N	Crystal Oscillator	3.11
735-1741	SN74LS297N	Dig. Phase Lock Loop	15.54
735-1739	SN74LS292N	Freq. divider/timer	15.54
735-1740	SN74LS294N	Freq. divider/timer	15.54

Registers—Shift Registers

735-1753	SN74LS322AN	8 Bit	2.66
735-1743	SN74LS299N	Octal par. in/out bidir.	1.53
735-5106	SN74LS194AN	Quad. par. in/out bidir.	0.51
735-1671	SN74LS164N	Octal ser. -in/par. -out	0.47
735-5108	SN74LS165AN	Octal par. -in/ser. -out	0.89
735-1676	SN74LS166AN	Octal par. -in/ser. -out	1.00

Octal Shift Registers w/Latches

735-1817	SN74LS595N	Ser. -to-par:latch out	6.11
735-1819	SN74LS597N	Par. -to-ser:latch in	6.11

Registers

735-1868	SN74LS670N	4 x 4 3-st. reg. file	1.00
735-1789	SN74LS396N	Octal storage register	3.74

Synchronous, Positive-Edge Triggered

735-5110	SN74LS160AN	4-bit sync. decade	0.47
735-5112	SN74LS190N	Async. decade up/down	0.56
735-1665	SN74LS161AN	4-bit sync. binary	0.47
735-1668	SN74LS163AN	4-bit sync. binary	0.47
735-1866	SN74LS669N	4-bit sync. binary	0.89
735-1679	SN74LS168BN	4-bit sync. bin. up/down	1.11
735-1691	SN74LS191N	4-bit asyn. bin. up/down	0.56

Synchronous, Positive-Edge Triggered

735-1694	SN74LS193N	4-bit asyn. bin. up/down	0.56
735-1884	SN74LS697N	4-bit sync. bin. up/down	3.33

Asynchronous (Ripple Clock)

735-1896	SN74LS90N	Decade set-to-9	0.56
735-1899	SN74LS93N	4-bit binary	0.56
735-1697	SN74LS197N	4-bit binary	1.08
735-1897	SN74LS92N	Divide-by-12	0.56
735-1785	SN74LS390N	Dual decade	0.64
735-5114	SN74LS393N	Dual 4-bit binary	0.64

8-Bit Binary Counters w/Registers

735-1811	SN74LS590N	Parallel outputs	6.11
735-5116	SN74LS592N	Paral. inp./2-st. out	6.11
735-1815	SN74LS593N	3-state parallel IO	7.77

Schottky TTL Technology

Positive NAND Gates

Stock No.	Mfr.'s Type	Description	EACH
735-1906	SN74S04N	Hex inverter	0.58
735-1901	SN74S00N	Quad 2-input	0.56
735-1911	SN74S10N	Triple 3-input	0.56
735-1950	SN74S20N	Dual 4-input	0.56
735-5118	SN74S30N	8-input	0.56

w/Open-Collector Outputs

735-5120	SN74S05N	Hex inverter	0.58

Schmitt Trigger

735-5149	SN74S132N	Quad 2-input	1.67

Positive AND Gates

735-5122	SN74S08N	Quad 2-input	0.56
735-1912	Sn74S-11N	Triple 3-input	0.56

Positive OR, NOR Gates

735-1982	SN74S32N	Quad 2-input OR	0.58
735-1904	SN74S02N	Quad 2-input NOR	0.56
735-2010	SN74S86N	Quad 2-input OR	0.75
735-1966	SN74S260N	Dual 5-input NOR	0.78

AND-OR-Invert Gates

735-5124	SN74S64N	4-wide 4-2-3-2 input	0.58
735-5126	SN74S51N	Dual 2-wide 2-input	0.56

Buffer Interface Gate w/Open Collector Output

735-1992	SN74S38N	Quad 2-input NAND	1.00

3-State Buffers/Drivers

Stock No.	Mfr.'s Type	Description	EACH
735-5128	SN74S241N	Noninverting octal	2.55
735-5130	SN74S244N	Noninverting octal	2.87
735-1954	SN74S240N	Inverting octal	2.55

Line Driver

735-5132	SN74S140N	Dual 4-input NAND	0.71

Buffers, Clock/Memory Drivers

735-5134	SN74S37N	Quad 2-input NAND	1.00

Flip-Flops

735-5136	SN74S112AN	Dual JK:preset, clear	0.73
735-1915	SN74S113AN	Dual JK:preset	0.73
735-2005	SN74S74N	Dual D-type	0.71
735-5138	SN74S174N	Hex D-type, Q output	1.55
735-5140	SN74S175N	Quad D-type, Q/Q output	1.55
735-1989	SN74S374N	Octal 3-state	3.00

Multiplexers

735-5142	SN74S151N	8-to-1 2-state	1.33
735-5144	SN74S251N	8-to-1 3-state	1.44
735-1927	SN74S153N	Dual 4-to-1 2-state	1.33
735-5146	SN74S157N	Quad 2-to-1 2-state	1.33
735-1931	SN74S158N	Quad 2-to-1 2-state	1.33
735-1963	SN74S257N	Quad 2-to-1 3-state	1.33
735-5148	SN74S258N	Quad 2-to-1 3-state	1.33

Demultiplexers

735-5150	SN74S138AN	3-to-8 2-state	1.33
735-1923	SN74S139AN	Dual 2-to-4 2-state	1.33

Latches

Stock No.	Mfr.'s Type	Description	EACH
735-5152	SN74S373N	Oct. 3-st. transparent	3.00

Comparators

735-5154	SN74S85N	4-bit 2-state	2.00
735-1971	SN74S280N	Odd/even parity checker	2.11

Arithmetic Circuits

735-1973	SN74S283N	4-bit paral. bin. adder	3.64
735-5156	SN74S181N	4-bit bin. accumulator	4.33
735-5158	SN74S381N	4-bit logic unit	6.11
735-5160	SN74S182N	16-bit carry generator	1.89

Clock Generator Circuit

735-1917	SN74S124N	Dual VCO	3.22

Shift Registers

735-5162	SN74S299N	8-bit par. in/out bidir.	7.77
735-1948	SN74S194N	4-bit par. in/out bidir.	2.00
735-5164	SN74S195N	4-bit parallel in/out	2.11

Counters Synchronous

735-1933	SN74S163N	Sync. 4-bit binary	3.33
735-5166	SN74S169N	Syn. 4-bit bin. up/down	5.00

Asynchronous (Ripple Clock)

735-5168	SN74S197N	4-bit binary	3.77

Advanced Schottky TTL Technology

Positive NAND Gates

Stock No.	Mfr.'s Type	Description	EACH
735-5170	SN74AS804BN	Hex 2-input	2.11
735-1282	SN74AS04N	Hex inverter	0.44
735-5172	SN74AS1004AN	Hex inverter	1.00
735-5174	SN74AS00N	Quad 2-input	0.44
735-5176	SN74AS1000AN	Quad 2-input	1.00
735-5178	SN74AS10N	Triple 3-input	1.00
735-1330	SN74AS20N	Dual 4-input	0.44
735-1363	SN74AS30N	8-input	0.44

Positive AND Gates

735-5180	SN74AS808BN	Hex 2-input	2.11
735-5182	SN74AS11N	Triple 3-input	0.44
735-1284	SN74AS08N	Quad 2-input	0.44
735-5184	SN74AS1008AN	Quad 2-input	1.00
735-5186	SN74AS21N	Dual 4-input	0.44

Positive OR Gates

735-5190	SN74AS32N	Quad 2-input	0.44

Positive NOR Gate

735-1280	SN74AS02N	Quad 2-input	0.44
735-5192	SN74AS27N	Triple 3-input	0.44

Buffers/Drivers w/Open Collector Outputs

735-5194	SN74AS757N	Noninverting octal	3.33
735-5196	SN74AS760N	Noninverting octal	3.33

w/3-State Outputs

735-5198	SN74AS241N	Noninverting octal	1.89
735-1339	SN74AS244N	Noninverting octal	1.89

w/3-State Outputs

Stock No.	Mfr.'s Type	Description	EACH
735-5200	SN74AS240N	Inverting octal	1.89
735-5202	SN74AS245N	Octal transceiver	2.00

Octal Transceivers

735-5204	SN74AS652NT	Low-power 3-state	6.11
735-5206	SN74AS651NT	Low-power 3-state	6.11
735-5208	SN74AS645N	Low-power 3-state	2.78
735-1400	SN74AS640N	Low-power 3-state	5.00
735-5210	SN74AS646NT	3-state w/multiplexer	6.11
735-5212	SN74AS648NT	3-state w/multiplexer	6.11

Flip-Flops

735-1424	SN74AS74N	Dual D-type	0.56
735-5214	SN74AS174N	Hex D-type Q output	1.53
735-1323	SN74AS175N	Quad D-type Q/Q output	1.53
735-5216	SN74AS374N	Octal 3-state	1.89
735-5218	SN74AS574N	Octal 3-state	2.00
735-1478	SN74AS874NT	Octal 3-state w/clear	4.22
735-5220	SN74AS534N	Inv. octal 3-state	2.00
735-5222	SN74AS576N	Inv. octal 3-state	2.00
735-5224	SN74AS825NT	Octal 3-state	4.22
735-5226	SN74AS826NT	Inv. octal 3-state	4.22
735-5228	SN74AS823NT	9-bit 3-state	4.22
735-5230	SN74AS821NT	10-bit 3-state	4.22

Latches Transparent

735-5232	SN74AS373N	Octal 3-state	1.89
735-1374	SN74AS573AN	Octal 3-state	2.00
735-5234	SN74AS533N	Inv. octal 3-state	2.00

Non-Transparent

735-5236	SN74AS841NT	10-bit 3-state	4.22

Comparators

Stock No.	Mfr.'s Type	Description	EACH
735-1494	SN74AS885NT	Octal 2-state enable	8.66
735-5238	SN74AS280N	9-bit parity checker	1.33
735-5240	SN74AS286N	9-bit parity checker	1.33

Arithmetic Circuits

735-1326	SN74AS181ANT	4-bit arith. logic	9.99
735-5242	Sn74AS-881ANT	4-bit arith. logic	9.99

Multiplexers

735-5244	SN74AS250ANT	16-to-1 3-state	2.89
735-5246	SN74AS153N	Dual 4-to-1 2-state	1.02
735-5248	SN74AS298N	Quad 2-to-1 2-state	1.02

Demultiplexers

735-5250	SN74AS137N	3-to-8 2-st. addressable	1.02
735-5252	SN74AS138N	3-to-8 2-state	1.02

Registers

735-1328	SN74AS194N	4-bit parallel in/out	2.15
735-5254	SN74AS870NT	Dual 16 x 4-bit	8.77

Synchronous Counters

735-1313	SN74AS160N	Synchronous decade	2.44
735-1315	SN74AS161N	Sync. 4-bit binary	2.44
735-1317	SN74AS163N	Sync. 4-bit binary	2.44
735-1319	SN74AS169AN	Sync. 4-bit binary	2.44
735-1468	SN74AS867NT	Async. 8-bit up/down	6.33
735-1469	SN74AS869NT	Sync. 8-bit up/down	6.33

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Advanced Low Power Schottky TTL Technology

Positive NAND Gates

Stock No.	Mfr.'s Type	Description	EACH
735-0995	SN74ALS04BN	Hex inverter	0.38
735-0991	SN74ALS00AN	Quad 2-input	0.38
735-5256	SN74ALS10AN	Triple 3-input	0.56
735-1013	SN74ALS1010AN	Triple 3-input	0.56
735-5258	SN74ALS133N	13-input	0.60

(With Open Collector Outputs)

735-0997	SN74ALS05AN	Hex inverter	0.38

Positive AND, OR, NOR Gates

735-5260	SN74ALS08N	Quad 2-input AND	0.38
735-1011	SN74ALS1008AN	Quad 2-input AND	0.56
735-5262	SN74ALS32N	Quad 2-input OR	0.38
735-0993	SN74ALS02N	Quad 2-input NOR	0.38
735-5264	SN74ALS27N	Triple 3-input NOR	0.38

Buffers/Drivers And BUS Tranceivers

735-5266	SN74ALS756N	Inverting octal w/OC	2.13
735-5268	SN74ALS241BN	Noninv. octal 3-state	1.02
735-1076	SN74ALS244BN	Noninv. octal 3-state	1.02
735-1139	SN74ALS541N	Noninv. octal 3-state	1.67
735-1070	SN74ALS240AN	Inv. octal 3-state	1.20
735-5270	SN74ALS540N	Inv. octal 3-state	1.67
735-1079	SN74ALS245AN	Octal transeiver	1.02

Latches Transparent, except 841NT

Stock No.	Mfr.'s Type	Description	EACH
735-5272	SN74ALS990N	Octal D-type	4.44
735-5274	SN74ALS666NT	Octal D-type w/clear	7.70
735-5276	SN74ALS667NT	Inv. oct. D-type w/clear	7.71
735-1113	SN74ALS373N	Octal 3-state	1.20
735-5278	SN74ALS841NT	10-bit 3-state	4.22

Comparators

735-5280	SN74ALS520N	8-bit 2-state enable	2.00
735-1122	SN74ALS521N	8-bit 2-state enable	2.00
735-1126	SN74ALS688N	8-bit 2-state t-pole	3.55
735-5282	SN74ALS280N	Odd/even parity checker	1.22
735-5284	SN74ALS527N	8-bit identity	3.55

Arithmetic Operators

735-1259	SN74ALS86N	Qd. 2-in. OR w/T-pole	0.51

Multiplexers

735-5286	SN74ALS151N	8-to-1 2-state	0.80
735-1085	SN74ALS257N	Quad 2-to-1 3-state	0.80
735-5290	SN74ALS258N	Quad 2-to-1 3-state	0.80
735-5292	SN74ALS153N	Dual 4-to-1 2-state	0.80
735-5294	SN74ALS253N	Dual 4-to-1 3-state	0.80

Demultiplexers

735-1031	SN74ALS138N	3-to-8 2-state	0.80
735-1033	SN74ALS139N	Dual 2-to-4 2-state	0.80

Registers

735-5296	SN74ALS299N	Paral. in/out shift	3.22
735-5298	SN74ALS871N	Dual 16 × 4-bit	9.99

Buffers and Line Drivers (Octal Unless Noted)

Stock No.	Mfr.'s Type	Description	EACH
735-1110	SN74ALS34N	Hex buffer	0.56

Octal BUS Tranceivers

735-5300	SN74ALS623AN	Low-power 3-state	2.20
735-5302	SN74ALS652NT	Low-power 3-state	5.22
735-5304	SN74ALS645AN	Low-power 3-state	1.89
735-5306	SN74ALS640BN	Low-power 3-state	1.89
735-5308	SN74ALS646NT	3-state w/multiplex	5.22

Flip-Flops

735-1021	SN74ALS109AN	Dual JK:preset, clear	0.51
735-5310	SN74ALS112AN	Dual JK:preset, clear	0.51
735-5312	SN74ALS74AN	Dual D-type	0.51
735-5314	SN74ALS174N	Hex D-type Q output	0.80
735-5316	SN74ALS175N	Quad D-type Q/Q output	0.90
735-1115	SN74ALS374AN	Octal 3-state	1.02
735-1149	SN74ALS574BN	Octal 3-state	1.44
735-5318	SN74ALS273N	Octal 2-state w/clear	1.22
735-1124	SN74ALS534N	Inv. octal 3-state	1.67
735-5320	SN74ALS29821NT	10-bit 3-state	3.55
735-5322	SN74ALS29826NT	Octal 3-state	3.55

Counters

735-5324	SN74ALS161BN	Sync. 4-bit binary	0.98
735-5326	SN74ALS163BN	Sync. 4-bit binary	0.98
735-5328	SN74ALS169BN	Sync. 4-bit binary	0.45
735-5330	SN74ALS191N	Asyn. 4-b bin. up/down	1.00
735-1059	SN74ALS193N	Asyn. 4-b bin. up/down	1.00
735-1145	SN74ALS569AN	Sync. 4-b bin. up/down	2.44

High-Speed Silicon Gate HCMOS Technology

Positive NAND Gates

Stock No.	Mfr.'s Type	Description	EACH
735-1521	SN74HC04N	Hex inverter	0.24
735-1515	SN74HC00N	Quad 2-input	0.24
735-1526	SN74HC10N	Triple 3-input	0.24
735-5334	SN74HC30N	8-input	0.24

With Open Collector Output

735-1519	SN74HC03N	Quad 2-input	0.24

Schmitt Trigger

735-1536	SN74HC14N	Hex inverter	0.31
735-5332	SN74HC132N	Quad 2-input	0.73

Positive AND Gates

735-9997	SN74HC08N	Quad 2-input	0.24

Positive OR, NOR Gates

735-1566	SN74HC32N	Quad 2-input OR	0.24
735-1517	SN74HC02N	Quad 2-input NOR	0.24
735-1562	SN74HC27N	Triple 3-input	0.24

AND-OR-Invert Gate w/Open Collector Output

735-1576	SN74HC51N	4-wide 4-2-3-2 input	0.24

3-State Output Devices

735-1557	SN74HC244N	Octal buffer/driver	0.60
735-1578	SN74HC541N	Octal buffer/driver	1.00
735-5336	SN74HC640N	Octal transceiver	1.55
735-1556	SN74HC240N	Inv. oct. buff/driv	0.62
735-1558	SN74HC245N	Octal transceiver	0.67
735-5338	SN74HC125N	Quad buffer/driver	0.38
735-1530	SN74HC126N	Quad buffer/driver	0.38

Flip-Flops

735-5340	SN74HC107N	Dual JK:clear	0.38
735-1527	SN74HC109N	Pos. dual JK:prst./cir.	0.38
735-1528	SN74HC112N	Neg. dual JK:prst./cir.	0.38
735-1588	SN74HC74N	Dual D-type	0.33
735-1548	SN74HC174N	Hex D-type, Q output	0.44
735-5342	SN74HC175N	Hex D-type, Q/Q output	0.44

Demultiplexers

735-5344	SN74HC154NT	4-to-16 3-state	4.22
735-5346	SN74HC4515NT	4-to-16 2-state	4.22
735-1531	SN74HC137N	3-to-8 2-st. addressable	0.73
735-1533	SN74HC138N	3-to-8 2-state	0.44
735-1534	SN74HC139N	Dual 2-to-4 2-state	0.44

Priority Encoders/Registers

735-5348	SN74HC148N	Cascadable octal	1.20

Shift Registers

735-1545	SN74HC164N	Oct. serial-in/par.-out	0.56
735-1546	SN74HC165N	Oct. paral.-in/ser.-out	0.56
735-5350	SN74HC166N	Oct. paral.-in/ser.-out	1.00

Counters

735-5352	SN74HC192N	Async. decade up/down	0.89
735-1542	SN74HC161N	Sync. 4-bit binary	0.56
735-1544	SN74HC163N	Sync. 4-bit binary	0.56
735-1551	SN74HC191N	Async. 4-bit bin. up/down	0.89
735-5354	SN74HC193N	Async. 4-bit bin. up/down	0.56
735-1573	SN74HC393N	Async. dual 4-bit binary	0.80
735-1575	SN74HC4040N	Async. 12-bit binary	0.89

Flip-Flops

735-1571	SN74HC374N	Octal 3-state	0.62
735-1579	SN74HC574N	Octal 3-state	1.00
735-1563	SN74HC273N	Oct. 2-state w/clear	0.67
735-1572	SN74HC377N	Oct. 2-state w/enable	1.42

Latches

735-1570	SN74HC373N	Transp. octal 3-state	0.62
735-5356	SN74HC259N	Oct. 2-st. addressable	0.89

Comparators

735-1584	SN74HC682N	Oct. 2-state pull-up	4.26
735-1585	SN74HC684N	Octal 2-state standard	4.26
735-5358	SN74HC688N	Oct. 2-state w/enable	3.62
735-5360	SN74HC677NT	16-to-4-bit w/enable	1.67

Arithmetic Circuits

735-1591	SN74HC86N	Qd. 2-inp. OR w/T-pole	0.38

Multiplexers

735-1537	SN74HC151N	8-to-1 2-state	0.44
735-5362	SN74HC251N	8-to-1 3-state	0.49
735-1538	SN74HC153N	Dual 4-to-1 2-state	0.44
735-1540	SN74HC157N	Quad 2-to-1 2-state	0.44
735-1559	SN74HC257N	Quad 2-to-1 3-state	0.49

TTL-Compatible Advanced High-Speed CMOS Technology

Stock No.	Mfr.'s Type	Description	EACH
735-5364	SN74HCT04N	NAND hex. inverter	0.24
735-5366	SN74HCT645N	Oct. bus transceiver	2.55
735-1506	SN74HCT244N	Oct. buffer/driver	0.60
735-1507	SN74HCT245N	Oct. 3-state transc.	0.67
735-5368	SN74HCT138N	3-to-8 demultiplexer	0.44
735-5370	SN74HCT373N	Oct. D-type latch	0.62
735-1509	SN74HCT374N	Oct. D-type flip-flop	0.62
735-5372	SN74HCT573N	Oct. D-type latch	1.00

Linear Circuits

A/D Converters

Stock No.	Mfr.'s Type	Description	EACH
735-5374	TL500CJ	Dual-slope analog processor	8.30
735-5376	TL501CJ	Dual-slope analog processor	4.64
735-5378	TL502CN	Dig. processor w/7-seg. out	7.02
735-5380	TL505CN	BiMOS (3 digits, 10-bit res.)	3.89
735-0001	ADC0803CN	8-bit w/diff. inputs	5.88
735-0002	ADC0804CN	8-bit w/diff. inputs	4.33
735-5382	ADC0820CCN	8-bit w/diff. inputs	11.10
735-2676	TLC549MP	LinCMOS periph: w/serial ctrl.	3.00

Analog Switches and Multiplexers

735-5384	TL191CN	BiMOS switch	3.11

Switched Capacitor Filter IC

735-5386	TLC10CN	Dual filter/general purpose	5.11

Line Drivers

Stock No.	Mfr.'s Type	Description	EACH
735-2175	SN75158P	Dual differential	4.44
735-5388	MC3487N3	3-state quad differential	1.60
735-5390	SN75151N	3-state quad differential	3.77
735-2197	SN75174N	3-state quad differential	2.44
735-2218	SN75188N	Monolithic quad line driver	0.31
735-2145	SN75123N	AND-OR dual line driver	1.67
735-5392	SN75121N	AND-OR dual line driver	2.22
735-2126	SN75110AN	High speed dual line driver	1.07
735-2129	SN75112N	High speed dual line driver	2.78
735-2130	SN75113N	AND/NAND dual differential	2.78
735-5394	SN75114N	AND/NAND dual differential	2.22
735-2217	SN75183N	Quad input dual differential	2.20

Line Receivers

735-5396	MC3486N	3-state quad line receiver	0.89
735-2195	SN75173N	Quad differential	2.22
735-2199	SN75175N	Quad differential	2.22
735-2170	SN75154N	Inverting quad w/pull-up	0.87

Line Receivers

Stock No.	Mfr.'s Type	Description	EACH
735-2220	SN75189N	Quad w/input hysterisis	0.31
735-2219	SN75189AN	Quad w/input hysterisis	0.31
735-5398	SN75124N	Triple line receiver	2.22
735-5400	SN75122N	Triple line receiver	2.22
735-2153	SN75140P	Dual line receiver	2.22
735-2125	SN75107AN	Dual line receiver	0.69
735-5402	SN75107BN	Dual line receiver	0.69
735-2131	SN75115N	Dual differential w/t-pole	2.22
735-2216	SN75182N	Dual differential receiver	2.20

Transcevier

735-2201	SN75176AP	3-state differential	1.22
735-2204	SN75176BP	3-state differential	1.33
735-2208	SN75177BP	3-state diff. repeater	1.44
735-2215	SN75179BP	Diff. driver/reciever pair	2.00
735-5404	SN75138N	Quad bus transceiver	2.44
735-2133	SN75116N	Diff. line trans. w/strobe	3.89
735-5406	SN75118N	Diff. line trans. w/enable	3.89

Linear Circuits

General Purpose Drivers and Actuators

Stock No.	Mfr.'s Type	Output Current (mA)	Input Capability	Function	EACH
735-2237	SN75451BP	300	TTL	AND	0.56
735-2238	SN75452BP	300	TTL	NAND	0.56
735-2239	SN75453BP	300	TTL	OR	0.56
735-5408	SN75454BP	300	TTL	NOR	0.56
735-5410	SN75372P	500	TTL	MOS Driver	1.67
735-2241	SN75462P	300	TTL	NAND	0.89
735-5412	SN75463P	300	TTL	OR	0.89
735-5414	ULN2068NE	1250	TTL, CMOS	Invert	1.86
735-5416	ULN2003AN	350	TTL, CMOS	Invert	0.67
735-3034	ULN2004AN	350	15 V MOS	Invert	0.67
735-2244	SN75472P	300	TTL	NAND	0.95
735-2243	SN75468N	350	TTL, CMOS	Invert	1.44
735-5418	SN75469N	350	15 V MOS	Invert	1.44

Operational Amplifiers—Internally Compensated, Single

Stock No.	Mfr.'s Type	V_{IO} (mV) Max.	I_{IB} (nA) Max.	A_{VD} (V/mV) Min.	SR (V/μs) Typ.	EACH
735-5420	LM307P	7.5	250.000	25.0	.50	0.44
735-0242	LM318P	10.0	250.000	25.0	70.00	1.11
735-0269	NE5534AP	4.0	1500.000	25.0	13.00	1.33
735-2703	TL061CP	15.0	.200	3.0	3.50	0.78
735-5422	TL071ACP	6.0	.200	50.0	13.00	0.87
935-2725	TL071CP	10.0	.200	25.0	13.00	0.40
735-2738	TL081CP	15.0	.400	25.0	13.00	0.40
735-2579	TLC251ACP	5.0	.005	10.0Typ.	5.30	3.57
735-2583	TLC251CP	10.0	.005	10.0Typ.	5.30	1.42
735-2629	TLC271ACP	5.0	.005	10.0Typ.	5.30	0.78
735-2631	TLC271BCP	3.0	.005	10.0Typ.	5.30	0.98
735-2633	TLC271CP	10.0	.005	10.0Typ.	5.30	0.62

Operational Amplifiers—Internally Compensated, Dual

Stock No.	Mfr.'s Type	V_{IO} (mV) Max.	I_{IB} (nA) Max.	A_{VD} (V/mV) Min.	SR (V/μs) Typ.	EACH
735-5424	LM2904P	7.0	−250.000	100.0 Typ	.20	0.78
735-0237	LM258P	5.0	−150.000	50.0	.20	1.18
735-0248	LM358P	7.0	−250.000	25.0	.20	0.31
735-5426	MC1458P	6.0	500.000	20.0	.50	0.36
735-0268	NE5532P	4.0	800.000	25.0	9.00	0.89
735-0296	RC4558P	6.0	500.000	20.0	1.70	0.31
735-2709	TL062CP	15.0	.400	3.0	3.50	0.40
735-2726	TL072ACP	6.0	.200	50.0	13.00	1.24
735-2727	TL072CP	10.0	.200	25.0	13.00	0.62
735-2742	TL082CP	15.0	.400	25.0	13.00	0.40
735-5428	TL083CN	15.0	.400	25.0	13.00	1.44
735-5430	TLC252CP	10.0	.005	10.0	5.30	2.33
735-5432	TLC272ACP	5.0	.005	10.0	5.30	1.27
735-5434	TLC272CP	10.0	.005	10.0	5.30	1.02
735-5436	TLC27L2CP	10.0	.005	30.0	.05	1.02
735-5438	TLC27M2BCP	2.0	.005	20.0	.60	1.60
735-2617	TLC27M2CP	10.0	.005	20.0	.60	1.02

Internally Compensated, Quad

Stock No.	Mfr.'s Type	V_{IO} (mV) Max.	I_{IB} (nA) Max.	A_{VD} (V/mV) Min.	SR (V/μs) Typ.	EACH
735-0229	LM124JB	5.0	−150.000	50.0	.50	3.20
735-5440	LM2902N	7.0	−250.000	100.0Typ	.30	0.78

Internally Compensated, Quad

Stock No.	Mfr.'s Type	V_{IO} (mV) Max.	I_{IB} (nA) Max.	A_{VD} (V/mV) Min.	SR (V/μs) Typ.	EACH
735-0243	LM324N	7.0	−250.000	25.0	.30	0.31
735-0247	LM348N	6.0	200.000	25.0	.50	0.56
735-5442	LM3900N	—	200.000	1.2	.50	0.44
735-5444	MC3403N	10.0	−500.000	20.0	.60	0.56
735-0295	RC4136N	6.0	500.000	20.0	1.70	0.67
735-2718	TL064CN	15.0	.400	3.0	3.50	0.82
735-2728	TL074ACN	6.0	.200	50.0	13.00	2.19
735-2729	TL074CN	10.0	.200	50.0	13.00	0.78
735-2731	TL075CN	10.0	.200	25.0	13.00	2.78
735-2745	TL084BCN	3.0	.200	50.0	13.00	2.51
735-2746	TL084CN	15.0	.400	25.0	13.00	0.56
735-2747	TL084CN3	15.0	0.400	25.0	13.00	1.63
735-2645	TLC274ACN	5.0	.005*	10.0	5.30	2.06
735-5446	TLC274BCN	2.0	.005*	10.0	5.30	2.60
735-5448	TLC27L4ACN	5.0	.005	30.0	.05	2.06
735-5450	TLC27L4BCN	2.0	.005	30.0	.05	2.60
735-2609	TLC27L4CN	10.0	.005	30.0	.05	1.67
735-2621	TLC27M4ACN	5.0	.005	20.0	.60	2.06
735-5452	TLC27M4BCN	2.0	.005	20.0	.60	2.60
735-5454	TLC27M4CN	10.0	.005	20.0	.60	1.67

*Typ.

Voltage Comparator—Internally Compensated, Single

Stock No.	Mfr.'s Type	V_{IO} (mV)	I_{IB} Max. (μA)	I_{OL} Min. (mA)	Response Time Typ. (ns)	EACH
735-5456	LM3302N	20.0	0.50	6	300	0.73
735-0239	LM306P	5.0	40.00	100	28	0.78
735-5458	LM311P	7.5	0.25	8	115	0.29
735-2763	TL331CP	5.0	−0.25	6	300	0.56
735-5460	TLC372CP	10.0	5.00pA	6	200	0.84
735-0246	LM339N	5.0	−0.15	6	300	0.31
735-0249	LM393P	5.0	0.25	6	300	0.55
735-2658	TLC374CN	10.0	5.00pA	6	200	1.07

Power Supply Supervisors—Under Voltage Monitors

Stock No.	Mfr.'s Type	Sense Input Supply	Sense Input Threshold	Threshold Tolerance %	EACH
735-5462	TL7702ACP	—	2.53 V Typ	1	1.67
735-5464	TL7705ACP	5V	4.55 V Typ	1	1.55
735-2832	TL7712ACP	12V	10.80 V Typ	1	2.00
735-5466	TL7715ACP	15V	13.20 V Typ	1	2.00

Voltage Regulators—Shunt Voltage Regulators/References

Shunt Current Max.: 150 mA.

Stock No.	Mfr.'s Type	V Range	Shunt Current (nA) Typ.	Tol.	Temp. Coefficient (PPM/C) Typ.	EACH
735-2766	TL430CLP	2.5-30V	500	4%	120	0.71
735-2768	TL431CLP	2.5-36V	270	2%	30	0.44
735-9998	TL431CP	2.5-36V	270	2%	30	0.82

Voltage Regulators—Adjustable Series Pass Voltage Regulators

Stock No.	Mfr.'s Type	Output Current	Output Range	Ref. Tol.	(V_I-V_O) Diff. Max.	EACH
735-0244	LM337KC	1.5 mA	1.20V to 37V	—	1.2V	1.54
735-2840	TL783CKC	750.0 mA	1.25V to 125V	5%	125.0V	2.18

Voltage Regulators—Positive Voltage Regulators

Stock No.	Mfr.'s Type	Output (V)	Output Current (mA)	Output Voltage Tol.	Dropout Typ. (V)	EACH
735-2837	TL780-05CKC	5.0	1.5A	±1	2	1.04
735-2838	TL780-12CKC	12.0	1.5A	±1	2	1.04
735-2839	TL780-15CKC	15.0	1.5A	±1	2	1.04
735-5468	UA78L02ACLP	2.6	100.0	±5	2	0.44
735-3008	UA78L05ACLP	5.0	100.0	±5	2	0.44
735-5470	UA78M05CKC	5.0	500.0	±5	2	0.71
735-3017	UA7805CKC	5.0	1.5A	±4	2	0.56
735-5472	UA78M06CKC	6.0	500.0	±5	2	0.80
735-3010	UA78L08ACLP	8.0	100.0	±5	2	0.44
735-3018	UA7810CKC	10.0	1.5A	±4	2	1.00
735-3019	UA7812CKC	12.0	1.5A	±4	2	0.56
735-5474	UA78L15ACLP	15.0	100.0	±5	2	0.44
735-3020	UA7815CKC	15.0	100.0	±4	2	0.56
735-3015	UA78M10CKC	10.0	500.0	±5	2-3	0.92
735-5476	UA78M15CKC	15.0	500.0	±5	2	0.71

Voltage Regulators—Negative Voltage Regulators

Stock No.	Mfr.'s Type	Output (V)	Output Current (mA)	Output Voltage Tol.	Dropout Typ. (V)	EACH
735-3021	UA7905CKC	5.0	1.5A	±5	2	0.56
735-5478	UA79M05CKC	5.0	1.5A	±5	2	0.71
735-3022	UA7908CKC	8.0	1.5A	±5	2	0.84
735-3023	UA7912CKC	12.0	1.5A	±5	2	0.56
735-5480	UA79M12CKC	12.0	1.5A	±5	2	0.71
735-3024	UA7915CKC	15.0	1.5A	±5	2	0.56

PWM Controllers

Stock No.	Mfr.'s Type	Description	EACH
735-0307	SG3524N	Dual uncommitted, 100 mA peak Io	1.00
735-2775	TL494CN	Dual uncommitted, 250 mA peak Io	1.22
735-2778	TL497ACN	Single uncommitted, 750 mA peak Io	2.11

Timers

Stock No.	Mfr.'s Type	Description	EACH
735-0271	NE555P	Single bipolar (10 μs to hours)	0.29
735-0272	NE556N	Dual bipolar (10 μs to hours)	0.40
735-2682	TLC555CP	Single LinCMOS (1 μs to hours)	0.56
735-2685	TLC556CN	Dual LinCMOS (1 μs to hours)	1.20

Hall-Effect Products—Switches

Stock No.	Mfr.'s Type	Release Point (Gauss)	Operating Point (Gauss)	Hysterisis (Gauss)	EACH
735-2750	TL170CLP	−250	250	50.0	0.56

Hall-Effect Products—Linear Circuits

Stock No.	Mfr.'s Type				EACH
735-2752	TL173CLP	−500	500	1.4	1.47
735-5482	TL3103CLU	−500	500	1.4	1.91

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Optocouplers

Stock No.	Mfr.'s Type	Isolation Voltage (kV) f = 60 Hz Peak	Isolation Voltage (kV) f = 60 Hz RMS	CTR Min. %	Features	Package	EACH
735-3111	4N22	1.00	—	25	JEDEC	—	7.66
735-3112	4N23	1.00	—	60	JEDEC	Metal Can	7.88
735-3113	4N24	1.00	—	100	UL file E-65085, JEDEC	Metal Can	8.99
735-3114	4N25	2.50	—	20	JEDEC	Plastic DIP	0.68
735-3115	4N26	1.50	—	20	UL file E-65085, JEDEC	Plastic DIP	0.67
735-3118	4N35	3.54	2.50	100	UL file E-65085, JEDEC	Plastic DIP	0.78
735-3119	4N36	2.50	1.75	100	UL file E-65085, JEDEC	Plastic DIP	0.75
735-5484	4N47	1.00	—	50	JEDEC	Metal Can	8.04
735-3121	4N48	1.00	—	100	JEDEC	Metal Can	8.75
735-5486	4N49	1.00	—	200	JEDEC	Metal Can	9.63
735-5488	MCT2	1.50	—	20	UL file E-65085	Plastic DIP	0.69
735-5490	TIL103	1.00	—	100	UL file E-65085	Metal Can	8.99
735-2410	TIL111	1.50	—	13	UL file E-65085	Plastic DIP	0.67
735-5492	TIL112	1.50	—	2	UL file E-65085	Plastic DIP	0.51
735-2412	TIL113	1.50	—	300	UL file E-65085	Plastic DIP	0.71
735-5494	TIL117	2.50	—	50	UL file E-65085	Plastic DIP	0.71
735-2417	TIL124	5.00	—	10	High Voltage	Plastic DIP	0.72
735-5496	TIL126	5.00	—	50	UL file E-65085	Plastic DIP	0.93
735-5498	TIL128	5.00	—	300	UL file E-65085, Darl.	Plastic DIP	0.89
735-2427	TIL157	3.54	2.50	300	UL file E-65085, Darl.	Plastic DIP	0.69

High Speed

Stock No.	Mfr.'s Type	V_{OL} Max. (5)	V_F Max. (10)	t_{PLH}/t_{PHL} μs (7.5)	Isolation Voltage Min.	Package	EACH
735-5500	6N137	0.6	1.75	75 ns	8kV dc	Plastic DIP	3.66
735-5502	HCPL2630	0.6	1.75	75ns	3 kV dc	Plastic DIP	7.77

Infrared Emitting Diodes

Stock No.	Mfr.'s Type	Power Output P_O (Min.) (mW)	Power Output I_F (mA)	θHi	V_F (Max.) I_F = 50 mA	λp (Typ.) (nm)	EACH
735-5504	TIL23	0.40	50	35°	1.5V	940	1.93
735-5506	TIL25	0.75	50	35°	1.5V	940	1.95

Phototransistors

Stock No.	Mfr.'s Type	Light Current V_{CE} = 5 V Min.	Light Current V_{CE} = 5 V Max.	Dark Current (Max.) V_{CE} = 30 V	Power Dissipation	EACH
735-5507	TIL602	2 mA	5 mA	25 nA	50 mW	1.89

Telecommunications—Bipolar Transient Voltage Suppressors

Stock No.	Mfr.'s Type	Supply Voltage	Breakover Voltage to Common	Package	EACH
735-5516	TISP3290	200 V	290 V Max	TO-220	1.89
735-5518	TISP4180	145 V	180 V Max	TO-220	1.33
735-5520	TISP4290	200 V	290 V Max	TO-220	1.33

Linear Circuits

Hybrid Displays

Stock No.	Mfr.'s Type	Characters	Character Height mm (Inches)	Display Color	Package	EACH
735-5508	TIL302	7-segment	6.9 (0.270)	Red	Plastic DIP	9.79
735-2434	TIL303	7-segment	6.9 (0.270)	Red	Plastic DIP	9.79
735-2439	TIL306	7-segment	6.9 (0.270)	Red	Plastic DIP	12.39
735-5510	TIL306A	7-segment	6.9 (0.270)	Red	Plastic DIP	12.39
735-2443	TIL308	7-segment	6.9 (0.270)	Red	Plastic DIP	12.39
735-5512	TIL309	7-segment	6.9 (0.270)	Red	Plastic DIP	12.39
735-2447	TIL311	Hexadecimal	7.6 (0.300)	Red	Plastic DIP	12.72
735-5514	TIL311A	Hexidecimal	7.6 (0.300)	Red	Plastic DIP	12.72

Transistors

NPN

Stock No.	Mfr.'s Type	I_C Cont. (A)	I_C Peak (A)	V_{CEO} (V)	V_{CBO} (V)	P_T T_C=25°C (W)	Package	EACH
735-2489	TIP29	1	3	40	80	30	TO-220	0.44
735-5522	TIP29A	1	3	60	100	30	TO-220	0.49
735-2492	TIP29C	1	3	100	140	30	TO-220	0.51
735-2530	TIP47	1	2	250	350	40	TO-220	0.78
735-2531	TIP48	1	2	300	400	40	TO-220	0.89
735-2532	TIP49	1	2	350	450	40	TO-220	1.03
735-2533	TIP50	1	2	400	500	40	TO-220	1.09
735-2499	TIP31	3	5	40	80	40	TO-220	0.47
735-2500	TIP31A	3	5	60	100	40	TO-220	0.49
735-2501	TIP31B	3	5	80	120	40	TO-220	0.51
735-2502	TIP31C	3	5	100	140	40	TO-220	0.53
735-2534	TIP51	3	5	250	350	100	TO-218	1.86
735-2535	TIP52	3	5	300	400	100	TO-218	2.02
735-2536	TIP53	3	5	350	450	100	TO-218	2.15
735-2537	TIP54	3	5	400	500	100	TO-218	2.31
735-2458	TIPL760	4	8	375	800	80	TO-220	1.49
735-2459	TIPL760A	4	8	420	1000	80	TO-220	1.53
735-5524	TIP41	6	10	40	80	65	TO-220	0.58
735-2524	TIP41B	6	10	80	120	65	TO-220	0.62
735-2507	TIP33	10	15	40	80	80	TO-218	1.07
735-2508	TIP33A	10	15	60	100	80	TO-218	1.09
735-2509	TIP33B	10	15	80	120	80	TO-218	1.13
735-2542	TIP73	15	—	40	50	80	TO-220	1.13
735-2543	TIP73C	15	—	100	110	80	TO-220	1.48
735-2544	TIP74	15	—	40	50	80	TO-220	1.30
735-2498	TIP3055	15	—	70	100	90	TO-218	1.07
735-2457	TIPL757A	15	25	375	800	200	TO-3	6.66
735-2515	TIP35B	25	40	80	120	125	TO-218	1.91
735-2514	TIP35A	25	40	60	100	125	TO-218	1.89
735-2516	TIP35C	25	40	100	140	125	TO-218	1.95
735-2513	TIP35	25	40	40	80	125	TO-218	1.84

PNP

735-2494	TIP30	1	3	40	80	30	TO-220	0.44
735-2495	TIP30A	1	3	60	100	30	TO-220	0.47
735-2497	TIP30C	1	3	100	140	30	TO-220	0.51
735-2526	TIP42	6	10	40	80	65	TO-220	0.58
735-2527	TIP42A	6	10	60	100	65	TO-220	0.60
735-2528	TIP42B	6	10	80	120	65	TO-220	0.62
735-2529	TIP42C	6	10	100	140	65	TO-220	0.64
735-2510	TIP34	10	15	40	80	80	TO-218	1.07
735-2512	TIP34C	10	15	100	140	80	TO-218	1.20
735-2493	TIP2955	15	—	70	100	90	TO-218	1.22
735-2518	TIP36	25	40	40	80	125	TO-218	1.84
735-2519	TIP36A	25	40	60	100	125	TO-218	1.89
735-2520	TIP36B	25	40	80	120	125	TO-218	1.91
735-2521	TIP36C	25	40	100	140	125	TO-218	1.95

Darlingtons

NPN

Stock No.	Mfr.'s Type	I_C Cont. (A)	I_C Peak (A)	V_{CEO} (V)	V_{CBO} (V)	P_T T_C=25°C (W)	Package	EACH
735-5526	TIP110	4	6	60	60	50	TO-220	0.51
735-2468	TIP111	4	6	80	80	50	TO-220	0.53
735-5528	TIP112	4	6	100	100	50	TO-220	0.56
735-2473	TIP120	5	8	60	60	65	TO-220	0.60
735-2475	TIP122	5	8	100	100	65	TO-220	0.64
735-2485	TIP150	7	10	300	300	80	TO-220	1.68
735-2461	TIP100	8	15	60	60	80	TO-220	0.71
735-2463	TIP102	8	15	100	100	80	TO-220	0.75
735-2481	TIP142	10	15	100	100	125	TO-218	1.86
735-2538	TIP640	10	15	60	60	175	TO-3	2.53
735-2539	TIP642	10	15	100	100	175	TO-3	2.89
735-5530	TIP160	10	15	320	320	50	TO-218	2.15
735-2487	TIP161	10	15	350	350	50	TO-218	2.31

PNP

735-2472	TIP117	4	6	100	100	50	TO-220	0.58
735-2476	TIP125	5	8	60	60	65	TO-220	0.60
735-2477	TIP126	5	8	80	80	65	TO-220	0.62
735-2478	TIP127	5	8	100	100	65	TO-220	0.64
735-2464	TIP105	8	15	60	60	80	TO-220	0.71
735-2465	TIP106	8	15	80	80	80	TO-220	0.73
735-2466	TIP107	8	15	100	100	80	TO-220	0.80
735-5532	TIP146	10	15	80	80	125	TO-218	1.82
735-2484	TIP147	10	15	100	100	125	TO-218	1.93
735-2541	TIP647	10	15	100	100	175	TO-3	2.99

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XICOR E²PROMs

Xicor E²PROMs are 5 volt only nonvolatile memory devices organized similiar to EPROMs but do not require separate programming or ultra violet erasure. 600 mil wide Dual In-Line Package.

4K E²PROMs, Commercial Only, 24-Lead Plastic DIP

Stock No.	Mfr.'s Type	Organization	Page Size (# Bytes)	Access Time	Power		Package Width	EACH
					Active	Standby		
899-0002	X2804AP-25	512 × 8	N/A	250ns	80mA	50mA	600	12.01
899-0004	X2804AP	512 × 8	N/A	300ns	80mA	50mA	600	9.60
899-0006	X2804AP-35	512 × 8	N/A	350ns	80mA	50mA	600	8.64
899-0008	X2804AP-45	512 × 8	N/A	450ns	80mA	50mA	600	8.16

16K E²PROMs, Commercial Only, 24-Lead Plastic DIP

899-0010	X2816BP-25	2048 × 8	16	250ns	120mA	60mA	600	10.73
899-0018	X2816BP	2048 × 8	16	300ns	120mA	60mA	600	10.87
899-0014	X2816CP-20	2048 × 8	16	200ns	120mA	60mA	600	5.45

64K E²PROMs, Commercial Only, 28-Lead Plastic DIP

899-0016	X2864AP-25	8192 × 8	16	250ns	140mA	60mA	600	22.49
899-0018	X2864AP	8192 × 8	16	300ns	140mA	60mA	600	19.56
899-0019	X2864AP-35	8192 × 8	16	350ns	140mA	60mA	600	17.60

64K E²PROMs, Commercial Only, 28-Lead Plastic DIP

Stock No.	Mfr.'s Type	Organization	Page Size (# Bytes)	Access Time	Power		Package Width	EACH
					Active	Standby		
899-0022	X2864AP-45	8192 × 8	16	450ns	140mA	60mA	600	16.63
899-0024	X2864BP-120	8192 × 8	32	120ns	150mA	80mA	600	32.18
899-0026	X2864BP-150	8192 × 8	32	150ns	150mA	80mA	600	24.75
899-0028	X2864BP-180	8192 × 8	32	180ns	150mA	80mA	600	23.14
899-0029	X2864HP-70	8192 × 8	32	70ns	150mA	80mA	600	64.35
899-0032	X2864HP-90	8192 × 8	32	90ns	150mA	80mA	600	49.50
899-0034	X28C64P-20	8192 × 8	64	200ns	60mA	200μA	600	38.22
899-0036	X28C64P-25	8192 × 8	64	250ns	60mA	200μA	600	29.40
899-0038	X28C64P	8192 × 8	64	300ns	60mA	200μA	600	24.90

256K E²PROMs, Commercial Only, 28-Lead Plastic DIP

899-0040	X28256P-25	32768 × 8	64	250ns	120mA	60mA	600	78.24
899-0042	X28256P	32768 × 8	64	300ns	120mA	60mA	600	71.72
899-0044	X28256P-35	32768 × 8	64	350ns	120mA	60mA	600	65.20
899-0046	X28C256P-20	32768 × 8	64	200ns	60mA	200μA	600	109.42
899-0048	X28C256P-25	32768 × 8	64	250ns	60mA	200μA	600	95.15
899-0050	X28C256P	32768 × 8	64	300ns	60mA	200μA	600	90.83
899-0052	X28C256P-35	32768 × 8	64	350ns	60mA	200μA	600	86.50
899-0054	X28C256BP-150	32768 × 8	64	150ns	60mA	200μA	600	139.27
899-0056	X28C256BP-180	32768 × 8	64	180ns	60mA	200μA	600	121.10

XICOR NOVRAMs

Xicor NOVRAMs are 5 volt only combination static RAM and on-chip E²PROM. NOVRAMs do not require separate programming or ultra violet erasure. 300 mil wide Dual In-Line Package.

Nibble-Wide NOVRAMs, Commercial Only, 18-Lead Plastic DIP

Stock No.	Mfr.'s Type	Organization	Page Size (# Bytes)	Access Time	Power		Package Width	EACH
					Active	Standby		
899-0058	X2210P	1024 × 1	N/A	300ns	60mA	N/A	300	5.26
899-0060	X2212P	256 × 4	N/A	300ns	60mA	N/A	300	8.77

Byte-Wide NOVRAMs, Commercial Only, 24-Lead Plastic DIP

899-0062	X2001P-20	128 × 8	N/A	200ns	80mA	50mA	300	10.56
899-0064	X2001P-25	128 × 8	N/A	250ns	80mA	50mA	300	9.64
899-0066	X2001P	128 × 8	N/A	300ns	80mA	50mA	300	9.19

Byte-Wide NOVRAMs, Commercial Only, 28-Lead DIP

899-0068	X2004D-20	512 × 8	N/A	200ns	100mA	55mA	300	26.31
899-0070	X2004D-25	512 × 8	N/A	250ns	100mA	55mA	300	24.20
899-0072	X2004D	512 × 8	N/A	300ns	100mA	55mA	300	21.04

XICOR Serial I/Os

Xicor Serial devices are 5 volt only E²PROM and NOVRAM memories in 8 pin mini-DIP packages and feature serial data communication. 300 mil wide Dual In-Line Package.

Serial NOVRAMs, Commercial Only, 8-Lead Plastic DIP

Stock No.	Mfr.'s Type	Organization	Page Size (# Bytes)	Clock Frequency	Power			Package Width	EACH
					Active	Standby	Sleep		
899-0098	X2444P	16 × 16	N/A	1 MHZ	15mA	10mA	7mA	300	2.81

Serial E²PROMs, Commercial Only, 8-Lead Plastic DIP

Stock No.	Mfr.'s Type	Organization	Page Size (# Bytes)	Clock Frequency	Power		Package Width	EACH
					Active	Standby		
899-0074	X24C01P	128 × 8	4	100 KHz	30mA	100μA	300	2.50
899-0076	X24LC01P	128 × 8	4	100 KHz	30mA	100μA	300	3.00
899-0078	X2402P	256 × 8	8	100 KHz	30mA	25mA	300	4.68
899-0080	X2404P	512 × 8	8	100 KHz	30mA	25mA	300	5.35
899-0082	X24C04P	512 × 8	16	100 KHz	3mA	100μA	300	6.13
899-0084	X24LC04P	512 × 8	16	100 KHz	3mA	100μA	300	7.35
899-0086	X24C16P	512 × 8	16	100 KHz	3mA	100μA	300	12.25
899-0088	X24LC16P	512 × 8	16	100 KHz	3mA	100μA	300	14.70

XICOR E²Potentiometers

Xicor E² Potentiometers are 5 volt only semiconductor replacement for mechanical potentiometers. 300 mil wide Dual In-Line Package.

E²Potentiometers, Commercial Only, 8-Lead Plastic DIP

Stock No.	Mfr.'s Type	Minimal Resistance	Wiper Increments	Maximum Resistance	Package Width	EACH
899-0090	X9102P	40Ω	10Ω	1KΩ	300	3.53
899-0092	X9103P	40Ω	101Ω	10KΩ	300	3.53
899-0094	X9503P	40Ω	505Ω	50KΩ	300	3.53
899-0096	X9104P	40Ω	1010Ω	100KΩ	300	3.53

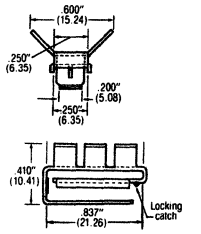
For a complete listing of all Xicor E² memory products, call Allied Electronics.

Series 5802, 5803, and 5807 Slide-On Heat Sinks

Just slide the heat sinks on your DIPs and a locking catch prevents the DIPs from being dislodged. No gluing operation is needed. Unique design has 2 separate conduction paths, top and bottom of the DIP. Slotted fins minimize the boundary layer effect. Double spring action brings top and bottom surfaces into parallel with the DIP for a snug fit regardless of DIP thickness. Designed with staggered fins to help maximize the forced convection thermal performance (all Series except 5802). Used with or without sockets. Aluminum alloy.

Stock No.	Mfr.'s Type	For DIP Pins	EACH			
			1-24	25-99	100-499	500-Up
619-6047	5802B	14 or 16	.54	.40	.31	.24
619-6049	5803B	18	.62	.48	.36	.28
619-6053	5805B	24	.76	.58	.44	.34
619-6300	5806B	28	.80	.62	.47	.36
619-6055	5807B	40	.87	.66	.51	.39

5802



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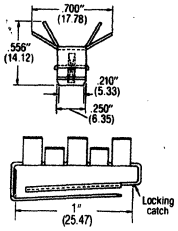

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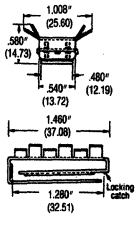

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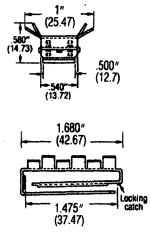

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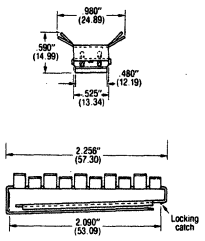

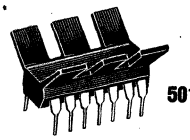

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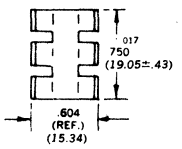
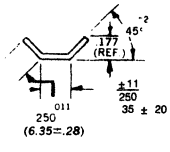




Series 5010 (14 or 16 Pin)

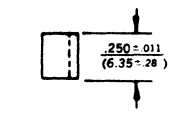
One piece heat sink for 14 or 16 pin integrated circuit package. Bonded with Ther-o-Bond 1500 for maximum thermal efficiency.

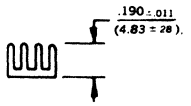
Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0200	5010B	Black Anodize	Aluminum Alloy	.28	.22	.16	.13

Series 5087, DIP Heat Sink (40 Pins)

Designed for 24, 28, 40, and 64 pin counts. No additional board space required. May be added before or after final board assembly. The series can be bonded to the top surface of the package with Ther-o-bond 1500 or 1600 or equivalent before or after final board assembly. These heat sinks do not require additional board space. They are offered in black anodized finish. Per MIL-A-8625 Type II.

Stock No.	Mfr.'s Type	Finish	IC Pin Count	Length In. (mm)	EACH			
					1-24	25-99	100-499	500-Up
619-0100	5011B	Black Anodize	14/16	0.75" (19.05)	.62	.47	.35	.27
619-0101	5012B	Black Anodize	14/16	0.73" (18.54)	.62	.47	.35	.24
619-0090	5085B	Black Anodize	24	1.25" (31.75)	.77	.58	.44	.33
619-0091	5086B	Black Anodize	28	1.45" (36.83)	.92	.69	.53	.40
619-0092	5087B	Black Anodize	40	2.00" (50.80)	1.00	.76	.58	.44
619-0093	5088B	Black Anodize	64	3.20" (81.28)	1.18	.90	.68	.52





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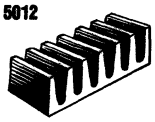

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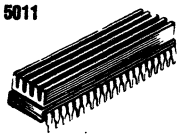

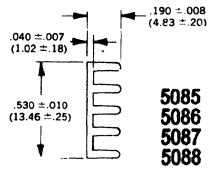

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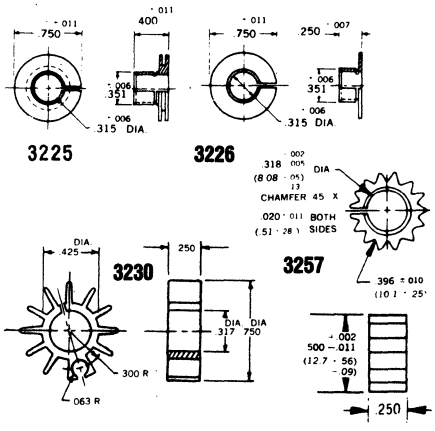


Press On Coolers (TO-5 Case)

Series 3225, 3226
These are low cost, easily installed heat sinks. May be installed after assembly and takes up little additional board space.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0020	3225B	Black Anodize	Aluminum Alloy	.71	.55	.42	.32
619-0030	3226B	Black Anodize	Aluminum Alloy	.66	.50	.38	.28

Series 3230
This TO-5 heat sink provides extra surface area for cooling. May be secured using boss which clears a 4-40 screw.

619-0040	3230B	Black Anodize	Aluminum Alloy	.55	.43	.33	.25

Series 3257 Low Cost
This series is a low cost heat sink for TO-5 transistors. The press-fit between the transistor and the heat sink provides an excellent path for heat conduction.

619-0060	3257B	Black Anodize	Aluminum Alloy	.38	.29	.22	.17

Series 5780 Snap-On Cooler for TO-5 Case

619-0350	5782B	Black Anodize	Aluminum Alloy	.27	.21	.17	.13
619-0355	5784B	Black Anodize	Aluminum Alloy	.32	.27	.19	.16

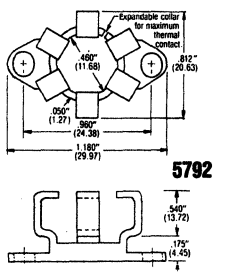
Space-Saving Expandable-Collar Heat Sink

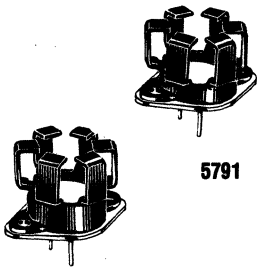
Series 5792 for TO-66 and TO-8
Heat sink saves board space, takes virtually same footprint as TO-66 and TO-8. Collar expands to slip onto TO-66 or TO-8 easily, grips hat to provide excellent thermal contact. No extra hardware needed. (Patent Pending)

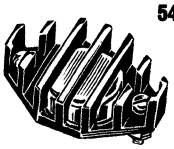
Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-6057	5792B	Black Anodize	Aluminum Alloy	.85	.65	.52	.43

Series 5791 for TO-3s
Heat sink saves board space, takes virtually same footprint as TO-3 case. Collar expands to slip onto TO-3 easily, grips hat to provide excellent thermal contact. No extra hardware needed. (Patent Pending)

619-6042	5791B	Black Anodize	Aluminum Alloy	.82	.62	.50	.41
619-6043	5791C	Gold Chromate	Aluminum Alloy	.71	.55	.44	.36







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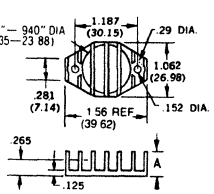

Series 5423, 5427—Space-Saving TO-3

Clamps over TO-3 case using virtually no additional board space.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0305	5427B	Black Anodize	Aluminum Alloy	2.60	2.17	1.80	1.50
619-9998	5423B	Black Anodize	Aluminum Alloy	2.38	1.99	1.66	1.38

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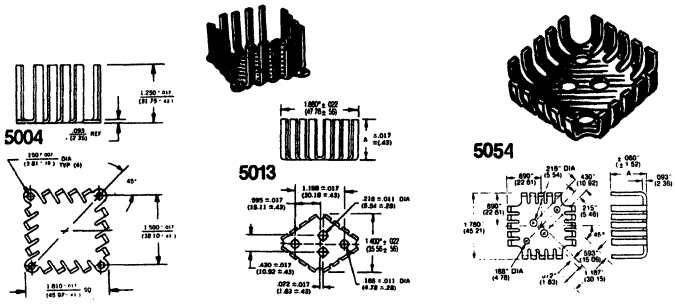
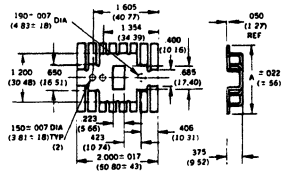
Series 5004, 5013, 5054 For TO-3

Stock No.	Mfr.'s Type	Finish	Dim. A	EACH			
				1-24	25-99	100-499	500-Up
619-0110	5013B	Black Anodized	0.50″	0.80	0.60	0.46	0.35
619-0111	5014B	Black Anodized	0.75″	0.88	0.67	0.50	0.38
619-0112	5015B	Black Anodized	1.00″	0.97	0.74	0.56	0.43
619-0113	5016B	Black Anodized	1.25″	1.05	0.79	0.60	0.46
619-0121	5004B	Black Anodized	—	1.78	1.35	1.03	0.77
619-0140	5054B	Black Anodized	1.25″	1.33	1.00	0.77	0.58



Series 5060, 5061 Economy Low Profile Circuit Board Cooler (TO-3 and TO-66 Case)

5060/5061



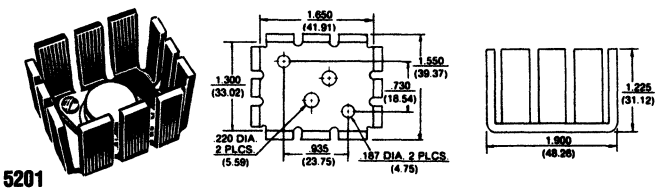
These are low profile heat sinks for high density circuit board packaging applications. The universal hole pattern accommodates both the TO-3 and TO-66 device case styles. The total height of the heat sink is only 0.375″, perfect for mounting to printed circuit boards with .50″ centering between boards.

Stock No.	Mfr.'s Type	Finish	Dim. A	Wt. Lbs.	EACH			
					1-24	25-99	100-499	500-Up
619-0150	5060B	Black Anodize	1.75″	.0178	0.45	0.34	0.26	0.20
619-0151	5061B	Black Anodize	2.25″	.0207	0.50	0.38	0.29	0.23

Series 5201 Heavy-Duty Space Saver (TO-3 and TO-66 Cases)

One-eighth inch thick high performance aluminum provides more cooling in less space. Additional labor and cost are saved by allowing semiconductor and heat sink to mounted with same hardware.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-6078	5201B	Black Anodize	Aluminum Alloy	1.78	1.36	1.04	0.79



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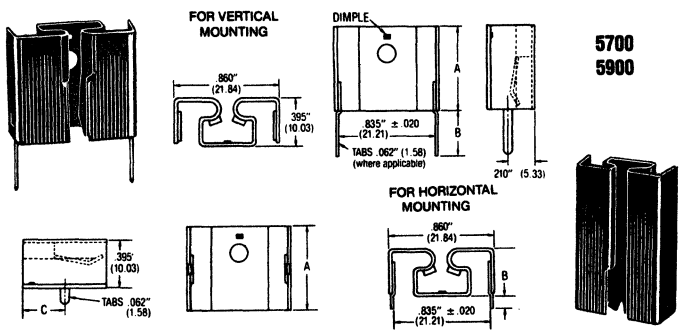

5700
5900

Series 5700, 5900 Labor-Saving Plug-In Heat Sinks for TO-220s

TO-220s are quickly plugged in, eliminating time consuming fastening. Superior plug-in design features spring action that assures a tight fit between semiconductor and heat sink—for maximum metal-to-metal thermal contact. Styles available for horizontal and vertical mounting. Choice of three heights. Furnished with tinned tabs for soldering. Can be soldered directly to PC board. (Patent Pending) Aluminum alloy. Black anodized.

Stock No.	Mfr.'s Type	Mtg.	Dimensions			EACH			
			A	B	C	1-24	25-99	100-499	500-Up
619-6027	5741B*	Vert.	.750″	—	—	0.38	0.29	0.22	0.17
619-6032	5943B	Vert.	.750″	.375″	—	0.48	0.39	0.31	0.28
619-6033	5949B	Vert.	1.375″	.375″	—	0.76	0.60	0.48	0.39
619-6035	5744B	Horiz.	.750″	.125″	.375″	0.48	0.39	0.31	0.26

*Without tabs.

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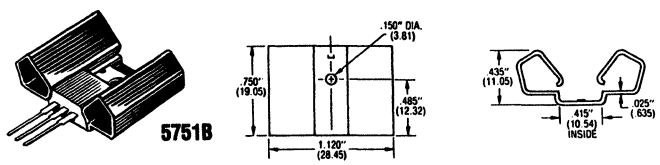
Series 5751B—Low Cost "Snap-Down" for TO-220s

The TO-220 case is easily "snapped-down" into the heat sink. The two-sided fins also act as springs, gripping the semi firmly. No additional hardware or tooling required. Horizontal or vertical mounting.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0310	5751B	Black Anodize	Aluminum Alloy	0.39	0.30	0.23	0.18



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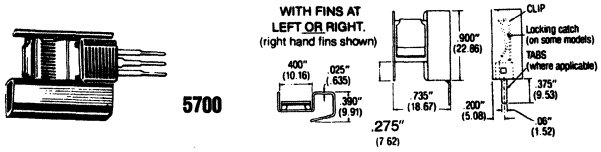


5700

Series 5700

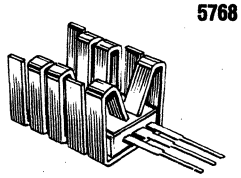
Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-6009	5798B	Black Anodize	Aluminum Alloy	0.39	0.30	0.23	0.18
619-6010	5799B	Black Anodize	Aluminum Alloy	0.39	0.30	0.23	0.18

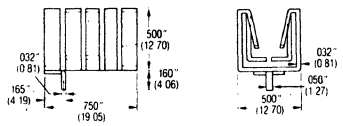
Series 5768B Heat Sink

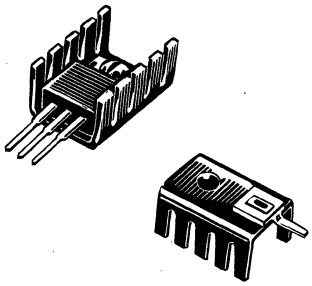
Slimmest plug-in heat sink available for TO-220. Superior thermal contact. For vertical or horizontal soldered PC board mounting. **Tolerance:** ± .017″ (± 0.43mm). Patent pending.

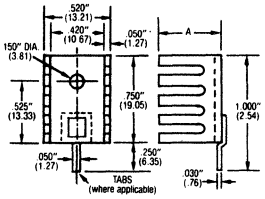
Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0360	5768B	Black Anodize	Aluminum Alloy	0.55	0.43	0.32	0.25

5768









Series 5770,5970
Slim Low-Cost Heat Sinks for TO-220s

Compact heat sinks fits in very limited space. Available in three heights—1/4″, 3/8″, 1/2″. Mounted horizontally, heat sink is ideal for circuit board applications. Furnished with tinned tabs (Patent pending) for soldering.

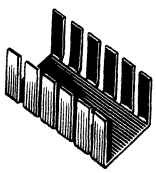
Stock No.	Mfr.'s Type	Dim. "A"	Finish	EACH			
				1-24	25-99	100-499	500-Up
619-6014	5770B*	.250″	Black Anodize	0.29	0.22	0.17	0.12
619-6016	5771B*	.375″	Black Anodize	0.29	0.22	0.17	0.12
619-6018	5772B*	.500″	Black Anodize	0.30	0.23	0.18	0.13
619-6020	5970B	.250″	Black Anodize	0.38	0.29	0.23	0.18
619-6022	5971B	.375″	Black Anodize	0.38	0.29	0.23	0.18
619-6024	5972B	.500″	Black Anodize	0.39	0.30	0.25	0.19

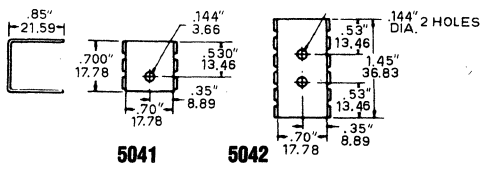
*Without tabs.

Series 5041/42
Economy Narrow Profile Coolers for TO-220

These are low cost narrow profile coolers for Plastic Power SCRs on transistors. Minimal PC board space required.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0315	5041B	Black Anodize	Aluminum Alloy	0.37	0.28	0.22	0.16
619-0320	5042B	Black Anodize	Aluminum Alloy	0.56	0.46	0.34	0.25



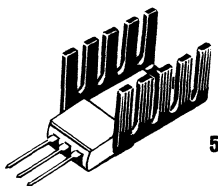


5041 5042

Series 5773, 5774
Trim Low-Profile Heat Sinks for TO-202s

Heat sinks are notched especially to accommodate TO-202 package. Available in two heights, 3/8″ and 1/2″. Designed for horizontal mounting, these heat sinks use minimal board space. Aluminum alloy. (Patent Pending)

Stock No.	Mfr.'s Type	Dim. "A"	Finish	EACH			
				1-24	25-99	100-499	500-Up
619-6036	5773B	.375″	Black Anodize	0.29	0.22	0.17	0.12
619-6038	5774B	.500″	Black Anodize	0.29	0.22	0.17	0.12



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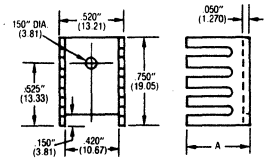

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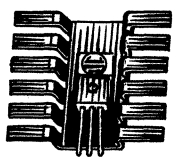
Series 5063, 5070, 5071, 5072, 5073
Economy Low Profile Coolers—Plastic Power Devices

Stock No.	Mfr.'s Type	Dim. A	EACH			
			1-24	25-99	100-499	500-Up
619-0210	5063B	—	0.36	0.27	0.20	0.15
619-0220	5070B	1.75″	0.36	0.27	0.20	0.15
619-0221	5071B	1.75″	0.39	0.29	0.23	0.17
619-0223	5072B	1.75″	0.42	0.32	0.24	0.18
619-0230	5073B	—	0.29	0.22	0.17	0.17



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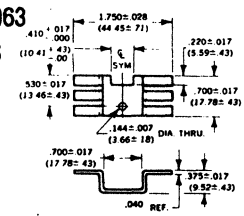

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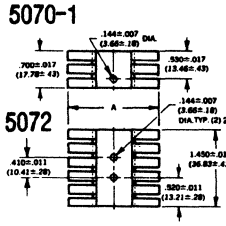

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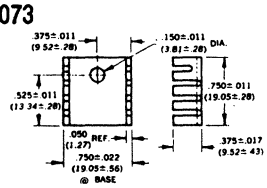
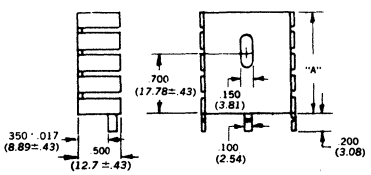


Series 5630 (Plastic Power)

Vertically mounted, low cost heat sink for Plastic Power Transistors, Triacs, and SCRs. Mounting tabs designed for either soldering (tin finish) or twisting.

Stock No.	Mfr.'s Type	Finish	Dim. A	Material	EACH			
					1-24	25-99	100-499	500-Up
619-0160	5630B	Black Anodize	1.18″	Aluminum Alloy	0.49	0.37	0.28	0.22
619-0161	5630D	Tin Plate	1.18″	Aluminum Alloy	0.87	0.66	0.50	0.38

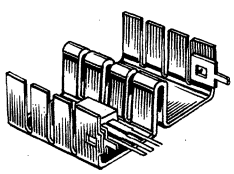
5630

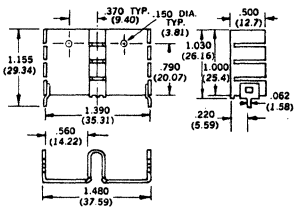


Series 5786B Heat Sink

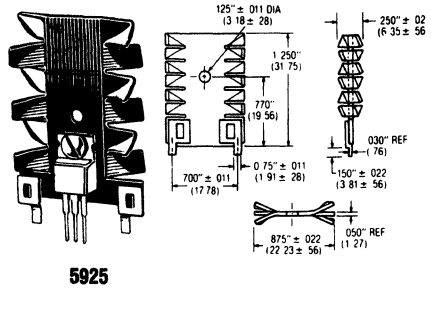
Dual mount stand-up heat sink for TO-220. Features center pins for thermal performance. Ideal for matching paired semiconductors. Designed for horizontal mounting to minimize board space. **Tolerance:** ± .017″ (± 0.43 mm). Patent pending.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-0365	5786B	Black Anodize	Aluminum Alloy	0.73	0.56	0.45	0.37



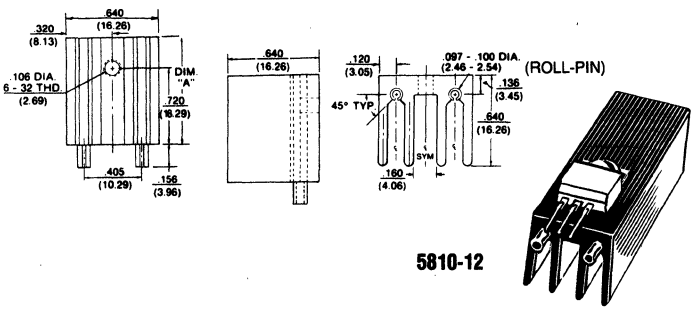


Series 5925, 5930, 5932 Wave-Solderable Heat Sink for Plastic Power Devices



Tin-plated brass staked on tabs for wave soldering. Fins are twisted at the ends for more turbulent air flow and improved cooling. Vertical mounting. (Patent Pending).

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-6062	5925B	Black Anodize	Aluminum Alloy	.70	.54	.41	.32
619-6064	5930B	Black Anodize	Aluminum Alloy	.84	.64	.51	.42
619-6066	5932B	Black Anodize	Aluminum Alloy	.96	.72	.55	.42



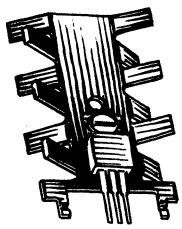
Series 5810, 5812
Solderable Mount Heat Sink (Plastic Power)

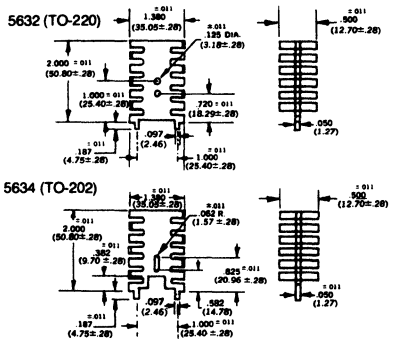
Heavy-duty extruded vertical mount heat sink provides excellent thermal performance. Uses very little printed circuit area. Eliminates stress on semiconductor leads with solder mount or self-threading screw mount. (Patent Pending). Tinned solder pins. Aluminum alloy material.

Stock No.	Mfr.'s Type	Height	Finish	EACH			
				1-24	25-99	100-499	500-Up
619-6072	5810B	1.00"	Black Anodize	1.36	1.04	.83	.67
619-6076	5812B	2.00"	Black Anodize	1.42	1.09	.88	.72

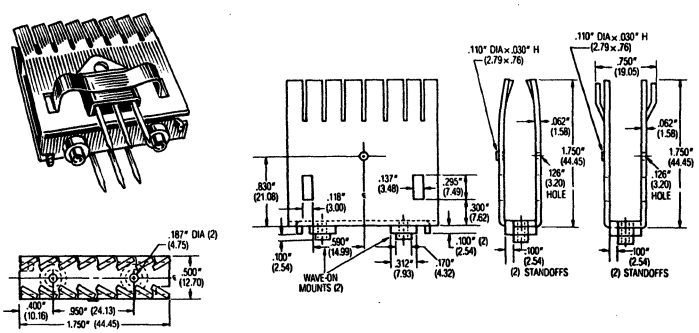
Series 5632, 5634
Low Cost Heat Sink for Plastic Power Devices

Vertically mounted for plastic power transistors, TRIACs, and SCRs. Mounting tabs are designed for either soldering (tin plating) or twisting.





Stock No.	Mfr.'s Type	Finish	EACH			
			1-24	25-99	100-499	500-Up
619-0130	5632B	Black Anodize	.60	.46	.35	.26
619-0131	5634B	Black Anodize	.66	.49	.38	.28



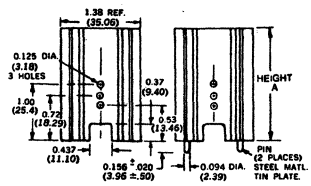
Series E5301/04—High Rise Heat Sinks

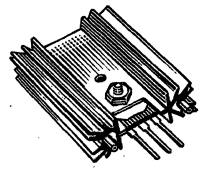
Cools 2 to 6 power devices at once. With twisted (Type E5301) or staggered fins (Type E5304) and small footprint. Ideal for TO-218 or TO-220 packages. Made of aluminum alloy with black anodize finish. Optional .016" chromium nickel steel spring clip available.

Stock No.	Mfr.'s Type	EACH			
		1-24	25-99	100-499	500-Up
619-0385	E5301B	1.56	1.19	.96	.78
619-0390	E5304B	1.56	1.19	.96	.78
619-0395	150(Spring Clip)	.20	.15	.12	.09

Series 60130—Heat Sinks with Solderable Pins

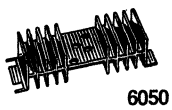
Designed for the tab mount plastic case type semiconductor. Features pins for circuit board solder mount. Made of 6063-T5 aluminum with gold iridite (per MIL-C-5541) finish.





Stock No.	Mfr.'s Type	Height (A) In. (mm)	EACH			
			1-24	25-99	100-499	500-Up
619-0370	60130-010P	1.0 (24.50)	.95	.71	.56	.45
619-0375	60130-015P	1.5 (38.10)	1.01	.77	.61	.50

Series 6050 and 6055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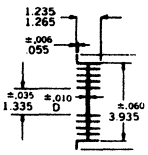
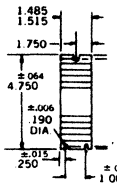
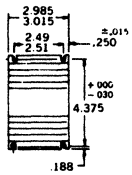
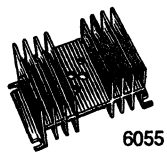


6050-1.5B



6050-3B

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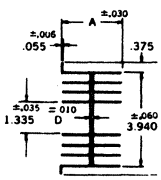
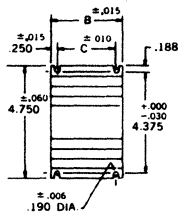
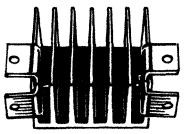




Stock No.	Mfr.'s Type	Finish	Dimensions				EACH			
			A	B	C	D	1-9	10-24	25-49	50-Up
619-0250	6050-1.5B	Black Anodize	—	—	—	—	3.76	3.41	3.11	2.79
619-0251	6050-3B	Black Andoize	—	—	—	—	5.90	5.50	4.74	3.79
619-0260	6055-3B	Black Anodize	2.63″	3.00″	2.50″	.19″	7.25	6.95	6.32	5.90
619-0261	6055-5.5B	Black Anodize	2.63″	5.50″	5.00″	.19″	13.15	11.86	10.23	9.89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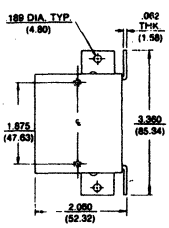
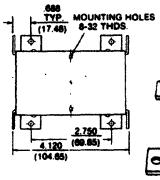
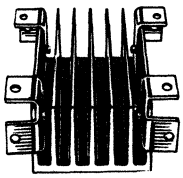





5816

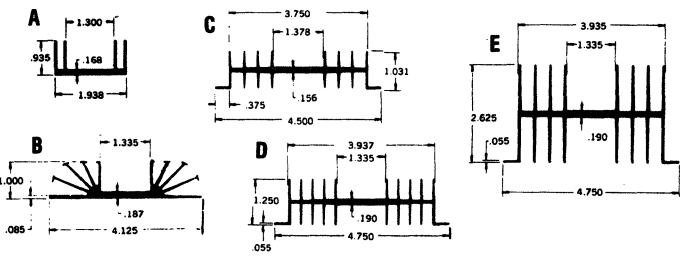
Series 5815 and 5816 Extruded Heat Sink (Solid-State Relay)

To optimize current handling capabilities of solid-state relays two standard heat sinks are available. Brackets are provided for either vertical or horizontal mounting.

Stock No.	Mfr.'s Type	Finish	Material	EACH			
				1-24	25-99	100-499	500-Up
619-6068	5815B	Black Anodize	Aluminum Alloy	5.28	4.04	3.08	2.36
619-6069	5815C	Gold Chromate	Aluminum Alloy	5.13	3.92	2.99	2.29
619-6070	5816B	Black Anodize	Aluminum Alloy	8.34	6.37	4.85	3.71
619-6071	5816C	Gold Chromate	Aluminum Alloy	8.15	6.22	4.74	3.62

Extrusions

High quality extrusions in 4′ lengths. Ideal for building prototype equipment or making special application heat sinks.



Stock No.	Mfr.'s Type	Fig.	Wt. Lbs.	EACH		
				1	2-7	8-Up
619-0501	61170	A	2.40	16.40	13.12	11.90
619-0503	6080	B	4.80	39.56	31.60	24.32
619-0504	6085	C	5.20	27.40	21.92	19.92
619-0505	6050	D	5.60	50.56	40.40	31.08
619-0506	6055	E	10.00	76.96	63.08	48.56

13

Ther-O-Bond 1500 Thermally-Conductive Epoxy Adhesive

Ther-O-Bond is a 2-part thermally-conductive epoxy adhesive system that also has good electrical insulating qualities. It bonds readily to metal, ceramics, glass, plastics and many other materials. An easy-to-spread thixotropic paste, it offers high heat transfer, low shrinkage, and a coefficient of thermal expansion comparable to that of copper and aluminum. It cures overnight at room temperature, or in 2 hours at 65°C. Pot life is about 60 minutes.

Typical Properties—Series 1500. Color: Black. **Thermal Conductivity, Btu/ft.²/hr./°F/in.:** 9.0. **Tensile Strength, psi @ 25°C:** 9800. **Dielectric Strength, Volt/Mil:** 600.

Stock No.	Mfr.'s Type	Package	Size	EACH
619-0005	Ther-O-Bond 1500-Q	Can (Resin), Bottle (Hardener)	1 Qt.	36.98

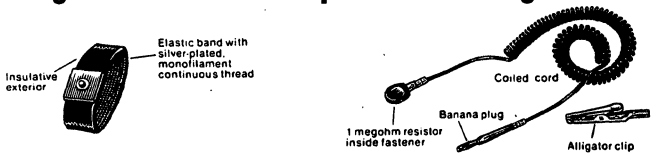
Ther-O-Link 1000 Thermally-Conductive Compound

Ther-O-Link Series 1000 compound was developed to reduce the high thermal resistance of the air gap otherwise present between mating surfaces of a heat sink and semiconductor.It provides an excellent thermal path by displacing the air gap between the two mating surfaces. Ther-O-Link provides a low thermal resistance of only 0.05° C/W when using a 0.001″ film on a one-inch square area. Ther-O-Link will not become hard, and retains its viscous consistency even after continuous operation up to 200°C. It has the consistency of a viscous hand lotion and will wet-out the surfaces and displace more air than heavier compounds. Ther-O-Link is easily brushed on to the mating surfaces of semiconductor devices. When applying, spread or brush the compound evenly over the entire mating surface. For maximum performance, proper torque should be used when mounting stud-mounted devices. The compound can easily be removed with a damp cloth using any commercially-available clean-up solvent.

Typical Properties—Series 1000. Specific Gravity: 2.1-2.1. **Viscosity:** Paste. **Thermal Conductivity, Btu/ft.²/hr/°F/in.:** 5.2. **Thermal Resistivity, °C in./watt:** 52. **Volume Resistivity, ohm-cm:** 10^{15}. **Dielectric Strength, volts/mil:** 250. **Weight Loss, % after 24 Hours at 200°C:** 0.6.

Stock No.	Mfr.'s Type	Package	Size	EACH
619-0001	Ther-O-Link 1002	Tube	2 Oz.	4.81
619-0002	Ther-O-Link 1005	Tube	5 Oz.	8.40
619-0003	Ther-O-Link 1008	Can	8 Oz.	14.05
619-0004	Ther-O-Link 1016	Can	1 Lb.	14.36

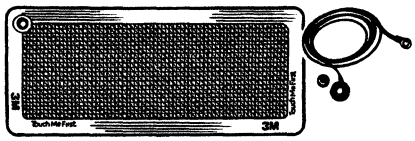
Charge-Guard® Wrist Straps and Grounding Cords



The wrist strap consists of a wrist band and a grounding cord. Grounding cord length is the extended length for the coiled cords. The molded cap on the grounding cord that snaps onto the wristband contains a 1 megohm resistor.

Stock No.	Mfr.'s Type	Description	EACH
617-2003	2212	Medium Size (5 1/2"-7 1/4") band 5' coiled cord	21.00
617-2004	2213	Large (larger than 6 1/2") band 5' coiled cord	21.00
617-2026	2214	Adjustable band, 5' coiled cord	21.40
617-2027	2224	Adjustable band, 10' coiled cord	26.60
617-2000	2202	Medium (burgandy) wrist band only	8.30
617-2001	2203	Large (blue) wrist band only	8.30
617-2002	2210	5' coiled cord w/1 megohm resistor	14.60
617-2038	2220	10' coiled cord w/1 megohm resistor	17.70
617-2028	2204	Adjustable wrist band only	8.80

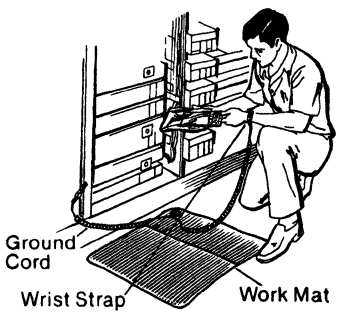
First Touch™ Static Control Computer Pad



One of the best ways to protect your computer is to create a static-safe environment using a First Touch Static Control Computer Pad. Especially formulated using a 3-layer construction, the computer pad drains away static charge instantly with your first and every touch. **Size:** 9 1/2" × 23 1/2"—includes 10 ft. grounding cord, resistor and connector.
617-2013. 920213-R. Brown 23 1/2" × 9 1/2" keyboard pad. . . . . **EACH 39.95**

Portable Field Service Grounding Kit

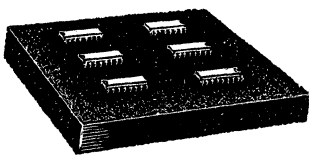
Use this kit to protect installed electronic components from static damage as a result of normal handling during field maintenance and repair. Two convenient storage pouches contain wrist strap and ground cord. Pouches also may be used for components and extra static shielding bags. Folds neatly to fit most any briefcase or tool kit. **Size:** 2' × 2'—includes wrist band, ground cord and alligator clip.
8501. Field Service Kit
617-2009. . . . . . **EACH 52.70**



First Touch Static Control Keyboard Strip

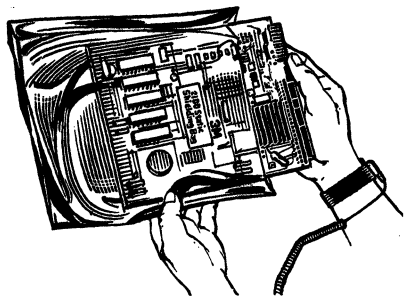
Adhesive-backed strip mounts on keyboard and prevents garbled data, loss of memory, lock-up, and other problems caused by static electricity. Static charge drains harmlessly from operator's body each time hand contacts strip. Includes 7 ft. grounding cord.
617-2014. Keyboard Static Control Strip . . . . . **EACH 20.00**

Velostat® Electrically Conductive Foam



This crosslinked polyethylene foam provides both physical and electrostatic protection for sensitive microelectronic parts. Conductive qualities are compounded directly into the material using a carbon impregnation process.

Static Shielding Bags



Transparent Static Shielding Bags 3-mil wall thickness. First dimension is the bag opening size. Dimensions are inside dimensions.

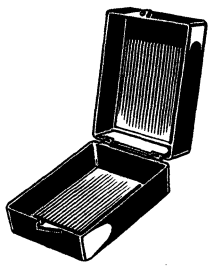
Stock No.	Mfr.'s Type	Description	PER PK./100
617-2017	2100	3" × 5" PK./100	20.80
617-2005	920205-R(2100)	3" × 5" PK./10	2.79
617-2018	2100	4" × 6" PK./100	28.50
617-2019	2100	5" × 8" PK./100	47.10
617-2006	920206-R(2100)	5" × 8" PK./10	5.89
617-2020	2100	6" × 10" PK./100	54.50
617-2021	2100	8" × 12" PK./100	67.90
617-2007	920207-R(2100)	8" × 12" PK./10	8.47
617-2008	920208-R(2100)	Assortment PK./10	6.29

VELOSTAT Conductive Bags

Opaque bags of VELOSTAT film that is unaltered by humidity, age, and most chemicals.

Stock No.	Mfr.'s Type	Description	PER PK./100
617-2022	2004	3" × 5"	15.30
617-2023	2004	5" × 8"	40.30
617-2024	2004	6" × 10"	46.60
617-2025	2004	8" × 12"	58.20

VELOSTAT® Electrically Conductive Hinged Container



This rugged container protects your static sensitive PC boards or other devices from all external static fields or static charges on personnel and materials that exceed 20,000 volts. Made of carbon-loaded electrically conductive polyolefin plastic. Strong, light weight, non-corrosive, ideal for storage and shipping. Molded pin hinges are far more durable than traditional snap hinges. **Color:** black.

Stock No.	Mfr.'s Type	Size	EACH
617-2029	4021	2 7/8" × 1 3/16" × 1/2" deep	0.61
617-2012	4022	3 7/8" × 1 15/16" × 1/2" deep	0.82
617-2030	4023	2 9/16" × 3 1/2" × 1 3/4" deep	1.03
617-2031	4024	7" × 3 1/2" × 1" deep	2.10
617-2032	4025	7" × 5" × 1/2" deep	5.52

VELOSTAT Crosslinked Polyethylene Conductive Foam

Stock No.	Mfr.'s Type	Size	EACH
617-2035	2803	1/4" thick 24" × 36" sheet	27.90
617-2010	920210-R	1/4" thick 4" × 4" pack of 2	2.25
617-2036	2803	3/8" thick 24" × 36" sheet	39.40
617-2011	920211-R	3/8" thick 4" × 4" pack of 2	2.60
617-2037	2803	1/2" thick 24" × 36" sheet	55.90

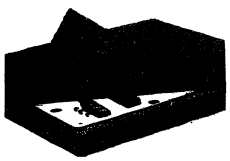
13

Transparent Static Shielding Bags

Static sensitive electronic components must be protected from electrostatic discharge while in storage, shipping and transport, as well as during assembly and handling operations. Static shielding bags ensure that static electricity will have a controlled, nondestructive path to ground, independent of environmental factors. By using static shielding bags, premature product failure, due to static related damage, can be eliminated. **SPECIFICATIONS. Thickness:** 3.1 mil(79 microns), ASTM D374. **Tensile Strength:** 9700 lbs/in.^{2} (67 N/mm^2), ASTM D882. **Seal Strength:** 5 lbs/in.^{2} (870 N/m^2), ASTM D882.

Stock No.	Mfr.'s Type	Size W×L	PER PKG./100		
			1-4	5-9	10-Up
725-0080	ASB-35	3 × 5″	16.05	12.95	11.30
725-0085	ASB-44	4 × 4″	17.20	13.80	12.10
725-0090	ASB-46	4 × 6″	25.75	20.65	17.85
725-0095	ASB-58	5 × 8″	42.65	34.20	29.85
725-0100	ASB-510	5 × 10″	44.20	35.25	31.00
725-0105	ASB-610	6 × 10″	49.30	39.55	34.60
725-0110	ASB-88	8 × 8″	52.55	42.10	36.85
725-0115	ASB-810	8 × 10″	54.15	43.45	38.00
725-0120	ASB-812	8 × 12″	61.50	49.10	43.15
725-0125	ASB-1012	10 × 12″	76.40	61.00	53.50
725-0130	ASB-1014	10 × 14″	90.35	72.20	63.20
725-0135	ASB-1115	11 × 15″	107.25	85.80	75.05
725-0140	ASB-1216	12 × 16″	124.85	99.75	87.30
725-0145	ASB-1218	12 × 18″	130.05	104.05	90.95
725-0150	ASB-1418	14 × 18″	150.95	120.75	105.75
725-0155	ASB-1518	15 × 18″	161.90	129.50	113.35
725-0157	ASB-1818	18 × 18″	193.15	154.60	135.30

Conductive Foam



Conductive foam protects static-sensitive electronic devices in-plant and during shipment. Two types, cushioning and semi-rigid are both non-corrosive. **Cushioning (CFC):** Low density spongy material for delicate parts subjected to rough handling. **Semi-Rigid (CFSR):** High density design protects IC leads from static damage and deformation. **SPECIFICATIONS. Cushioning (CFC). Polyurethane Density:** 2-2.5 lbs/ft^3. (32-40 kg/m^3). **Semi-Rigid (CFSR). Polyurethane Density:** 2-2.5 lbs/ft^3 (40-48 kg/m^3). Both Products. **Surface Resistivity:** 10^3 – 10^4 Ohms per unit square. **Volume Resistivity:** 10^3 – 10^4 Ohms-cm. Test Standard-ASTM D257.

Non-corrosive Conductive Foam

Low density cushioning material: 24 × 36″ sheet.

Stock No.	Mfr.'s Type	Thickness	EACH SHEET	
			1-14	15-Up
725-0010	CFC-125	1/8″	13.10	12.30
725-0015	CFC-250	1/4″	16.25	14.80
725-0020	CFC-375	3/8″	18.95	17.25
725-0025	CFC-500	1/2″	21.70	19.70
725-0030	CFC-750	3/4″	26.20	23.80
725-0035	CFC-1000	1″	28.05	25.45

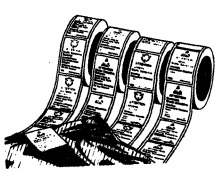
Semi-rigid, high density foam for insertion of I.C. leads: 24 × 36″ sheets.

725-0050	CFSR-125	1/8″	16.25	14.80
725-0055	CFSR-250	1/4″	19.50	17.65
725-0060	CFSR-375	3/8″	22.75	20.70
725-0065	CFSR-500	1/2″	25.95	23.60
725-0070	CFSR-750	3/4″	36.02	32.66
725-0075	CFSR-1000	1″	44.85	40.66

Low density cushioning material: 24″ × 50 ft rolls.

Stock No.	Mfr.'s Type	Thickness	PER ROLL	
			1	2-5
725-0040	CFC-125-50	1/8″	196.00	157.00
725-0045	CFC-250-50	1/4″	236.00	188.00

Warning Labels



A must to ensure that personnel are aware of static-sensitive components. Labels are designed for use with bags, boxes and other carriers in which the contents are static sensitive. They are available for single use or reuseable forms, using the accepted industry static symbols:

Stock No.	Mfr.'s Type	Description	Size W×L	PER ROLL/500		
				1-9	10-19	20-Up
725-0210†	ASL-10B	Reuseable, Orange	2 1/2 × 1 3/4″	15.45	13.07	11.33
725-0215†*	ASL-2YB	Destructable, Yellow	2 1/2 × 1 3/4″	13.00	11.00	9.50
725-0220‡	ASL-3YB	Reusable, Yellow	2 1/2 × 1 3/4″	15.45	13.07	11.33
725-0225‡*	ASL-4YB	Destructable, Yellow	2 1/2 × 1 3/4″	15.00	12.50	11.00

† JEDEC-14 (Joint Electron Device Engineering Council). ‡ Military Standard 129H. * Labels also provide space where contents may be identified. Supplied in rolls of 500 labels on a 3-inch I.D. core.

Portable Field Service Service Grounding Kit

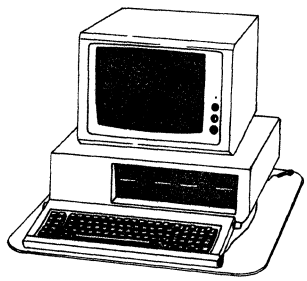
Now you can remove and prevent static build-up during field service of electronic systems with this portable kit. Components include: One portable grounding work surface made of static dissipative vinyl 24 × 18″ with reinforced edges and corners. This surface provides two integral pockets 11 × 6″ as well as two male ground snaps and an interconnect snap (AIS-1). One (AWCC) wrist strap with coiled ground cord (max. extension 5 ft) and one (AGC-18-15) straight ground cord.

Stock No.	Mfr.'s Type	EACH		
		1-49	50-249	250-Up
725-0320	ASGK-1	50.07	46.75	43.81

Electronic Equipment Terminal Mats

Protects you from:

- **Loss of Critical Data**
- **Garbled Printouts**
- **System Shut Down**
- **Personnel Discomfort**



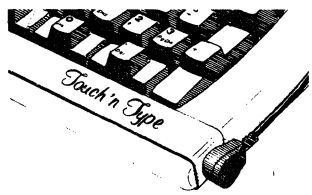
Electrostatic discharge can cause costly breakdowns and malfunctions of your electronic systems. Terminal mats overcome static problems while providing the protection electronic systems require. The terminal mat is a flexible mat apparatus to serve as a safe, non-destructive ground path for static. **SPECIFICATIONS. Thickness:** 3/32″. **Weight:** 1 lb/ft^2. **Surface Resistivity:** 10^9 Ohms per unit square. **Volume Resistivity:** 10^9 Ohms-cm. **Static Decay Time:** Less than 0.05 seconds.

Stock No.	Mfr.'s Type	Size W×L	EACH		
			1-9	10-49	50-Up
725-0195	APM-1024	10 × 24″	28.25	24.21	21.60
725-0200	APM-1824	18 × 24″	31.89	29.61	27.64
725-0205	APM-22	24 × 24″	39.90	35.70	33.10

Touch'n Type

Ideal for:

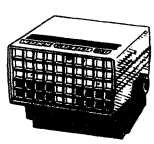
- **Word Processors**
- **Computers**
- **Electronic Cash Registers, Scales, & Typewriters**
- **Teletype Machines**
- **Photo Copiers**



The Touch'n Type™ strip is the best method available to quickly route dangerous static electricity away from electronic equipment. Electronic memories can be modified or erased completely and entire computer system failures can be caused by static electricity discharges. Easily mounted on electronic equipment. As soon as the operator makes contact with the Touch'n Type™ strip, the static is safely drained away. **SPECIFICATIONS. Thickness:** 3/64″ (1.2mm). **Surface Resistivity:** 10^9 – 10^{11} Ohms per unit squares. **Volume Resistivity:** 10^{10} – 10^{12} Ohms-cm. **Static Decay Time:** Less than .05 sec. **Dimensions:** 3/4 × 30 × 3/64″. Includes 15 ft. ground cord, alligator clip and extra ring terminal.

725-0190. Model TNT-1. **1-24** ..... **EACH 23.80**
25-99 ..... **EACH 21.73**
100-Up ..... **EACH 20.00**

Work-Guard™ and Work-Guard B™ Air Ionizers



Work-Guard™

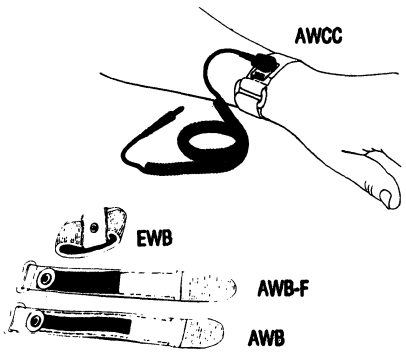
Work-Guard B™

Work-Guard™. Ends static problems in work areas. The standard is a non-blown ionizer that generates ions through corona discharge at two needle points. Propagation to the work area is done by coulomb repulsion. **SPECIFICATIONS. Power Input:** 110VAC (also available with 220VAC adapter). **Ion Output:** Positive and negative. **Induced Voltage:** <100V on 10 pf object 12″ from unit. Below computer/microprocessor interference. **Dimensions:** 4 × 4 1/2 × 1 1/2″ (101.6 × 114.2 × 38.1mm). **Weight:** 1.5 lbs.(680.5g).

Work-Guard B™. Ionizer with blower, operates on the same principle of ionization as the standard Work-Guard . Low velocity air stream increases the effective area of operation. **SPECIFICATIONS. Power Input:** 110VAC or 220VAC. **Ion Output:** Positive and negative. **Induced Voltage:** 100V on 10 pf object 12″ from unit. EMI-RFI; below computer/microprocessor interference. **Dimensions:** 6 × 6 1/4 × 3 1/4″ (152 × 158.8 × 82.6mm). **Weight:** 3.1 lbs. (1420g). Available with or without heater.

Stock No.	Mfr.'s Type	Description	EACH
725-0175	ION-1	Non-fan-blown air ionizer	292.00
725-0180	ION-B	Fan blown air ionizer	442.00
725Q0185	ION-BH	Fan blown air ionizer w/heating element	500.00

Wrist Straps



ESS wrist straps safely remove static electricity from personnel who handle static-sensitive devices. The strap is worn on the wrist of the user, and a ground cord is attached to the strap, thereby serving as a drain path for static electricity. The wrist strap is available in light blue velcro material and is adjustable to fit most wrist sizes. It features excellent skin contact, washability and operator comfort. Ground cords are available in both straight and coiled cord models and in a variety of lengths and termination configurations. All ESS ground cords have a one megohm resistor built into the cord for user safety.

Wrist Wraps

Stock No.	Mfr.'s Type	Description	EACH
725-0350	AWB	One-size-fits-all Velcro wrist strap c/w conductive strip	4.45
725-0355	AWB-F	Same as above but with extra comfort conductive foam liner	5.40
725-0360	EWB-S(Sm.)	Self adjusting elastic wrist band c/w conductive strands contacting full circumference of users wrist.	6.85
725-0365	EWB-M(Med.)	Self adjusting elastic wrist band c/w conductive strands contacting full circumference of users wrist.	6.85
725-0370	EWB-L(Lg.)	Self adjusting elastic wrist band c/w conductive strands contacting full circumference of users wrist.	6.85

Wrist Straps with Coiled Ground Cord

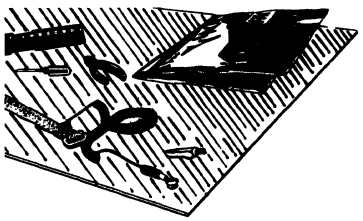
Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-Up
725-0375	AWCC	Wrist strap (AWB) with 5 ft. extendable coil cord (CC-5)	14.58	13.46	12.50
725-0380	AWCC-F	Wrist strap (AWB-F) with 5 ft. extendable coil cord (CC-5)	16.25	13.65	12.65
725-0385	EWCC-S(Sm.)	Wrist Strap (EWB) with 5 ft. extendable coil cord (CC-5)	17.10	15.40	14.25
725-0390	EWCC-M(Med.)	Wrist Strap (EWB) with 5 ft. extendable coil cord (CC-5)	17.10	15.40	14.25
725-0395	EWCC-L(Lg.)	Wrist Strap (EWB) with 5 ft. extendable coil cord (CC-5)	17.10	15.40	14.25

Note: All above wrist strap-cord combinations also include an alligator clip for grounding flexibility. All ESS ground cords have one megohm resistor built into the cord for user safety.

Wrist Straps with Straight Ground Cord

725-0400	AWSC	Wrist strap (AWB) with 5 ft. straight ground cord (SC-5)	12.50	11.85	10.50
725-0405	AWSC-F	Wrist strap (AWB-F) w/5 ft. straight ground cord (SC-5)	13.45	12.40	11.45
725-0410	EWSC-S(Sm.)	Wrist strap (EWB-S) w/5 ft. straight ground cord (SC-5)	14.60	13.25	12.25
725-0415	EWSC-M(Med.)	Wrist strap (EWB-M) w/5 ft. straight ground cord (SC-5)	14.60	13.25	12.25
725-0420	EWSC-L(Lg.)	Wrist strap (EWB-L) w/5 ft. straight ground cord (SC-5)	14.60	13.25	12.25

Note: All of the above wrist strap-cord combinations also include an alligator clip for grounding flexibility. All ESS ground cords have a one megohm resistor built into the cord for user safety.



Flexible Table Mats

- **Permanently Static Dissipative**
- **Eliminates Capacitance Surge (Common in Laminated Material)**
- **Humidity Independent**
- **Durable and Flexible**
- **Will Not Curl on Work Surface**
- **Heat- and Flame-Resistant**
- **Acid- and Alkali-Resistant**

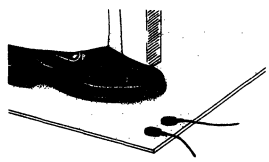
ESS work surface table mats provide a static dissipative surface to protect sensitive electronic components from damaging electrostatic discharge (ESD) during manufacturing. Static charges from personnel and conductive objects placed in contact with the mats are quickly and safely drained to ground. Because the mats are static dissipative, sparking electrostatic discharge is eliminated, reducing the electrostatic damage and discomfort to personnel. **SPECIFICATIONS. Thickness:** 3/32 In. (2.4mm). **Unit Weight:** 1 lb/ft² (4.9 kg/m²). **Surface Resistivity:** 10^9 Ohms per unit square. **Color:** Computer Grey (custom colors available on request). Rigid mats also available.

Stock No.	Mfr.'s Type	Size W×L	Description	EACH	
				1-24	25-Up
725-0230	ATM-24	24″ × 48″	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	44.25	39.50
725-0235	ATM-304	30″ × 48″	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	61.25	58.95
725-0240	ATM-364	36″ × 48″	Each table mat includes one 15 ft. ground cord AGC-18-15 and two male snap fasteners.	80.14	73.90

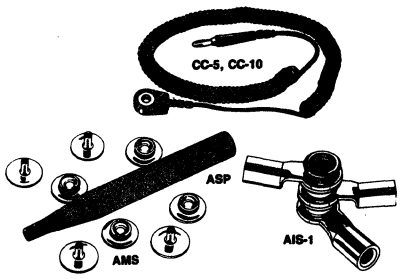
Stock No.	Mfr.'s Type	Size W×L	Description	EACH	
				1-5	6-10
725Q0245	ATM-250	24″ × 50′	Snaps, ground cords not incl. Use of ESS AMS snaps, AGC-18-15 ground cord is recommended.	484.00	451.73
725Q0250	ATM-3050	30″ × 50′	Snaps, ground cords not incl. Use of ESS AMS snaps, AGC-18-15 ground cord is recommended.	632.09	588.19
725Q0255	ATM-3650	36″ × 50′	Snaps, ground cords not incl. Use of ESS AMS snaps, AGC-18-15 ground cord is recommended.	758.50	705.83

Anti-Fatigue Floor Mats

Reduces foot, leg and back discomfort while draining away annoying and dangerous electrostatic charges. Protects electronic systems from damage and disruption. Springy vinyl mats are .236″ thick and weigh 1.7 lbs. **Surface Resistivity:** 10^9 Ohms per unit square. **Color:** Ash grey. Rigid floor mats also available.



Model AFM-36. Includes one 15′ ground cord AGC-18-15 and four male snap fasteners installed. **Size:** 36 × 72″.
725-0260. 1-24.....**EACH 156.66** **25-Up**.....**EACH 145.47**
Model AFM-360. Snaps and ground cords not included. Use of ESS AMS snaps and AGC-18-15 ground cord is recommended. **Size:** 36″ × 60′.
725Q0265. 1-5.....**EACH 950.75** **6-Up**.....**EACH 849.73**



Accessories

Stock No.	Mfr.'s Type	Description	EACH
725-0425	SC-5	5 ft. Straight cord c/w one megohm resistor and alligator clip	10.50
725-0430	CC-5	5 ft. Extendable coil cord c/w one megohm resistor and alligator clip	12.75
725-0435	CC-10	10 ft. Extendable coil cord c/w one megohm resistor and alligator clip	15.50
725-0440	AGC-18-15	15 ft. Ground cord for grounding table and/or floor mat c/w one megohm resistor and alligator clip	10.10
725-0445	AIC-18-5	5 ft. Interconnected cord to connect table to floor mat c/w one megohm resistor	7.60
725-0450	AIS-1	Interconnected snaps can be snapped one on top of the other, to form a multi-cord ground point	1.00
725-0455	AMS	Male snap fastener. Can be installed anywhere on table or floor mats for customized ground cord attachments. Packages ten (10) per bag. Use punch (ASP) and a hammer to install.	4.16
725-0460	ASP	Snap punch. Specially designed punch used to install snap fasteners (AMS)	11.00
725-0465	AC	Alligator Clip	2.33

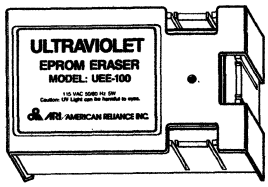
All ESS ground cords have a one megohm resistor built into the cord for user safety.

Workstation Kit

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-49	50-Up
725-0322	AWSK-1	**Kit Contains:** One ATM 24 Table mat; One 15 ft. Ground cord AGC-18-15; One AFM 36 Floor mat; One AWCC Wrist strap and Coil cord; One 5 ft. Interconnected cord AIC-18-5; One Interconnected snap AIS-1	170.67	146.29	136.53

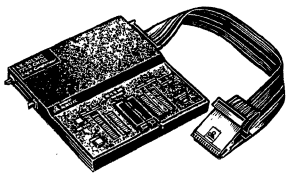
NOTE: Complete kit required to set up a static-free workstation in a manufacturing facility.

UEE-100



Erases up to three EPROMs simultaneously in a compact, lightweight package. Erases most EPROMs in about 6 minutes. **SPECIFICATIONS: Capacity:** Up to three 28-pin EPROMs at once. **Erase Time:** Approximately 6 minutes although some EPROMs may require up to 15 minutes. **Rated Wattage:** 5.0 watts. **Intensity:** 10,000 μW/cm^2 at 1cm. **Power:** 110 VAC, 50/60 Hz. **Size:** 1.6 × 3.2 × 2.1 inches.
952-0101. UEE-100 ..... **EACH 34.95**

AR-90LMC Logic Comparator & Monitor



- **State of the art design allows logic comparison to 20 MHz**
- **Monitor mode increases units versatility**
- **TTL/CMOS autodetect means only one model for both lofic families-better value**
- **Latch mode allows unattended operation without missing errors**
- **Unique user selectable 'Deglitch' time lets user select interval before timing errors are detected.**
- **Easy to use pull-out instructions are always handy.**
- **Advanced, custom IC design means no extra power leads just attach test clip and proceed with testing.**

The AR-90LMC is a small, 20MHz, 28-channel logic comparator that also provides a logic monitoring function. Its innovative custom IC design provides features and performance that far out perform competitive models.
The AR-90LMCs unique logic-type autodetection circuitry allows the use of a single model for both TTL and CMOS circuits. The unit also automatically detects I/O connections to the full operational bandwidth of 20MHz. Switches are provided to set power and ground pins.
In compare mode, the AR-90LCMC will detect a single 50nS timing error.
The devices that the unit will test (28-pin maximum) include:

- **TTL digital (N, LD, S, ALS, F, HC, HCT, ACT, & FACT)**
- **CMOS digital**
- **PAL, HAL, PLA, FPLA, EPLD, & Gate Arrays**
- **SRAM, DRAM, ROM, PROM, EPROM, EEPROM, & FIFO**
- **SSI-VLSI chips (one LS load drive capability).**

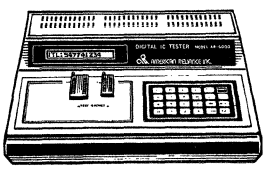
952-0090.AR 90LMC ..... **EACH 395.00**

Accessory IC Test Clips
Specifically for use with the AR-90LMC Logic Comparator, ARI supplies several sizes of IC Test Clips. These may be easily used by simply unplugging the existing test clip from the ribbon cable that is supplied with the AR-90LMC, and then plugging the new test clip onto the cable per the supplied instructions.

Stock No.	Mfr.'s Type	Size	EACH
952-9014	9001-14	14 pin	**5.50**
952-9016	9001-16	16 pin	**5.95**
952-9020	9001-20	20 pin	**9.95**
952-9028	9001-28	28 pin	**15.95**

13

AR-6000 TTL/CMOS Digital IC Tester

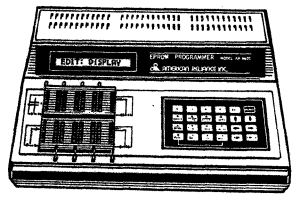


Applications

- **Manufacturing**
- **Incoming inspection**
- **Field service**
- **Repair Service**
- **Engineering R&D/prototyping**
- **Parts salvage and surplus dealers**
- **Computer and supply dealers**

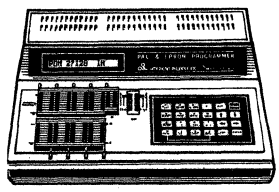
The microprocessor-based AR-6000 is a high speed IC tester designed to fill the void between basic component testers and costly ATE systems. It can test and identify more than 1800 CMOS/TTL digital ICs (Up to 28 pins). In addition to its use as a valuable R&D tool, this affordable tester will help you control costs in manufacturing, inspection and service functions. When power is turned on, the AR-6000 has a self-diagnostic function to ensure reliability for memory, I/O ad all functions. Use 'GO', 'AUTO' & 'LOOP' test for general applications, and use 'SEARCH' to identify unknown ICs. Just spend a couple of minutes with the manual and you'll see how easy it is to use and how useful for your job. **KEY FEATURES.** ► Bench-top, portable, ideal for field use. ► 16 × 1 character 5 × 7 dot matrix LCD display. ► Full message display such as 'UNIDENTIFIED', 'PASS', 'ERROR'. ► Easy to operate with 14 function an 10 numeric keys. ► Capable of testing and identifying more than 1800 different types of ICs (up 28 pins). ► High speed test cycle (about 10 milliseconds). ► Following IC series under 5 Volt functional testing: (1) Texas Instruments 54/74. 55/75 TTL series. (2) Motorola 14000 and RCA CD4000 CMOS series. (3) ICs compatible with above devices. ► Can distinguish 'Open Collector', 'Totem Pole', 'Tri-State' output circuits of digital TTL ICs. ► 'Auto Search' identifies the unknown ICs. ► 'Auto Test' checks the same ICs without any presses. ► 'Loop Test' examines the durability of ICs. ► Audio tone sounds in case of 'ERROR'. ► Overcurrent protection built-in. ► Auto Vcc & ground fail detection. **SPECIFICATIONS. Display:** 16 × 1 character dot matrix LCD. **Test Socket:** (1)One piece 24 pin IC socket, (2)One piece 28 pin IC socket. **Operating Keys:** (1)14 function keys-CMOS/TTL, AUTO TEST, BACK SPACE, CLEAR, A-F; RESET, LOOP TEST, SEARCH, GO.(2)10 numeric keys(0-9) **Test voltage:** 5 VDC, **Alarm:** Audio tone sounds in cast of 'ERROR', **Power:** 110/220VAC, 50/60 Hz (120/240VAC Optional), **Operating Temperature:** 39.6°F to 184°F(– 10°C to 70°C) **Measurements:** 13″(W) × 11.8″(D) × 4.3″(H) (330 × 330 × 110mm). **Weight:** 6.05 Lbs. (2.75 kgs)
952-6000. AR-6000 ..... **EACH 1495.00**

AR-9800 Gang Programmer



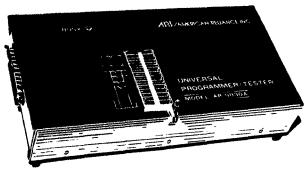
The AR-9800 is a compact, high-volume EPROM and EEPROM programmer, which can program up to eight devices at once. It may be operated either as a stand-alone programmer, or used in conjunction with a standard PC with the software supplied with the unit, via the built-in RS-232 port. **SPECIFICATIONS. Programming Functions:** Copy, Read, Write, Verify, Erase, and Blank Check. **Data Editing Function:** Display, Delete, Insert, Modify, Move, Copy, and Fill. **Device Check Functions:** Blank, Verify, Over Current, Reverse, Check Sum, and Device Present. **Programming Algorithms:** Traditional (TRAD), Intel Intelligent (IN), Fast Pulse (FP), Quick Pulse (QP). **Device Programmed:** EPROMs — 2532, 2564, 2716, 2716B, 2732, 2732A, 2732B, 2764, 2764A, 2712B, 27128A, 27256, 27256D, 27512, 27513; EEPROMs — 2816, 28C16, 2816A, 2817, 2817A, 2832, 2864, 28C64, 2864A. **Internal RAM:** 72K bytes (756K bits). **Serial Interface:** Complete programmer control via Standard RS-232 serial port (25-pin type "D" connector). 75, 150, 300, 600, 1200, 2400, 4800, 9600 baud. Intel hexadecimal format. **GENERAL INFORMATION. Sockets:** Eight high-quality, zero-insertion-force sockets. **Display:** 16-character. 5 × 7 dot-matrix Liquid Crystal Display. **Keyboard:** 24, tactile-feedback pushbutton, protected by polycarbonate overlay. **Self-Test:** ROM, RAM, I/O, LCD, Speaker. **Electrical Requirements:** Operating Voltage — 110/220 VAC, ± 10%; Frequency Range — 50/60 HZ; Power Consumption — 3.5 Watts. **Dimensions:** (H × W × D) 4.5 × 13.4 × 11.8 inches **Weight:** 7.7 pounds.
952-9800. AR-9800 ..... **EACH 1195.00**

AR-9820 GANG Programmer



The AR-9820 PAL, EPROM, and EEPROM Programmer is functionally identical to the AR-9810, but adds the ability to program multiple EPROMS. Using high-quality zero insertion-force sockets, the AR-9820 will program up to 8 EPROMS at once. The unit also programs 2816, 2832, and 2864 type EEPROMS. A separate 24-pin socket is used for reading and programming PAL devices. **AR-9820 SPECIFICATIONS. Programming Functions:** Copy, Read, Write, Verify, and Blank Check. **Data Editing Functions:** Display, Delete, Insert, Modify, Move, Copy and Fill. **Device Check Functions:** Blank, Verify, Over Current, Reverse, Check Sum, and Device Present. **Programming Algorithms:** EPROMs, EEPROMs — Traditional (TRADI), Intel Intelligent (IN), Fast Pulse (FP), Quick Pulse(QP), User Defined (UD); PALs — MMI and NS standard programming algorithms. **Devices Programmed:** EPROMs — 2532, 2564, 2716, 2716B, 2732, 2732A, 2732B, 2764, 2764A, 27128, 27128A, 27256, 27256D, 27512, 27513; EEPROMs — 2816, 28C16, 28C16A, 2817, 2817A, 2832, 2864, 28C64, 2864A; PALs (AMD/MMI, TI, NS, and EQUIVALENTS) — 20-pin · 10H8, 12H6, 14H4, 16H2, 16C1, 10L8, 12L6, 14L4, 16L2, 16L8, 16R8, 16R6, 16R4, 16 × 4; 24-pin · 12L10, 14L8, 16L6, 18L4, 20L2, 20C1, 20L10, 20 × 10, 20 × 8, 20 × 4, 20L8, 20R8, 20R6, 20R4. **Protection:** Reverse Insertion , Null Insertion. **Internal RAM:** 72K bytes (756K bits). **Serial Interface:** Complete programmer control via Standard RS-232C serial port (25-pin type "D" connector) 75, 150, 300, 600, 1200, 2400, 4800, 9600 baud. **GENERAL INFORMATION. Sockets:** Nine high-quality, zero-insertion-force sockets. **Display:** 16-character, 5 × 7 dot matrix Liquid Crystal Display. **Keyboard:** 24, tactile-feedback pushbuttons, protected by polycarbonate overlay. **Self-Test:** ROM, RAM, LCD, Speaker and I/O. **Environmental Specifications:** Operating Temperature—10° to 40°C (50° to 104°F); Storage Temperature—0° to 50°C (32° to 122°F); Relative Humidity— < 80%, non-condensing; Altitude— to 4,500 meters (14,763 feet). **Electrical Requirements:** Operating Voltage—110 or 220 VAC, ± 10%; Frequency Range—50 to 60 Hz; Power Consumption—3.5 Watts. **Dimensions:** 11.5 × 34.0 × 30.0 cm, H × W × D (4.5 × 13.4 × 11.8 inches). **Weight:** 3.5 kilograms (7.7 pounds)
952-9820. AR-9820 ..... **EACH 1495.00**

AR-9830A Pin Programmer



The AR-9830A is an all-in-one 40-Pin Programmer/IC Tester, able to program E/EEPROMs up to 1 megabytes, Bi-Polar PROMs, PALs, FPLs, GALs, PEELs, EPLDs, 8748/8751 Series Microcontrollers as well s Z-8 Series Microprocessors. The PC based device is controlled from IBM compatible PC/XT/AT, plus 386 based machines up to 24 MHz. Any of several file formats and programming algorithms are available. Standard features also include an IC Tester/Auto Identifier, which automatically identifies and tests TTL/CMOS Digital ICs, SRAMs, DRAMs, PLDs and Gate Arrays. Moreover, custom digital ICs are tested by utilizing user-written test programs. Unit comes standard with PC interface card, module interconnect cable and software. **Specifications. Devices Programmed:** EPROMs — 2716-271024 by any manufacturer. EEPROMs — 2816A, 2817A, 2864A; PALs — 20 and 24 Pin, FPLs, GALs, S-GALs, PEELs, EPLDs, 22V10; Bi-Polar PROMs — AMD/MMI, NS, TI, SIG. **Memory:** 64K or 128K bytes. **Serial Interface:** Complete Programmer Control via standard RS-232C Serial Port (25-Pin Type "D" connector). **Programming Functions:** DIR, Upload/Download, Save, Edit, Debug, Manufacturer, Type, Blank Check, Program Read, Compare, Auto, Verify. **Programming Algorithms:** 50 mS, 10 mS, 5mS, Intelligent, Interactive, Quick Pulse. **File Formats Supported:** Binary, Intel Hex, Motorola S1/S2, Tektronix Hex, Hex, Extended Hex and JEDEC. **Devices Tested:** (TTL) 54/74 STD Series, S, LS, H, L, HC, HCT, F; (CMOS) CD40/45 Series, 4164 and 42256 DRAMs, and 2114, 6116, 6264, 6256 SCRAMs. **System Requirements:** IBM PC/XT/AT or compatible, or 286/386 based MS-DOS machines up to 24 MHz, one floppy drive, 384K RAM Memory, one open slot for interface card, PC-DOS or MS-DOS 2.0 or higher operating system and debug. Com Program.
952-9830. Model 9830A ..... **EACH 795.00**

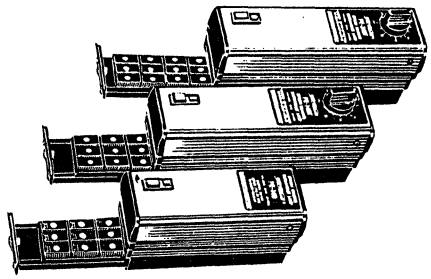
All Spectroline erasers are handsomely styled of rugged anodized aluminum and stainless steel. They have a safety interlock to protect the user against accidental exposure to hazardous short wave (254 nm) UV radiation. Also, the devices are protected by conductive foam pads which prevent electrostatic charge build-up. **All models are UL listed and meet OSHA safety standards. PE-Series are CSA approved.**

Mfr.'s Type	Auto Timer Shut-Off	Chip Erasing Capacity	Typical Intensity ($\mu W/cm^2$)
PE-140	No	9	8,000
PE-140T	Yes	9	8,000
PE-240T	Yes	12	9,600
PL-265T	Yes	30	9,600
PR-125T	Yes	25	17,000

Mfr.'s Type	Auto Timer Shut-Off	Chip Erasing Capacity	Typical Intensity ($\mu W/cm^2$)
PR-320T	Yes	42	17,000
PC-1100A	Yes	84	18,500
PC-2200A	Yes	168	18,500
PC-3300A	Yes	252	18,500
PC-4400A	Yes	336	18,500

PE-Series Lamps

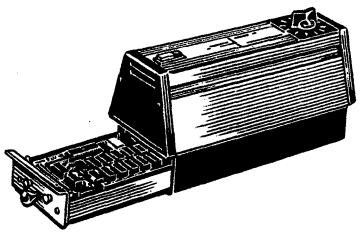
- **Small Capacity, Medium Intensity**
- **Efficient and Complete Erasing in as Little as 11 to 13 Minutes, Depending on the Model**
- **Type PE-240T Erases 12 Chips, Type PE-140 and PE-140T, 9 Chips**
- **CSA Approved**



PE-140, PE-140T, and PE-240T are desktop lamps specifically designed for personal and small system users. They are the perfect choice for fast and complete EPROM erasure. The PE-140 and PE-140T use a single 4 watt UV tube, while the PE-240T uses two 4 watt UV tubes. Tube life is rated at 6,000 hours. Safety features include fully shielded UV tubes with UV-absorbing light indicators to signal when tubes are lit. The PE-140T and PE-240T feature the added convenience of a 60-minute timer for automatic unit shut-off.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986-0140	PE-140	Lamp with One 4-watt Tube	2″W × 6⅝″L × ⅝″H	**99.00**
986-0141	PE-140T	Lamp with Timer and One 4-watt Tube	2″W × 6⅝″L × ⅝″H	**155.00**
986-0240	PE-240T	Lamp with Timer and Two 4-watt Tubes	2″W × 6⅝″L × ⅝″H	**195.00**
986-2537	BLE-2537S	Tube for PE-Series Lamps	—	**19.00**

PL-265T Lamp



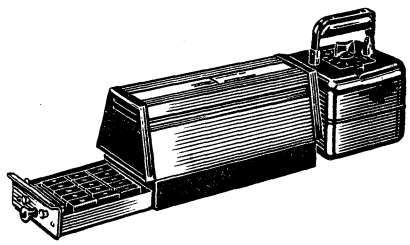
- **Medium Capacity, Medium Intensity**
- **Compact and Economical**
- **Erases up to 30 Chips**
- **Efficient and Complete Erasing in as Little as 11 Minutes**
- **Accepts PC Boards up to 4″ × 9″**

PL-265T is ideal for data processing centers and other medium volume EPROM users. This unit uses two 6-watt UV tubes. Tube life is rated at 6,000 hours. The PL-265T lamp erases up to 30 EPROM chips or will accept PC boards up to 4″ × 9″. A specular aluminum reflector assures maximum intensity. The loading drawer contains a removable tray insert which is adjustable to varying heights to ensure optimum exposure. Safety features include UV-absorbing light indicators to signal when tubes are lit. A 60-minute timer automatically shuts off unit at the end of each erasing cycle.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986-0625	PL-265T	Lamp with Timer and Two 6-watt Tubes	4⅛″W × 9⅞″L × 1⅜″H	**285.00**
986-6254	BLE-6254S	Tube for PL-265T	—	**22.00**

PR-Series Lamps

- **PR-125T Erases 25 Chips**
- **PR-320T Erases 42 Chips**
- **Medium Capacity, High Intensity**
- **Complete Erasing in as Little as 6 Minutes**



PR-125T and PR-320T are designed for medium to large volume EPROM users. The PR-Series features high intensity UV grid tubes that provide maximum irradiance uniformity, for extremely fast and efficient erasing. Grid tube life is rated at 5000 hours. They can completely erase EPROMs on PC boards up to 4″ × 9″. The PR-125T can hold up to 25 EPROMs while the PR-320T accommodates up to 42 individual EPROMs. A specular aluminum reflector assures maximum intensity. The loading drawer contains a removable insert which is adjustable to varying heights to ensure optimum exposure. Safety features include UV absorbing light indicators to signal when tubes are lit. Other features include a 60 minute timer which automatically shuts-off the unit and a carrying handle to ease portability.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986-0125	PR-125T	Lamp with Timer and Grid	4⅛″W × 9⅞″L × 1⅜″H	**420.00**
986-0320	PR-320T	Lamp with Timer and Grid	4⅛″W × 9⅞″L × 1⅜″H	**645.00**
986-2600	G260NO	Grid for PR-125T	2″ × 6″ Grid Area	**225.00**
986-4800	G480NO	Grid for PR-320T	4″ × 8″ Grid Area	**375.00**

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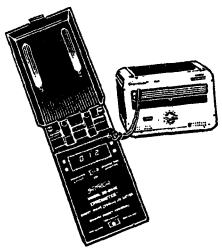
Digital Ultraviolet Radiometers



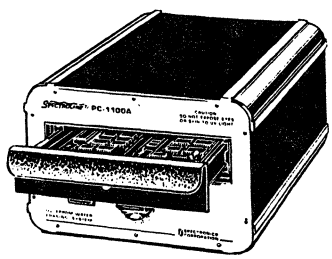
- **Measures UV Intensity with ±5% Accuracy**
- **Reliable Solid State Circuitry**
- **Calibrated to NBS Standards**
- **Perfect for Calculations**
- **Durable Plastic Case**

DM-254X and DS-254E precisely measure the UV output of EPROM erasers. They make erase time calculations easy and accurate, and are perfect for monitoring the useful life of your eraser's UV source. The DS-254E not only measures UV irradiance, but actually calculates proper erasing time. Both units feature 4½ digit LED display, measuring range 0-19, 990μW/cm² with accuracy of ±5%. The sensors are calibrated to NBS standards. Both come complete with four non-rechargeable, 1.5V alkaline batteries.

Stock No.	Mfr.'s Type	Description	EACH
986-0245	DM-254X	Digital UV Radiometer	**525.00**
986-0254	DS-254E	EPROM Meter/Calculator	**795.00**

PC-Series Cabinets

- **Large Capacity, Ultra-High Intensity**
- **Complete Erasing in Less than 5.5 Minutes**
- **Erases from 84 to 336 Chips Depending on Model**
- **Accepts PC Boards from 8″ × 12″ to 32″ × 12″**

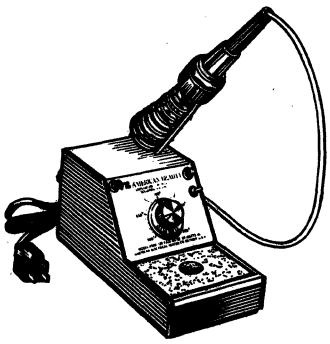


PC-1100A, PC-2200A, PC-3300A, and PC-4400A Erasing Cabinets are specifically designed for high volume production requirements. In as little as 5.5 minutes, their high intensity UV grid lamps completely erase programmed memories. Quartz grids are mounted on a specular aluminum reflector, providing uniform irradiance with a typical peak intensity of 18,500μW/cm². The 8″ × 8″ modular assemblies feature a special drop-in design making replacement quick and easy. As well as erasing individual EPROMs, these cabinets will accept various quantities of PC boards, wafers, and metric cards. The PC-3300A and PC-4400A will accommodate open face stocking tubes. UV absorbing light indicators signal when grids are lit. Chamber temperature is controlled by powerful internal cooling fans, maintaining maximum UV intensity and prolonging grid life, which is rated at 5000 hours. Also features adjustable tray to ensure optimum exposure.

Stock No.	Mfr.'s Type	Description	Inside Tray Dimensions	EACH
986Q1100	PC-1100A	Cabinet with Timer and Grid	8⅜″W × 12″L × 1⅜″H	**1550.00**
986Q2200	PC-2200A	Cabinet with Timer and 2 Grids	16⅜″W × 12″L × 1⅜″H	**2350.00**
986Q3300	PC-3300A	Cabinet with Timer and 3 Grids	24⅜″W × 12″L × 1⅜″H	**3250.00**
986Q4400	PC-4400A	Cabinet with Timer and 4 Grids	32⅜″W × 12″L × 1⅜″H	**4150.00**
986Q7500	G750NO2	Grid Assembly	—	**725.00**

Soldering Stations

5000 Series Temperature Controlled Soldering Stations



Three 50-watt all-electronic stations. Each utilizes a different mode of temperature selection to meet different needs.

► **Holds temp. to within ± 5°F (9°C) or less.**

► **Zero cross-switching, total grounding of the station's iron and all-metal housing to protect sensitive work.**

► **Iron equipped w/ Paragon Quality tip No. 646 (chisel).**

► **Iron completely isolated when idling in station's spring-type holder.**

► **Deep-well, self-moistening tip cleaner.**

► **Meets or exceeds MIL SPECS, including DOD-2000-1B.**

► **120V AC, 60 Hz. 3-wire cord, NEMA plug.**

Overall Size: Length, 8⅞″; width, 3¾″; height, 8¼″ (22.54 x 9.53 x 20.95 cm) including soldering iron holder.

Model 5100. Specifications similar to Model 5000 except temperature selection limited to four most used settings: 600°, 650°, 700°, 750°F (316°, 343°, 371°, 399°C).

Model 5200. Specifications similar to Model 5000 except that this model has no external temperature controls. Temperature set by supervisor by means of selector control inside of cabinet. Settings limited to 600°, 650°, 700°, 750°F (316°, 343°, 371°, 399°C). Replacement sponges and Paragon Quality® tips are available from your Allied Distributor.

709-5000. Model 5000 ..... **EACH 210.00**

709-5100. Model 5100 ..... **EACH 210.00**

709-5200. Model 5200 ..... **EACH 210.00**

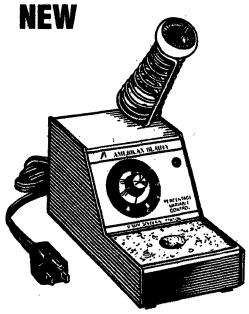
Temperature Regulating Stands **NEW**

Maintain soldering iron at preset temperature during idle and intermittent use. Keep iron at working temperature, prevent overheating, save current. Extend element life, keep tips from "cooking", de-tinning.

Stock No.	Mfr.'s Type	Use	EACH
709-0475	475	For 100W-600W irons	84.00
709-0476	476	For 30W-85W irons	87.00

Note: For perforated guard (as shown) add "SG" to catalog number. 3-wire cord with NEMA plug, standard.

V-3600 Variable Voltage Soldering Station **NEW**



Powers and controls one soldering iron. Plug in almost any iron up to 60 watts to make a complete soldering station.

► **Output voltage infinitely variable from 0% to 100% of line voltage.**

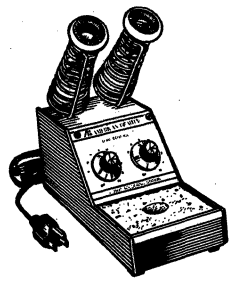
► **3-conductor power outlet for iron. (Iron not included. Order separately).**

► **Spring-type iron holder.**

709-3600. Model V3600 ..... **EACH 90.00**

Model V38005. Sponge for V3600, V3500, 5000, 5100, 5200 Soldering Station.
709-3800. Model V38005 ..... **PKG./6 6.00**

V-3500 Variable Voltage Dual Soldering Station **NEW**



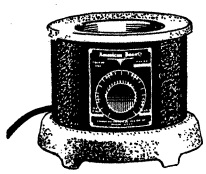
Gives the operator simultaneous, independent control of two soldering irons for special purposes such as:
a) alternate use of two irons to compensate for large heat requirements.
b) when different size irons are needed by the same operator.
c) controlling iron output during idle situations.

► **Output voltage infinitely variable from 0% to 100% of line voltage.**

► **Accepts miniature and pencil-type irons up to 60 watts.**

► **3-conductor power outlets for two irons. (Irons not included. Order separately.)**

709-3500. Model V3500 ..... **EACH 140.00**

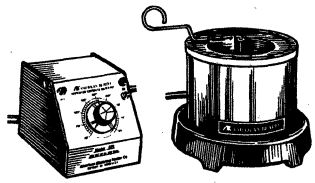


General-Purpose Solder Pots

Cast iron crucible. **Depth:** 1½″. **Heat Range:** adj. 325° - 750°. **Model 300.** Center tapped, ¼-20. I.D. 2¼″. **Size:** Hgt. 5⅛″, Base dia., 5¾″, Top O.D. 4¾″. **Model 600.** Center tapped, 5/16-18 I.D. 3½″. **Size:** Hgt. 5½″, Base dia. 7″, Top O.D. 6″. Cast iron base.

Stock No.	Mfr.'s Type	Capacity	Elements	Shpg. Wt.	EACH
709-1300	300	1 lb.	(2) 160W	6½ lb.	174.40
709-1600	600	2½ lb.	(2) 300W	9 lb.	160.84

Solid State, Temperature-Controlled Solder Pots **NEW**

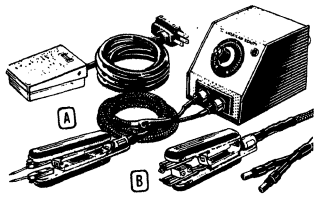


Model 675 features remote control module with solid-state, close tolerance temperature control ± 5°F from set point. Meets or exceeds all MIL spec. requirements including DOD-2001-B. 400-800°F range. 2¾ lb. capacity. Removeable dross skimmer included. Permanently attached control module can be placed up to 18″ from solder pot.

709-0675. Model 675 ..... **EACH 525.00**

Resistance Soldering/ Thermal Wire Stripping Equipment

Controlled Temperature Model 105-A3 Power Unit



Infinitely variable power control unit provides single power control for most thermal wirestripping and resistance soldering applications. Accurate control of soldering tool heat. Isolates soldering tool from line voltage for safety. Designed especially for use with hand pieces above. Adjustable 0-100 watt output, 0-3 volt output. Fuse protected. 3¾ x 3⅞ x 5¼″. 115 VAC. Shipping wt. 7½ lbs.

709-2303 ..... **EACH 184.00**

10541 Tweezers (Fig. A) Resistance soldering. .078″ electrode dia. 0⅜″ space. 5″ long, 4′ lead.
709-2313. Shpg. wt. 1 lb. **1-3** ..... **EACH 74.00**
4-Up ..... **EACH 59.20**

10517 Tweezer-Type Wirestripper (Fig. B) Wires to 18-gauge. 15-100W. 4½″ long. Adj. stop.
709-2319. Shpg. wt. 1 lb. **1-2** ..... **EACH 90.00**
3-Up ..... **EACH 72.00**

10545 Element. For 10517 Wirestripper above. Shpg. wt. 1 oz.
709-2322.. ..... **PKG./2 2.60**

10519 Footswitch. For 105-A3 Power Unit above. Shpg. wt. 1 lb.
709-2310. 1-5 ..... **EACH 31.80**
6-Up ..... **EACH 25.40**

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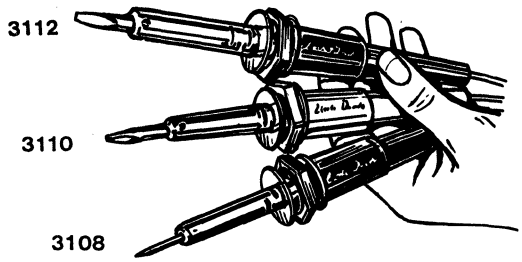
Little Dandy® Miniature Irons



Here's an economy-line of miniature irons that will stand up to rugged treatment without "letdown" performance. Easy to use, fits comfortably in your hand, and gives you unbelievably long service. Use for custom jobs or production runs. No sweat for Little Dandy Irons!

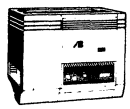
Little Dandy Irons

Stock No.	Mfr.'s Type	Wattage	Tip Size	EACH
709-3108	3108-20	20	1/8"	**36.50**
709-3110	3110-30	30	3/16"	**37.60**
709-3112	3112-50	50	1/4"	**41.40**

Tips for Above

Stock No.	Mfr.'s Type	Size	Description	EACH
709-3643	643	3/16"	Chisel	**5.17**
709-3617	617	3/16"	Tapered Chisel	**5.10**
709-3715	715	1/4"	Tapered Chisel	**5.40**

Bench-Top Ultrasonic Cleaners



Model S-550 Ultrasonic Cleaner

Tank size is 9 x 5 x 4" (22.86 x 12.7 x 10.16 cm) with a 3-quart capacity. Overall size is 12 x 9 x 7 1/2" (30.48 x 22.86 x 19.05 cm) high. Has 125 watts RF input. Stainless steel tank. Has Duralac coated steel housing. Solid-state circuitry on a G-10 board. Stainless steel tank cover included. Wt. 14 lbs. (6.35 kg).

709-5050. Model S-550 ..... **EACH 596.00**
709-5051. Model S-551 Deluxe ..... **EACH 776.00**

Model S-330 Ultrasonic Cleaner

- **Makes Jewelry and Coins Sparkle Like New**
- **Clean Components and Small Instruments**
- **Stainless Steel**
- **100% American Made**

The small size and simple operation of this ultrasonic cleaner makes cleaning practical at work bench or lab table. Completely self-contained and self-tuned with solid state circuitry for dependability and long life. Stainless steel tank with stainless steel tank cover. One pilot-lighted on/off switch. No radio-frequency interference. Virtually indestructible lead zirconate titanate transducer. **Capacity:** 1/2 gal. (1.8 liters). **Tank size:** 5 1/2" x 6" x 4" (14.0 x 15.2 x 10.2 cm). 50W cleaining power. 75 W input. Shpg. weight: 7 lbs.

709-5030. Model S-330 ..... **EACH 285.00**
709-5031. Model S-331 ..... **EACH 554.00**

Soldering Irons for Industrial Use

Rugged and dependable soldering irons, ideal for industrial applications. Special iron-plated tips, available for all models, greatly reduce pitting. Casing and body are of one-piece seamless steel. Rubberoid-coated "stay-cool" handles. 6-ft. (1.8 m) cords. Choice of models from light to heavy-duty. UL listed.

Model 3138-LT. 100 Watts. Cooling baffle; stand. 12-7/8" (32.7 cm) long. For 110-120 V AC-DC. Wt. 2 1/4 lbs. (1.02 kg).
709-0045. 1-3 ..... **EACH 75.60** **4-Up** ..... **EACH 60.50**

Model 3158-LT. 200 Watts. For medium-heavy work. With stand. 13-5/8" (34.61 cm) long. 110-120 V AC-DC. 3 lbs. (1.36 kg).
709-0048. 1-3 ..... **EACH 83.50** **4-Up** ..... **EACH 66.80**

Model 3178-LT. 300 Watts. For special production-line applications. With stand. For 110-120 V AC-DC. WT. 4 lbs. (1.81 kg).
709-0051. 1-2 ..... **EACH 91.15** **3-Up** ..... **EACH 87.00**

Tips for Above Irons

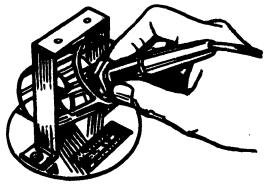
Stock No.	Mfr.'s Type	Description	For Iron	EACH 1-49	EACH 50-Up
709-0058	3738	Diamond	3138	**2.50**	**2.00**
709-0056	3738S	Screwdriver	3138	**2.80**	**2.20**
709-0060	44C	Chisel	3158	**15.30**	**12.20**
709-0061	44D	Diamond	3158	**14.00**	**11.20**
709-0062	45C	Chisel	3178	**26.00**	**20.80**
709-0063	45D	Diamond	3178	**27.00**	**21.60**

Safety Soldering Iron Stands

No. 575 Automatic Open and Close

Closes with iron in place. Opens when iron is lifted straight up. For Little Dandy and other miniature irons.

709-3575. ..... **EACH 21.00**

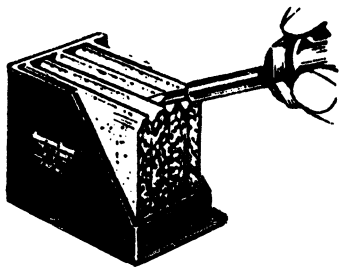


No. 576 Holds tip in molten solder

For intermittent soldering. Prevents over-heating at idle, keeps tip tinned, ready for instant use. Accepts all miniature irons.

709-3576. ..... **EACH 21.00**

One-Pass Tip Cleaner



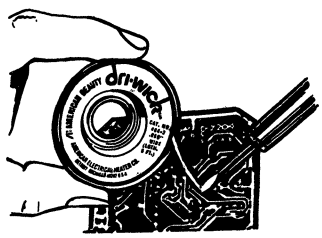
- **Handiest Way to Clean Tips**
- **Eliminates Cleaning Problems**

One pass between wet cellulose sponges cleans entire tip. Eliminates the former cleaning problems of tip-plate damage, linting, stray solder pellets. Water-well (3/4" deep) keeps sponges wet and ready to use all day. The high impact styrene holder has a non-slip, rubbberized base, bored for bench mounting. Ideal for workroom, classroom, and hobbyist.

Stock No.	Mfr.'s Type	Description	Size	Wt.	EACH
709-4800	480	Complete tip cleaner	2 1/2" x 2 3/4" x 3 1/2"	3/4 lb.	**6.00**
709-4801	480-S*	Replacement sponge for tip cleaner	—	1 oz.	**3.00**

*Complete set of 4 sponges.

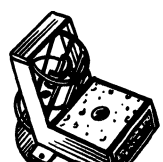
Dri-Wick® Fine De-soldering Tool on a Spool



Tested, proved . . . and backed by American Beauty. Dri-Wick is used in U.S. space program, at flight centers and by subcontractors. Proved most efficient for de-soldering, re-work, salvage.
Any place you can put solder, you can remove it in a second with Dri-wick. Lay Dri-wick on joint and apply tip of hot soldering iron. Capillary action draws out all solder, leaves joint clean, ready for salvage or rework. Specially woven copper, each strand coated with water-white resin. Packaged 5 ft. per spool, 25 spools per carton. (No. 484-6, 2 1/2 ft. spools.) Six widths. Test quickly indicate best width to use. Table below gives general guidance.

Stock No.	Mfr.'s Type	Width	EACH
709-4841	484-1	.025" (.63 mm)	**1.70**
709-4842	484-2	.050" (1.27 mm)	**1.70**
709-4843	484-3	.075" (1.90 mm)	**1.70**
709-4844	484-4	.095" (2.41 mm)	**1.90**
709-4845	484-5	.130" (3.30 mm)	**2.00**
709-4846	484-6	.200" (5.08 mm)	**1.70**

Combined Safety Stand/Tip Cleaner



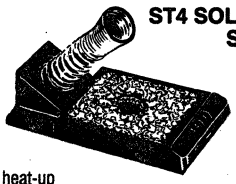
Ideal for pencil-type irons used intermittently, with long periods of "idling". Pool of molten solder surrounds tip of racked iron. Keeps tip tinned, ready for use. Prevents overheating. Self-contained tip cleaner stays moist for days. Wipings from solder tip drop into well, leave sponge free of contaminants. Stand and guard, heavy gauge cadmium plated steel; cleaner is stainless steel and hi-impact, no-burn plastic. **Overall size:** 4 1/4" x 5 1/4" x 4 1/8".

Stock No.	Mfr.'s Type	Description	EACH
709-4830	483	Safety Soldering Stand/Tip Cleaner (Complete w/ sponges)	**33.50**
709-4810	481S	Replacement Sponges (6 sets per pkg.)	**5.20**

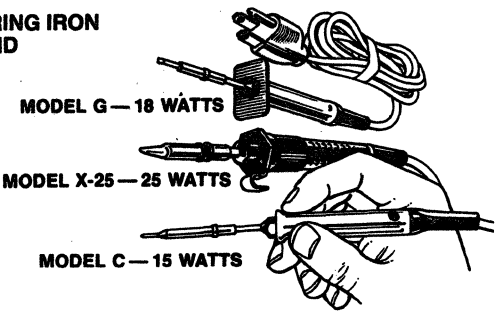
14

Soldering Irons for Microelectronic Circuits

- Long-lasting Elements — Designed for Production Line Service
- Heat to Full Operating Temperature in Seconds . . . Hold Constant Tip Temperature
- Safe for Delicate Components
- Maximum Heat Transfer Efficiency with Slide-on Replaceable Tips
- All Models Meet OSHA Standards for Safety
- 3-Wire Ground Plug



ST4 SOLDERING IRON STAND



Soldering irons ruggedly built for long-lasting, heavy-duty service and production line use. Fast heat-up and recovery time, efficient heat transfer assure steady tip temperature and superior performance in all microelectronic soldering applications. Low current leakage and near-infinite insulation of heating elements from tip eliminate risk of damage to transistors, integrated circuits and other delicate components, and assure safety of the operator. Interchangeable tips in a variety of sizes and shapes cover a full range of soldering requirements. No set screws to freeze and break. Three models, three power ranges: 15 watts, 18 watts, 25 watts. Cords are ultra-flexible for easy handling. For 110-120 V, 50-60 Hz AC.

Soldering Irons

Stock No.	Mfr.'s Type	L. In.	Wt. Oz.	Power Watts	°F Temp. Range*	EACH 1-5	EACH 6-Up
728-0220	C-3U	6 1/2	3	15	650-750	14.88	13.47
728-0320	G-3U	6 1/2	3	18	650-700	15.66	14.14
728-0520	X25-3	8 3/4	4	25	650-700	19.61	17.76

* Temperature depends on voltage. All Models have 3-prong grounded plug.

Replacement Elements

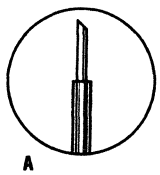
728-0200. Model C ..... EACH 6.79
728-0300. Model G ..... EACH 6.79
728-0500. Model X25-3 ..... EACH 8.48

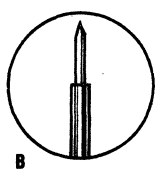
ST4 Stand for Miniature Iron. Weight 2 lbs.
728-0400 ..... EACH 7.27

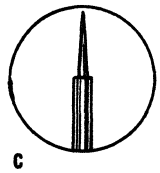
Tips for Models C, G and CSTC 30
Iron-Plated Tips (Long Life)

Size In.	Stock No.	Fig.	Type	Stock No.	Fig.	Type	EACH 1-49	EACH 50-Up
3/64	728-1602	A	Spade 6-IS	728-1600	B	Chisel 6-IC	1.91	1.76
1/16	728-4605	A	Spade 46-IS	728-4600	B	Chisel 46-IC	1.91	1.76
3/32	728-1202	A	Spade 2-IS	728-1200	B	Chisel 2-IC	1.91	1.76
1/8	728-8605	A	Spade 86-IS	728-8600	B	Chisel 86-IC	1.91	1.76
3/16	—	—	—	728-1400	B	Chisel 4-IC	1.91	1.76
.012	728-1801	C	Needle 8X*	728-1800	C	Needle 8-I	1.91	1.76

* Bare Copper.





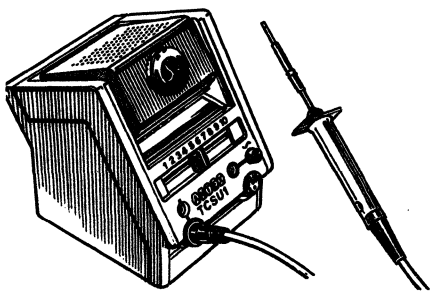


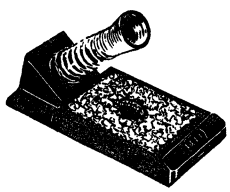
Nickel-Plated Tips (Economy)

Size In.	Stock No.	Fig.	Type	Stock No.	Fig.	Type	EACH 1-49	EACH 50-Up
3/64	728-1606	A	Spade 6-NS	728-1604	B	Chisel 6-NC	1.32	1.26
1/16	728-4615	A	Spade 46-NS	728-4610	B	Chisel 46-NC	1.32	1.26
5/64	728-5605	A	Spade 56-NS	728-5600	B	Chisel 56-NC	1.32	1.26
3/32	728-1208	A	Spade 2-NS	728-1204	B	Chisel 2-NC	1.32	1.26
1/8	728-8615	A	Spade 86-NS	728-8610	B	Chisel 86-NC	1.32	1.26

Tips for Model X25 and XTC50

Stock No.	Mfr.'s Type	Size In.	Fig.	Tip Temp.	EACH 1-49	EACH 50-Up
728-1100	50	3/32	A	50-650°	2.54	2.33
728-1151	52	3/16	A	52-675°	2.54	2.33





Miniature Temperature-Controlled Soldering Irons

Soldering Station TCSU1. The soldering station allows strict control of temperature by using the sliding potentiometer and 0-10 scale on front of station with the Centrigrade/Fahrenheit table at back. **Main Voltage:** 240, 220, 115, or 100 VAC. **Secondary Voltage:** 24-26 VAC. **Consumption:** 60 W. **Size:** 145 × 104 × 142 mm (5 5/8 × 4 1/16 × 5 1/2"). **Wt.:** 47 kg (1 lb., 1 oz.). **Model XTC Consumption:** 50 W. **Voltage:** 24-26 VAC. **Model CSTC Consumption:** 30 W. Voltage: 24-26 VAC. Irons not supplied with tips. See above for selection.

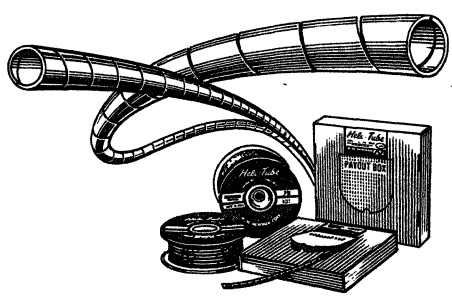
Stock No.	Mfr.'s Type	Description	EACH
728-0100	TCSU1	Soldering Station (less iron)	109.20
728-0135	CSTC 30	30-Watt Iron	58.50
728-0150	XTC50	50-Watt Iron	58.50

ST4 Stand for Miniature Iron. Weight 2 lbs.
728-0400 ..... EACH 7.27

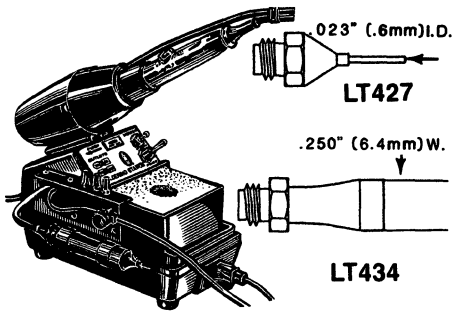
Spirally Cut Cable Wrap

U.L. Recognized Heli-Tube® is a spirally cut, expandable plastic cable harness. Bundles wires, cables or hoses firmly but allows flexibility. Wraps on like tape, can be re-used, quickly and simply. Resists abrasion and insulates. Clamps bundles to standoffs. Dampens vibration. Can have wire breakouts in any orientation. Wires can be routed or re-routed after Heli-Tube® is in place; either new wires or replacement wires. Stocked by Allied in 100' spools of Clear Polyethylene, Black Polyethylene, and Black Fire-Resistant Polyethylene. The Clear Polyethylene is a low cost material ideal for general applications. Not affected by ordinary solvents and extremely resistant to abrasion. **Maximum Operating Temperature:** 101°C to 215°F. **Minimum Operating Temperature:** – 76°C to – 105°F. **MIL Spec. and Approvals:** Fed. Spec. LP390, MIL 1631D, MIL P26692. The Black Polyethylene is ultra-violet-resistant which permits it to be used in direct sunlight for long periods of time. Same temperature range and MIL spec. as Clear Polyethylene. The Black Fire-Resistant Polyethylene is self-extinguishing. **Maximum Operating Temperature:** 93°C to 200°F. **Minimum Operating Temperature:** – 19°C to – 1°F.

Heli-Tube



Stock No.	Mfr.'s Type	Material	O.D.	Wall Thickness	Pitch	Maximum Bundle Range	EACH 1-9	EACH 10-49
728-9005	HT1/4C2	Clear Polyethylene	0.250	.035	0.375	3/16-2"	9.84	8.83
728-9010	HT1/4C	Clear Polyethylene	0.250	.045	0.375	3/16-2"	10.43	9.19
728-9015	HT1/2C	Clear Polyethylene	0.500	.062	0.563	3/8-4"	21.29	19.18
728-9020	HT3/4C	Clear Polyethylene	0.750	.065	0.750	3/4-5"	31.81	28.86
728-9025	HT1C	Clear Polyethylene	1.000	.095	1.000	1-7	61.11	55.21
728-9040	HT1/4UR	Black Polyethylene	0.250	.045	0.375	3/16-2"	11.58	10.51
728-9045	HT1/2UR	Black Polyehtylene	0.500	.062	0.500	3/8-4"	22.70	20.30
728-9050	HT3/4UR	Black Polyethylene	0.750	.065	0.750	3/4-5"	35.04	31.91
728-9055	HT1UR	Black Polyethylene	1.000	.095	1.000	1-7	67.54	61.69
728-9030	HT1/4FR-B	Fire-Resistant Black	0.250	.045	0.375	3/16-2"	26.42	24.01
728-9035	HT1/2FR-B	Fire-Resistant Black	0.500	.062	0.563	3/8-4"	54.72	50.98



Hot Air Soldering and Desoldering

For efficient and portable repair of Surface Mounted Devices (SMD). Features hot air source to remove unwanted solder. **Power Supply Holders:** 48-hour water reservoir; on/off air pump switch. **Hot Air Instrument:** 120 Volts, 70 Watts. Adjustable Temperature — 205°C to 425°C. Less than 2mV leakage tip to ground; zero voltage switching. Hot air temperature up to 405°C. MIL-S-45743E, WS-6536E, DOD-STD-2000-1B, MIL-STD-2000. "EDS" SPEC. DOD-STD-1686 DOD-HDBK-263. **Hot Air Tip:** LT428 standard tip supplied with tool. **Temperature Range:** 205°C to 425°C. **Tip I.D.:** .037" (1mm). Edsyn 1036 has a 1-year limited warranty.

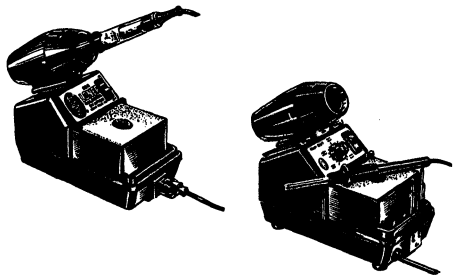
783-0200. Model 1036. **1-10** ..... **EACH 830.30**
11-20 ..... **EACH 621.40**

Additional Hot Air Tips

Stock No.	Mfr.'s Type	Description	EACH	
			1-10	11-20
783-0205	LT427	Jet Tip	11.70	10.65
783-0210	LT434	Fan Tip	21.00	19.10

Soldering Stations

Power Output: 120 Volts 60 Hz 70 Watts. **Temperature Range:** 400-800°F (205-425°C). **Temperature Regulations:** ±6°F (3°C). 48-hour reservoir with 8" sq. cleaning sponge. Handle designed to reduce opeerator fatigue. Heat resistant cord. Light to heavy soldering capacity. Lighted power On/Off switch for Loner instrument. Solder tip storage tray. Replaceable solder debris collector. MIL-S-45743E, WS-6536E, DOD-STD-2000-1B, MIL-STD-2000, "ESD" SPEC. DOD-STD-1686, DOD-HDBK-263. U.L. Listed.

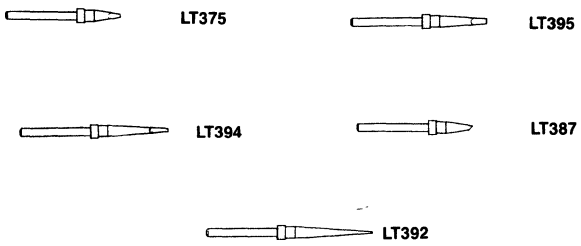


Model 935. Zero voltage power switching. Tip leakage to ground is less than 2mV. Ceramic PTC element for quick heat up. Electronics control in handle with power indicator lamp. External temperature control knob. Over 50% energy saving.

783-0215. Model 935. **1-10** ..... **EACH 161.30**
11-50 ..... **EACH 120.79**

Model 951. Temperature control knob on front of power supply. Adjustable temperature calibration without opening power supply. Lighted switch flashes when soldering tip is at temperature knob setting.

783-0220. Model 951. **1-10** ..... **EACH 218.90**
11-50 ..... **EACH 165.80**



Additional Tips for Models 935 and 951

All tip measurements are ± .005" (.13mm). Tips are nickel, chrome, iron plated long life. Reshape by filing.

Stock No.	Mfr.'s Type	Description	EACH	
			1-10	11-20
783-0225	LT375	Spade Tip	5.80	4.30
783-0230	LT395	Mid-length stubby spade tip	5.80	4.30
783-0235	LT394	Extra long spade tip	5.80	4.30
783-0240	LT387	Angle face tip	5.80	4.30
783-0250	LT392	Extra long needle point tip	5.80	4.30

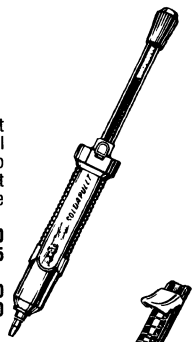
* Unplated-Electroless nickel plated short life.

Desoldering Tools

Low Static Potential Desoldering Tool

Model AS196. Designed for low static work stations to protect components from effects to static electricity. Low static electrical characteristics providing ground path via operator, reducing discharge to susceptible components. Special material protects operator from a direct electrical short or shock. Static conductive construction reduces sensitive component damage.

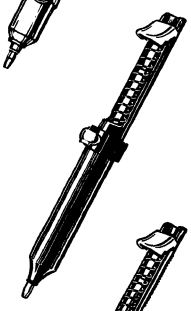
783-0196. Model AS196. **1-50** ..... **EACH 25.60**
51-100 ..... **EACH 23.05**
783-0197. Replacement tip for AS196. Type LS197.
1-50 ..... **EACH 5.30**
51-100 ..... **EACH 4.70**



SS750 Challenger Soldapullt® Desoldering Tool

External main spring design creates a powerful vacuum stroke. Soft-push cam trigger. Single full stroke plunger and cleaning shaft allow maximum vacuum flow. Cushioned locked Tiplet (tip) for soft touch (1 extra Tiplet included). Made of durable high-impact plastic.

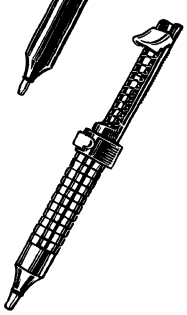
783-0265. Model SS750. **1-25** ..... **EACH 7.30**
26-50 ..... **EACH 6.60**
783-0270. Replacement tip for SS750. Type SRT751.
1-50 ..... **EACH 1.30**
51-100 ..... **EACH 1.15**



SS750LS Low Static Challenger Soldapullt® Desoldering Tool

Same features as Model SS750 plus the added feature of low static construction. Designed to protect sensitive circuits and components.

783-0275. Model SS750LS. **1-50** ..... **EACH 8.50**
51-100 ..... **EACH 8.15**
783-0280. Replacement tip for SS750LS, Type LS751.
1-50 ..... **EACH 1.80**
51-100 ..... **EACH 1.40**



WP286 Wigpry™ Desoldering Aid

Simple to use. Frees sticking component lead which normal desoldering can leave behind. Hook design for component of DIP IC removal from circuit board. Use also to straighten bent or clinched leads on circuit board.

783-0255. Model WP286. **1-50** ..... **EACH 2.30**
51-100 ..... **EACH 1.95**

SS350 Soldapullt® Desoldering Tool

Low static, high performance. Metal barrel, teflon tip. External main spring design creates a powerful vacuum stroke — no bulky internal spring. Spring also functions as a static arrestor each time plunger shaft is reloaded. Single plunger design allows for full stroke, maximum vacuum flow, and less friction. Easy to load. Self-cleaning. 1/8" I.D. (.32 cm). 9/16" Length (1.43 cm).

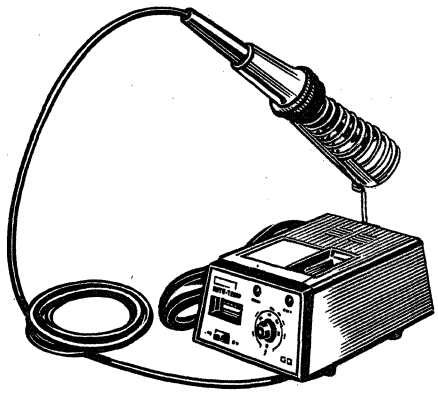
783-0260. Model SS350. **1-50** ..... **EACH 9.50**
51-250 ..... **EACH 9.00**
783-0285. Replacement tip for SS350. Type LS363.
1-50 ..... **EACH 5.30**
51-100 ..... **EACH 4.93**

Deluxe Desoldering Tool

Model DS017. Designed for rework or removal of most advanced circuit components. A no-stick teflon spout self cleans with each vacuum cycle. Loaded with features: Push-out tip, internal solder traps, extra large vacuum chamber, internal cleaning shaft and multi-action plunger system. High impact barrel is made of durable nonconductive plastic with a comfort sculptured hand grip. Easily disassembled for internal cleaning and lubrication. Rugged trigger latch for fast one hand operation.

783-0017. Model DS017. **1-50** ..... **EACH 19.40**
51-100 ..... **EACH 18.50**
783-0112. Replacement tip for DS017. Type SRT12.
1-50 ..... **EACH 3.20**
51-100 ..... **EACH 2.95**

Solid-State Temperature Controlled Solder Station



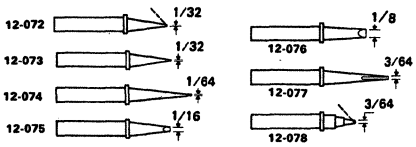
Auto-temp solder station for precise temperature control. Features electronically controlled low-voltage system and LED power indicator. User-set temperature with front panel control. Fast warm-up. CMOS-safe, fully grounded conical tip included — a wide variety of tips available. Provides accurate control over a range of 200° to 900°F with meter indication of exact temperature at all times. Designed for production or service of sensitive electronic circuits. **Specifications. Line Voltage:** 110-125VAC. **Heater Power:** 48W. **Heater Voltage:** 24V. Comes with tip, cleaning sponge, and iron holder.

796-0155. Type 12-070 ..... **EACH 99.55**

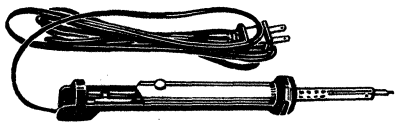
Replacement Tips

Iron-clad copper tips — premium quality, long life for continuous heavy-duty soldering.

Stock No.	Mfr.'s Type	EACH
796-0160	12-072	3.05
796-0165	12-073	3.05
796-0170	12-074	3.05
796-0175	12-075	3.05
796-0180	12-076	3.05
796-0185	12-077	3.05
796-0190	12-078	3.05



Solder Popper



The Solder Popper combines the popular snap-vacuum solder removal tool with a soldering iron for fast, one-hand operation, and is an excellent tool for field repair or production work. Has a tightly sealed vacuum pump that snaps up all of the solder quickly. A removable reservoir stores solder and cleans out in seconds. The 30-watt iron melts solder rapidly and features a long-life tip that unscrews for easy replacement.

Solder Popper
796-2157. Type 12-2157 ..... **EACH 30.31**
Replacement Tip
796-2160. Type 12-2160 ..... **EACH 2.89**
Replacement 'O' Ring Seal
796-2161. Type 12-2161 ..... **EACH 1.10**

CMOS-Safe Solder Removal Tool

CMOS-safe version of the popular snap-vacuum solder removal tool. Special teflon nose is conductive to assure neutral static charge; entire tool will be at same potential as ground operator. For removal of components from PC board. One hand operation snaps molten solder from PC board and stores it in easy-to-empty reservoir. **Overall length:** 7½".

Stock No.	Mfr.'s Type	Description	EACH
796-2102	12-2102	solder removal tool	13.25
796-2117	12-2117	replacement nose assembly	3.60

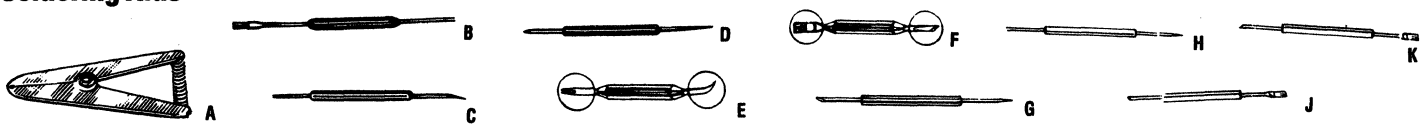
Solder Wick (Pure Copper)

GC/3S Wick is a superior solder absorbing wick for complete solder removal. Wicking starts faster than with conventional wicks due to a unique rosen. Faster wicking means for less trouble with excessive heat that damages components and PC board traces. Available on 25 ft. or 5 ft. spools.

Stock No.	Mfr.'s Type	Size	Color Coded	Nominal Size W × Thk.	EACH
796-0436	22-436*	2	yellow	.060 × .016″	1.55
796-0437	22-437*	3	green	.080 × .028″	1.55
796-0438	22-438*	4	blue	.100 × .028″	1.55
796-0441	22-441†	2	yellow	.060 × .016″	5.31
796-0442	22-442†	3	green	.080 × .028″	5.55
796-0443	22-443†	4	blue	.100 × .028″	5.80

* 5-ft. length. † 25-ft. length.

Soldering Aids

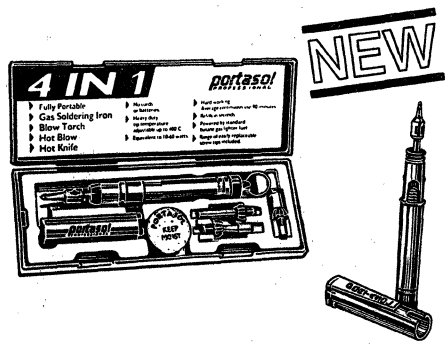


(A) 9077 Heat Sink. Protects parts from heat. Made of aluminum — solder will not stick. Self-closing; free hands. 3 oz.
796-9077 ..... **EACH 0.82**
(B) 9088 Brush. Wire brush and chrome-tipped holding end. 4 oz.
796-9088 ..... **EACH 2.49**
(C) 9076 Angle End-Tool. 4 oz.
796-9076 ..... **EACH 2.49**
(D) 9075 Straight End-Tool. Double ends ream, hold or pry. Chromed. 4 oz.
796-9075 ..... **EACH 2.49**
(E) 9093 Soldering Probe. For printed-circuit work. 8″. 3 oz.
796-9093 ..... **EACH 2.73**
(F) 9094 PC Board Brush and Scaper. Stainless steel brush on one end, steel scraper on other. 8″ overall length. 3 oz.
796-9094 ..... **EACH 2.75**
(G) 9069 Reamer and Scraper Tip. Chrome-plated. Ends insulated. Scrape joints, ream lug holes. Wt. 4 oz.
796-9069 ..... **EACH 2.49**

(H) 9073 Brush and Forked Tip. For PC work. Forked tip for twisting or holding wires. Ends insulated. 3 oz.
796-9073 ..... **EACH 2.49**
(J) 9074 Brush and Scraper Tip. Brush for dusting away excess solder, scraper for joints. Ends insulated. 3 oz.
796-9074 ..... **EACH 2.50**
(K) 9086 Straight Reamer and Forked Tip. Steel, chrome-plated. For lug holes, forked tip holds wires. 3 oz.
796-9086 ..... **EACH 2.73**

Soldering Fluxes

Formulated to meet all manufacturing techniques, including highly specialized assembly procedures. Includes a highly efficient Rosin Residue Remover. Use with all metals except aluminum.
Solder Paste No. 10-1207. Fast acting flux base for PC work. Non-corrosive.
796-1207. 1½ oz. (42gms.) can ..... **EACH 2.40**
Solder Flux Remover and Cleaner. No. 22-270. 16 AVDP oz. aeroso).
796-2037 ..... **EACH 3.90**



Portasol Professional™

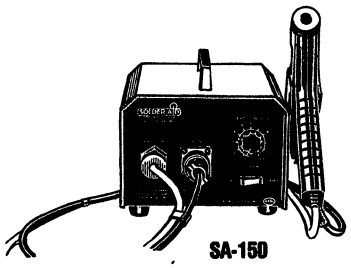
► Soldering Iron ► Blow Torch ► Heat Gun

Pocket size butane soldering iron, blow-torch and miniature heat gun. The Portasol Professional is the big brother of the popular standard Portasol and has the additional capability of both heat-gun and blow-torch functions. The Professional may be used for all conventional electronic soldering (adjustable equivalent to 10-60 watt irons) and a wide variety of other uses such as heating shrink tubing (hot blow tip) or even soldering or thawing copper water pipes (blow torch tip). The Professional's slightly larger diameter yields a greater butane capacity that will last for up to 90 minutes of soldering. **Included with the Professional are:** 2.4 mm Standard soldering tip, 1.0 mm Fine (PCB) soldering tip, Hot-blow tip, Blow-torch tip, Tip cleaning sponge, Formed wire hot iron stand, Unbreakable plastic case, Lighter included in cap. At only 7″ long and ¾″ in diameter, the Professional is a pocketable size. The entire set is only 3″W × 9″L × 13/16″D.
797-0230. Complete kit w/butane. P-1K-B Kit ..... **EACH 41.25**
797-0225. Portasol Unit w/butane and P-1-B Unit w/2.4mm tip ..... **EACH 22.50**

Stock No.	Mfr.'s Type	Description	EACH
797-0235	T-1	1.0 mm 1/32″	8.25
797-0240	T-2	2.4 mm 3/32″	8.25
797-0245	T-3	3.2 mm 1/8″	8.25
797-0250	T-4	4.8 mm 3/16″	8.25

Stock No.	Mfr.'s Type	Description	EACH
797-0255	T-7	Hot Knife	8.25
797-0260	T-6	Hot Blower	8.25
797-0265	T-5	Blow Torch	8.25
—	—	—	—

Temperature Stations and Rework and Repair Systems



SA-150

Fixed Temperature Station

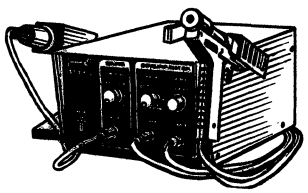
- Powerful suction capability and fast rise time.
- Easy cleaning and filter replacement
- Tip Temperature: 700°F (370°C)

The SA-100 Fixed Temperature Desoldering Station features a self-contained, high volume vacuum pump. Compact and lightweight for complete portability, yet with power to spare for the most difficult thru-hole applications. Equally suited for production as well as prototype and laboratory use. The SA-100 also features a convenient pistol grip handpiece, trigger activated operation, no-clog straight flow design, easy collector cleaning, and a handy tool holder built into the control unit. Designed for long life and low maintenance. Supplied with 0.039" tip, tip cleaning sponge, tip cleaning pins, and spare filters.

Variable Temperature Station SA-150

- Powerful suction capability and fast rise time.
- Removes solder easily even on multilayer boards
- 50% more vacuum than competition
- Non-clog straight-flow solder path design
- Efficient handpiece—trigger activated for easy use
- Lightweight, cool and comfortable handpiece
- Zero voltage heater switching and grounded tip

The SA-150 Variable Temperature Desoldering Station enables the user to control the temperature for a wide variety of applications. The unit is completely self-contained with a high volume vacuum pump. The SA-150 features no-clog straight-flow soldering path design and an easy trigger-activated operation. Designed for production as well as prototyping and laboratory use. The SA-150 comes with a handy tool holder built into the control unit. Supplied with 0.039" desolder nozzles, tip cleaning sponge, tip cleaning pins and spare filters.

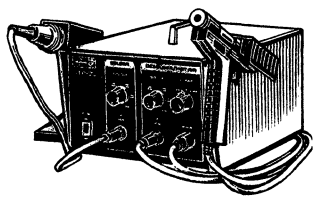


BTR-25-115

Desolder Rework and Repair Systems

- Spike-free operation
- Quick rise, efficient vacuum
- Ergonomically designed pistol grip desolder tool
- High power heating elements for fast heat recovery

These new BTR and SA desolder systems are designed with high heat capacity tips providing a greater "volume" of heat for desoldering multi-layer boards or boards with high thermal masses. BTR units provide excellent temperature control with closed loop thermocouple temperature sensing.



BTR-35-115

Solder/Desolder Rework and Repair Systems

- Ergonomically designed pistol grip handpiece
- Independent solder and desolder temperature control
- Zero voltage heater switching
- Quick rise, high efficiency vacuum.

This new range of OK Industries solder/desolder systems feature high wattage heating elements for very quick heat recovery and high mass tips with extra heat capacity for desoldering difficult multi-layer PCBs. The BTR models feature unique and accurate closed loop thermocouple control.

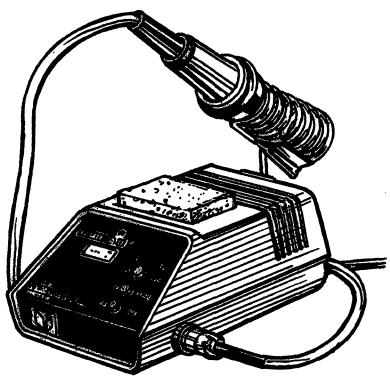
Stock No.	Mfr.'s Type	Temp. Control	Vacuum Source	Desolder Tool	Solder Tool	EACH
825-7100	BTR-35-115	Closed loop thermocouple controlled 535°F to 880°F	Quick rise, self-contained diaphragm pump	100W, 24V	48W, 24V	842.50
825-6015	SA-150	Variable	Quick rise, self-contained diaphragm pump	40W	40W	544.50
825-6000	SA-150	Fixed	Quick rise, self-contained diaphragm pump	30W	30W	544.50
825-7110	BTR-25-115	Closed loop thermocouple controlled 535°F to 880°F	Quick-rise, self-contained diaphragm pump	65W, 24V	100W, 24V	731.50

Stock No.	Mfr.'s Type	Wattage	Electrical	EACH
825-7115	SA-8-15-115-3W	15 Watts	115V 50/60 Hz	29.98
825-7120	SA-8-20-115-3W	20 Watts	115V 50/60 Hz	32.18
825-7125	SA-8-25-115-3W	25 Watts	115V 50/60 Hz	32.18

Soldering Stations and Irons

SA-10 E. Series Tri-Temperature Soldering Stations

Meets All DOD STD-2000-1B/WS6536E Requirements

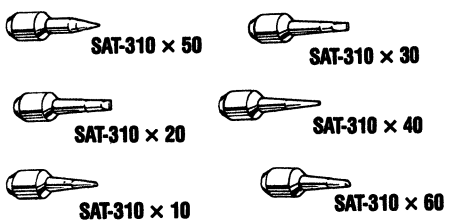


SA-10-115

The SA-10-E is a temperature controlled tri-temperature soldering station designed to meet the rigid performance specifications of DOD-STD-2000-1B and WS6536E. An ideal production unit, the SA-10-E has a rotary switch used to change temperature settings. The set temperature corresponds with one of three color-coded lighted displays and can easily be viewed by production supervisors from a distance. The SA-10-E offers EDS safe or standard housings as well as a choice of three different iron wattages. CMOS safe.

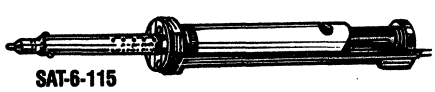
Stock No.	Mfr.'s Type	Description	EACH
825-7251	SA-10-E-115	ESD safe 48W iron	203.50

Xtra Long Life Tips For SA-3, SA-3-30, SA-3-60, SA-10, SA-10-30 and SA-10-60



Stock No	Mfr.'s Type	Description	EACH
825-7225	SAT-310 × 10	1/64" (0.4mm)	4.79
825-7230	SAT-310 × 20	1/16" (1.6mm)	4.79
825-7235	SAT-310 × 30	5/64" (2.0mm)	4.79
825-7240	SAT-310 × 40	1/32" (0.8mm)	4.79
825-7245	SAT-310 × 50	1/32" (0.8mm)	4.79
825-7250	SAT-310 × 60	3/64" (1.2mm)	4.79

Desoldering Iron

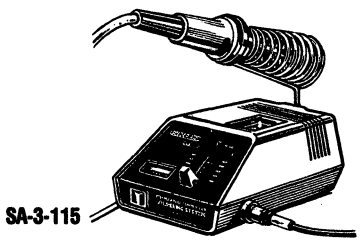


SAT-6-115

Model SA-6-115. Electric desoldering iron combines the ease and profitability of a hand-held, manual desolder pump, with performance of an industrial desolder station. AC powered tool with one-hand desoldering eliminates the need for separate soldering iron and desolder pump. No shop air required. Vacuum chamber is easily removed for cleaning or replacement. **Input Voltage:** 115VAC 50/60 Hz. Supplied with SAT-6-059 tip. **Replacement tips:** SAT-6-059, .059" (1.5mm) diameter; SAT-6-070, .070" (1.77 mm) diameter.

Stock No.	Mfr.'s Type	EACH
827-6115	SA-6-115	30.80
827-6059	SAT-6-059	5.61
827-6070	SAT-6-070	5.45

SA-3 Series Variable Temperature Soldering Stations



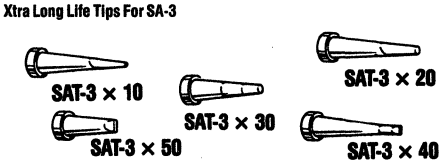
SA-3-115

The variable temperature SA-3 Series soldering stations provide a wide range of temperature settings to address a variety of soldering applications. A special tip mounted sensor and sophisticated control circuitry ensure fast response and exceptional stability over the broad range of 210° to 930°F (SA-3-30 210° to 850°F).

- Variable temperature adjustment from 210° to 930°F
- Type K thermocouple sensing provides accurate temperature control
- Meter indicates temperature at tip
- 24 volt, low leakage irons for operator and component safety
- Lighted power and heater indicators
- No burn silicone rubber soldering iron cord
- Modular design for easy repair.

825-7130. SA-3-115 ..... EACH 144.23

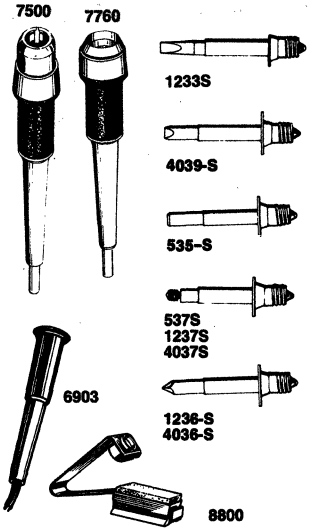
Xtra Long Life Tips For SA-3



Stock No.	Mfr.'s Type	Description	Dimensions	EACH
825-7200	SAT-3 × 10	Conical	1/64" (0.4mm)	4.79
825-7205	SAT-3 × 20	Conical	1/32" (0.8mm)	4.79
825-7210	SAT-3 × 30	Double Flat	1/32" (0.8mm)	4.79
825-7215	SAT-3 × 40	Double Flat	3/64" (1.2mm)	4.79
825-7220	SAT-3 × 50	Double Flat	1/16" (1.6mm)	4.79

14

Handles



Model 7500 Grounded 3-Wire Handle

The handle, when assembled with the S or HP Series heaters, is completely grounded from tip to plug and eliminates electrostatic tip potential. A unique, spring-loaded ground plate reflects heat away from the operator's hand. For use only with S or HP heaters.

972-8750. 1-9 ..... EACH 22.20
10-49 ..... EACH 20.50
50-Up ..... EACH 19.03

Princess Handle

Type 6903. Slim handle, molded of heat-resistant material in cool pastel turquoise. Perfectly balanced, with molded grip. 3-wire flexible cord and plug. Heat capsules thread into handle.

972-6903. 1-9 ..... EACH 26.70
10-49 ..... EACH 24.65
50-Up ..... EACH 22.89

Model 7760 Cool Grip Handle

Convection-cooled, molded grip for "clean room" use. Octagonal handle prevents rolling. Stainless steel heat reflector. Accepts all Standard Line heaters and integral heaters/tips, including the S and HP series. Red.

972-8776.1-9 ..... EACH 10.80
10-49 ..... EACH 10.00
50-Up ..... EACH 9.29

Type 100 Tip Adapter may be used with heater 537-S, 1237-S and 4037-S. See below.

Type 8800 Soldering Iron Holder. Holds most irons with 5/16" to 7/16" dia. heater cases. Tip sponge, tray. Non-skid. Not for Princess or ceramic type heaters.

972-8800 ..... EACH 23.60

Pyramid Tip. Type 1236-S: long life iron, silver plated; 3.50" L, .365" D, .015" point. Type 4036-S: tellirium copper, iron clad, silver plated: 3.60"L, .365"D, .031" point.

Stock No.	Mfr.'s Type	Temp. °F	W	EACH
972-8132	1236-S	900	33	17.40
972-8133	4036-S	1100	45	21.40

Interchangeable Heaters

1/8" Heaters for Thread-in Tips. Type 535-S: 3.25"L, .365"D. 1235-S: 3.50"L, .365"D. 4035-S: 3.50"L, .365"D.
3/16" Heater for Thread-in Tips. 4045-S: 3.50"L, .365"D. **1/4" Heater for Thread-on Tips.** 537-S: 3.15"L, .365"D. 1237-S: 3.40"L, .365"D. 4037-S: 3.50"L, .365"D.
Large Taper Chisel. Tellirium copper tip. Type 1233-S: 3.65"L, .365"D, .200" point. Type 4033-S: iron-clad silver plated tip; 3.92"L, .365"D, .200" point.
Short Taper Chisel. Tellirium copper tip. Type4039-S: iron-clad silver plated, 3.60"L, .365"D.

Stock No.	Mfr.'s Type	Temp. °F	W	EACH
972-0535	535-S	700	23	14.90
972-1235	1235-S	800	33	14.90
972-4035	4035-S	900	45	16.80
972-5929	537-S	700	23	13.10
972-5930	1237-S	700	33	14.50
972-5933	4037-S	700	45	13.75
972-1233	1233-S	900	33	15.30
972-4033	4033-S	1000	45	20.60
972-4039	4039-S	1000	45	21.40

1/8" Princess Soldering Nibs

For Princess heat capsules and Standard Line heating units 535-S, 1235-S and 4035-S (above). Use Adapter 100 for heating units 537-S, 1237-S, 4037-S and all 3-wire irons. Princess Heat Capsules also accept Standard Line tiplets: PL-331, PL-332, PL-333, PL-338, PL-340 and 7155.

Stock No.	Mfr.'s Type	Description	Size, Inches			EACH		
			L.	Dia.	Tip	1-9	10-49	50-Up
972-6951	6951	Screwdriver	.60	1/8	.005	1.90	1.79	1.66
972-6960	6960	Pencil*	.62	.13	.015	3.70	3.42	3.18
972-6961	6961	Screwdriver*	.62	.13	.060	3.70	3.42	3.18
972-6962	6962	Spade*	.62	.13	.080	3.70	3.42	3.18
972-6963	6963	Precision*	.61	1/8	.010	6.10	5.62	5.22

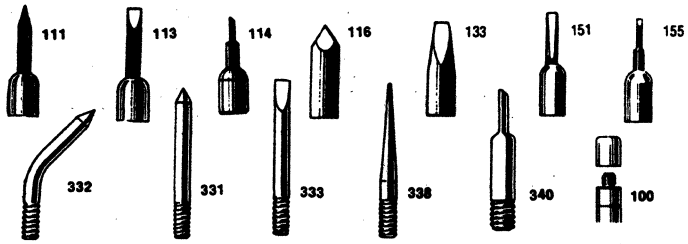
*Iron-clad silver-plated; all others plain copper.

Desoldering Bulb

Model 7805. This de-soldering vacu-bulb picks up solder easily, with a Teflon tip. Leaves work area spotless, is safe and fast! A must on any workbench!

972-5806. 1-9 ..... EACH 6.30
10-49. ..... EACH 5.76
50-Up. ..... EACH 5.25

Standard Line Tips

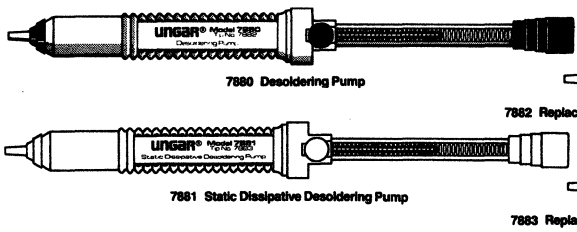


1/4" tips are thread-on; 1/8" and 3/16" are thread-in. Fit Standard Line heaters (above) or Princess heat capsules (below). Use type 100 Adapter for installation of 1/8" thread-in tiplet into thread-on heater. "PL" prefix tips are iron-clad tellurium copper, silver plated; others are unplated copper alloy.

Stock No.	Mfr.'s Type	Size	Description	Length × Dia.	EACH		
					1-9	10-49	50-Up
972-8100	PL-111	1/4"	Pencil	11/16 × 1/8"	4.00	3.66	3.40
972-8111	111	1/4"	Pencil	11/16 × 1/8"	2.10	1.95	1.81
972-8112	PL-113	1/4"	Chisel	11/16 × 1/8"	4.00	3.66	3.40
972-8114	PL-114	1/4"	Micro Spade	7/16 × .050"	4.00	3.66	3.40
972-8115	PL-133	1/4"	Taper Chisel	11/16 × 1/8"	4.50	4.15	3.86
972-8116	PL-151	1/4"	Screwdriver	11/16 × 1/8"	4.10	3.73	3.47
972-8117	PL-155	1/4"	Stepped Chisel	11/16 × 1/16"	4.10	3.73	3.47
972-8001	PL-116	1/4"	Pyramid	1 × 5/16"	4.60	4.22	3.92
972-8118	PL-331	1/8"	Pencil	3/4 × 1/8"	3.20	2.93	2.71
972-8119	331	1/8"	Pencil	3/4 × 1/8"	1.80	1.63	1.52
972-8127	PL-332	1/8"	Offset Pencil	5/8 × 1/8"	3.20	2.93	2.72
972-8120	PL-333	1/8"	Chisel	3/4 × 1/8"	3.20	2.93	2.72
972-8121	333	1/8"	Chisel	3/4 × 1/8"	1.80	1.63	1.52
972-8002	PL-338	1/8"	Taper Needle	1 1/8 × 1/8"	3.20	2.93	2.72
972-8122	PL-340	1/8"	Micro Spade	9/16 × 1/16"	3.20	2.93	2.72
972-8123	7155	1/8"	Chisel	3/4 × 1/16"	3.30	3.09	2.87

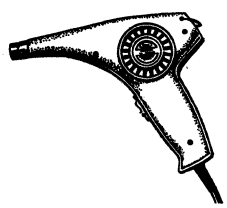
Type 100 Thread-On Adapter. Adapts 1/8" thread-in tiplet to Standard Line 1/4" thread-on heater.
972-0100. 1-9 ..... EACH 2.20
10-49 ..... EACH 2.03 50-Up ..... EACH 1.88
Type 8001 Anti-Seize. Lubricant for metals operating at high temperatures. Reduces tip thread seizure. 1/2 oz. tube.
972-8802. 1-9 ..... EACH 3.90
10-49 ..... EACH 3.60 50-Up ..... EACH 3.33

Desoldering Pumps and Replacement Tips



Stock No.	Mfr.'s Type	Description	EACH
972-7880	7880	Desolder. Pump	15.60
972-7881	7881	AS Desolder. Pump	21.30
972-7882	7882	Tip for 7880	2.90
972-7883	7883	Tip for 7881	4.90

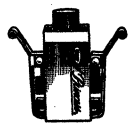
6966C Heat Gun



Ruggedly constructed, yet weighing only 13 oz., the 6966C is comfortable to the grip, easy to use, and the handle remains cool to the touch even after extended use. There is a convenient 3-way switch at the trigger position. A 3/8" air stream from the nozzle directs the heat to the exact area desired. Air flow temperature at the nozzle reaches approximately 750°F to 800°F in seconds. A 6 ft. 3-wire cord assures maximum operational flexibility. **Specifications:** Temperature 750°-800°F, 120 volts AC, 3-wire grounded plug, 6 foot cord. Includes heat gun, 6 foot cord, suspension ring, and shrink tubing reflectors, reducing baffle, precision reflector. **6965A Heat Gun Stand.** This optional accessory holds the gun within reach for immediate use and positions the gun for hands-off operation.

972-6966. Model 6966C. 1-9 ..... EACH 114.20
10-49 ..... EACH 99.08
972-6965. Type 6965A Heat Gun Stand. 1-9 ..... EACH 14.06
10-49 ..... EACH 13.00

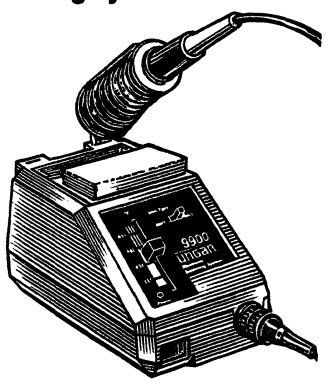
Integrated Circuit Extractors



► **Spring-Loaded Action**
► **Removes Component at Precise Moment of Solder Melt**
Type 6982 Dual In-Line IC Extractor. Locks on fast, automatically releases up to 16-pin dual in-line IC at precise moment of solder melt. Use with type 6948 desoldering tip (at left) for best results.

Stock No.	Mfr.'s Type	For	EACH		
			1-9	10-49	50-Up
972-6982	6982	DIP	9.10	8.39	7.79

9900 Series Soldering Systems



Temperature is electronically controlled with a closed loop feedback circuit. This circuit induces transient spikes of less than 2 mV. This makes the 9900AS ideal for soldering CMOS and other voltage sensitive devices. Three interchangeable soldering irons fitted with quick lock plugs make tailoring to specific job requirements easy. Available irons include the 9911AS micro-size iron for fine work, the 9921AS macro-size iron for standard work and the 9931AS high capacity iron (macro in size) with the capacity to handle thick multi-layer boards, heavy ground planes and other tough tasks. The temperature is variable from 450°F to 850°F. An optional temperature control lock allows the temperature controller to be locked at a specific temperature. The conductive case has a surface resistivity of $< 10^5$ ohms/□. The anti-static handles have a surface resistivity of 10^6 ohms/□. Power Base and irons sold separately.

Stock No.	Mfr.'s Type	Description	EACH
972-9900	9900AS	Anti-static Power Base only	150.30
972-9911	9911AS	Micro-size iron—anti-static	80.70
972-9931	9931AS	High capacity iron—anti-static	80.70

Electric Soldering System 9000

The temperature-controlled System 9000 is the no-compromise choice for soldering CMOS and other sensitive electronic components. Lightweight micro-size handle soldering iron with Ungar's Thermo-Duric heating element operates at 24 volts for superior temperature control. The ruggedly constructed control unit houses a sophisticated electronic system which automatically regulates the temperature of the soldering iron to within ± 10°F through an adjustable 20-step range of 420°F to 800°F. Easily calibrated at the work station, the operating temperature of the soldering iron is displayed on the bright LED bar graph which can be seen several feet away. Switching is done electronically with a zero crossover network which reduces transient spikes to less than 60 mV. Long-life, iron-clad, chrome-plated tips provide maximum heat transfer between heating element and tip, as well as optimum control response to variations in tip load. And the tips are fully grounded. The control unit may be used in the base with the sponge and spare tip tray, or mounted separately at a work station. Also, the iron holder is reversible for right-handed or left-handed operators. **SPECIFICATIONS:** 120 V input, 2.0 amps 24 V soldering iron with heat-resistant cord, three-wire grounded tip. **Dimensions:** 6 × 5.9 × 7.6″. **Weight:** 5 lbs. Includes system module, base, micro-size handle with Ungar's Thermo-Duric heater, 1/16″ screwdriver tip (9012), tip tray with sponge, iron holder, and operating instructions.

972-9000. Type 9000. **1-9** ..... **EACH 291.70**
10-49 ..... **EACH 269.23** **50-Up** ..... **EACH 250.00**

Replacement Tips For 9000 And 9375

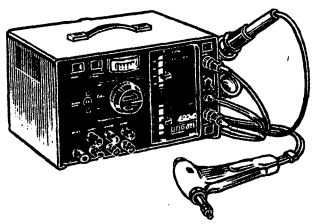
Stock No.	Mfr.'s Type	Description	EACH		
			1-9	10-49	50-Up
972-9010	9010	.005 Precision Point, .78*	7.20	6.68	6.20
972-9050	9050	.02 Conical, .85*	7.20	6.68	6.20
972-9017	9017	.03 Screwdriver, .60*	7.20	6.68	6.20
972-9011	9011	.03 Spade, .71*	7.20	6.68	6.20
972-9012	9012	.06 Screwdriver, .62*	7.20	6.68	6.20
972-9016	9016	.09 Screwdriver, .55*	7.20	6.68	6.20
972-0091	455	Sponge Replacement	2.30	2.11	1.96

* Exposed working length

Desoldering/Rework Stations

Model 4924

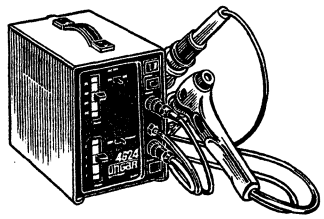
Self-contained service center handles virtually all repair and rework applications. Temperature is controlled for either of two desoldering handles and any one of four quick-connect 24 VAC soldering irons. Desoldering vacuum may be switched to positive air flow for heat gun applications. A power supply with three voltage ranges permits the use of a broad range of tools. The machine center can be powered continuously or by means of a foot pedal. **SPECIFICATIONS:** 500°F-1000°F Desoldering mode. 450°F-850°F Soldering mode. 3-wire grounded, 120 V input, 60 Hz. **Dimensions:** 6.66″H × 10.6″W × 7.5″D. **Net Weight:** 11.9 lbs. Soldering Mode meets following Military Specifications: DOD-STD-2000-1B, MS-6536E, MIL-S-45743E.



972-9424. Model 4924 ..... **EACH 1191.20**

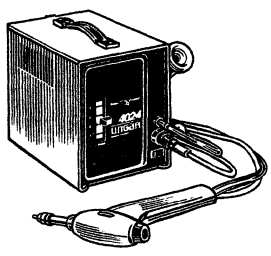
Model 4624

Self-contained desoldering system operates either pencil or pistol-grip style handles for electronic repair, rework or modification. Selector switch allows unit to control any one of four 24 VAC quick-connect soldering irons. Heat-up and vacuum response is rapid for increased production. **SPECIFICATIONS:** 500°F-1000°F Desoldering Mode. 450°F-850°F Soldering Mode. 3-wire grounded, 120 V input, 60 Hz. **Dimensions:** 6.66″ H × 5.12″ W × 7.50″D. **Net Weight:** 6.9 lbs. Soldering Mode meets following Military Specifications: DOD-STD-2000-1B, WS-6536E, MIL-S-45743E.



972-4624. Model 4624 ..... **EACH 840.70**

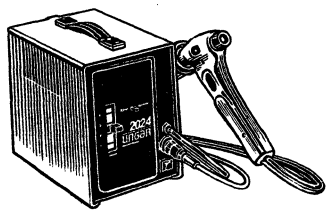
Model 4024



Variable temperature, electronically controlled desoldering system is a totally self-contained unit with a diaphram type pump.
Operates pencil or pistol-style desoldering handle. Selector switch allows unit to control any one of four quick-connect soldering irons. **SPECIFICATIONS:** 500°F-1000°F Desoldering Mode. 450°F-850°F Soldering Mode. 3-wire grounded, 120 V input, 60 Hz. **Dimensions:** 6.66″ H × 5.12″ W × 7.50″ D. **Net Weight:** 6.6 lbs. Soldering Mode meets following Military Specifications: DOD-STD-2000-1B, WS-6536E, MIL-S-45743E.

972-4024. Model 4024 ..... **EACH 564.00**

Model 2024

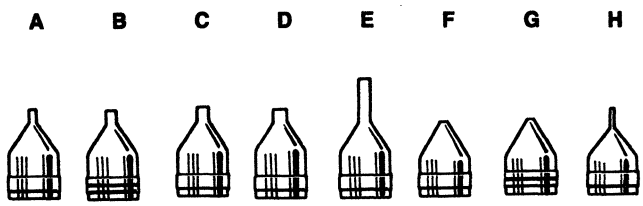


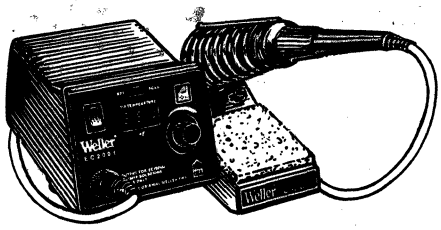
Desoldering system utilizes shop air to activate either pencil or pistol-grip style handle for electronic repair, rework or modification. Selector switch allows unit to control any one of four 24 VAC quick-connect soldering irons. Heat-up and vacuum response is rapid for increased production. **Specifications:** 500°F-1000°F Desoldering Mode. 450°F-850°F Soldering Mode. 3-wire grounded, 120 V input, 60 Hz. **Dimensions:** 6.66″ H × 5.12″ W × 7.50″ D. **Net Weight:** 6.3 lbs. Soldering Mode meets following Military Specifications: DOD-STD-2000-1B, WS-6536E, MIL-S-45743E.

972-2024. Model 2024 ..... **EACH 564.00**

Tips For Above Desoldering Stations

Stock No.	Mfr.'s Type	Fig.	Inside Dia.	Outside Dia.	Depth	Length	EACH
972-2005	2005	A	.032	.060	.16	.72	9.50
972-2006	2006	B	.040	.080	.16	.72	9.50
972-2007	2007	C	.062	.100	.12	.75	9.50
972-2008	2008	D	.089	.120	.12	.75	9.50
972-2009	2009	E	.062	.100	.37	1.00	9.50
972-2010	2010	F	.032	.060	.075	.64	9.50
972-2011	2011	G	.040	.080	.075	.64	9.50
972-2012	2012	H	.020	.040	.16	.72	9.50





ESD Precision Electrostatic-Free Soldering Stations

These electrostatic free soldering stations eliminate stored static charges by grounding the station's housing and hand piece with a separate flexible conductor. You get a higher standard of hand soldering safety with the U.L. approved safety features of these ESD units. All stations meet MIL-spec DOD-STD-2000-1. For detailed descriptions of EC Series Stations see facing page.

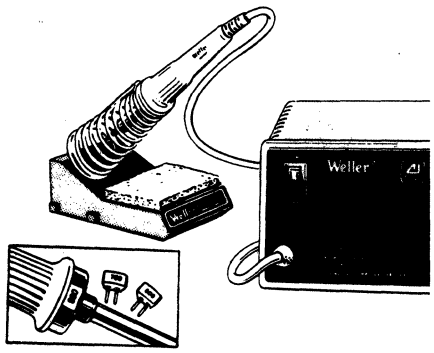
Stock No.	Mfr.'s Type	Description	EACH
984-9920	EC1001ESD	Complete station, °F/60W/Static free	229.41
984-9921	EC2001ESD	Complete station, °F/60W/Static free (LED display)	312.72
984-9922	EC3001ESD	Complete station, °F/25W/Static free	229.41
984-9923	EC4001ESD	Complete station, °F/25W/Static free (LED display)	312.72

Thermolock™ Soldering Station

Get precise temperature control of the iron tip by simply inserting a speciffically marked key into the handpiece. Each key is precisely calibrated and laser trimmed to deliver tip temperature to within 10°F. To change temperature control, insert another calibrated key of the required temperature rating. Zero voltage circuit, driving a solid state thyristor, eliminates switching transients on the iron tip. All models have lightweight high impact handle design with tapered, self locking replaceable tips that enhance response time.

Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-9924	WTLE	THERMOLOCK precision soldering station — 120V/60W/60 Hz	156.86	140.00	124.13
984-9925	WTL24*	Standard THERMOLOCK precision soldering iron — 24V/42W/60 Hz*	101.17	96.87	80.57
984-9926	WTL120*	Standard THERMOLOCK precision soldering iron — 120V/42W/60 Hz*	83.33	74.85	66.38

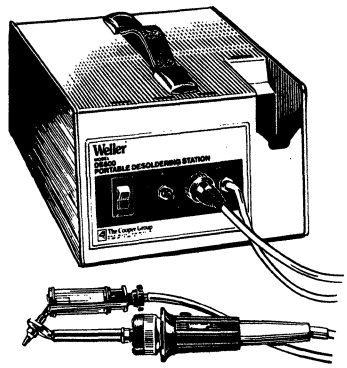
* With ETA soldering tip and temperature key TLA7.



WTLE, WTL24, WTL120

Temperature Keys

Stock No.	Mfr.'s Type	Color Code	Temp. °F	For Soldering Tip Style	EACH		
					1-11	12-47	48-Up
984-9927	TLA6	Blue	600	ETA, ETB, ETC, ETD, ETH, ETP, ETCC, ETDD	4.88	4.38	3.88
984-9928	TLA7	Blue	700	ETA, ETB, ETC, ETD, ETH, ETP, ETCC, ETDD	4.88	4.38	3.88
984-9929	TLA8	Blue	800	ETA, ETB, ETC, ETD, ETH, ETP, ETCC, ETDD	4.88	4.38	3.88
984-9930	TLB6	Red	600	ETO, ETS, ETK	4.88	4.38	3.88
984-9931	TLB7	Red	700	ETO, ETS, ETK	4.88	4.38	3.88
984-9932	TLB8	Red	800	ETO, ETS, ETK	4.88	4.38	3.88
984-9933	TLC6	Black	600	ETL, ETM, ETR	4.88	4.38	3.88
984-9934	TLC7	Black	700	ETL, ETM, ETR	4.88	4.38	3.88
984-9935	TLC8	Black	800	ETL, ETM, ETR	4.88	4.38	3.88



DS600 Portable Desoldering Station

This self-contained system requires a 120 volt 60 Hz AC power source for operation. The desoldering operation is controlled with a pushbutton to regulate the vacuum pulse. The pushbutton, built into the handle of the iron, allows either left or right-handed operation. The desoldering head design is provided with positive sealing to prevent vacuum loss. The desoldering head is temperature controlled to 700°F (371°C) by the reliable 'Magnastat' closed loop temperature control system. The desoldering iron heating element and pushbutton control circuit are electrically isolated from the 120VAC power supply through a 120/24 volt step-down transformer. A 24 volt signal from the pushbutton activates a photo-isolator circuit which turns the 120 volt compressor motor on and off. Prevents voltage spikes from the motor or pushbutton reaching the desoldering iron tip. The desoldering iron tip is grounded to prevent damage to voltage sensitive components with DS110T tiplet.

984-0600. Model DS600 ..... **EACH 624.73**

Accessories

Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-0601	DS601P	Desoldering iron w/700°F head	152.96	137.39	121.81
984-0103	DS103	Collector tube w/gasket and filter	6.53	5.87	5.20
984-0106	DS106	Sponges	1.57	1.41	1.25

14

SMT Desoldering Accessories

CSF tips for surface mounted devices make quick work of flat or quad-pack desoldering without the risk of damaging leads on the circuit board. A temperature controlled frame spontaneously melts the solder of all connected leads. Then, the component is gently lifted when the vacuum switch is activated.

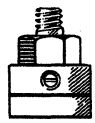
CSF-D1

CSF-D2

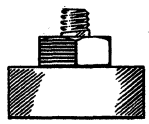
CSF-D3

Threaded Mount. To be used with DS100, DS500, DS600 Desoldering Stations.

Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-9936	CSF-D1	Tip for 5.2mm × 10.0mm size chip	63.79	57.30	50.81
984-9937	CSF-D2	Tip for 5.8mm × 10.5mm size chip	63.79	57.30	50.81
984-9938	CSF-D3	Tip for 6.7mm × 10.0mm size chip	63.79	57.30	50.81
984-9939	CSF-D4	Tip for 11.0mm × 26.5mm size chip	63.79	57.30	50.81
984-9940	CSF-D5	Tip for 10.0mm × 16.0mm size chip	63.79	57.30	50.81
984-9941	CSF-Q1	Tip for 17.0mm × 17.0mm size chip	69.66	62.57	55.47
984-9942	CSF-Q2	Tip for 17.0mm × 23.0mm size chip	78.29	70.29	62.32



CSF-D5

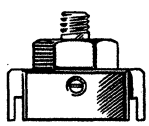


CSF-D4

Tapered Mount. To be used with DS1000, DS2000, DS700M Desoldering Stations.

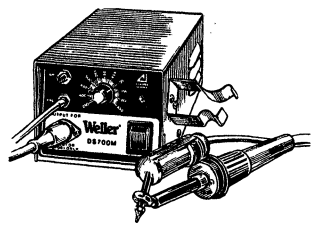
984-9943	CSF-D1-T	Tip for 5.2mm × 10.0mm size chip	63.79	57.30	50.81
984-9944	CSF-D2-T	Tip for 5.8mm × 10.5mm size chip	63.79	57.30	50.81
984-9945	CSF-D3-T	Tip for 6.7mm × 10.0mm size chip	63.79	57.30	50.81
984-9946	CSF-D4-T	Tip for 11.0mm × 26.5mm size chip	63.79	57.30	50.81
984-9947	CSF-D5-T	Tip for 10.0mm × 16.0mm size chip	63.79	57.30	50.81
984-9948	CSF-Q1-T	Tip for 17.0mm × 17.0mm size chip	78.26	70.29	62.32
984-9949	CSF-Q2-T	Tip for 17.0mm × 23.0mm size chip	78.26	70.29	62.32

CSF-Q1



CSF-Q2

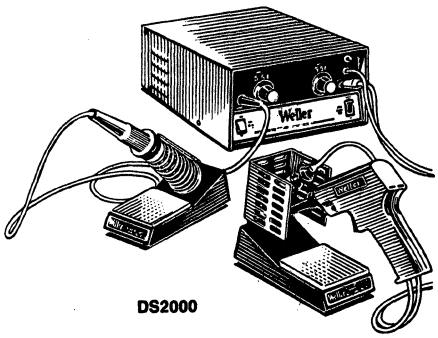
DS700M Miniature Desoldering Station



- Lightweight, Compact, Reliable, Portable
- LED Signal Display
- Interchangeable, Self-Sealing, Tapered Tiplets
- U.L. Approved Transformer

The DS700M is a lightweight, compact, reliable, portable desoldering station that fits in tight spaces. It's ideal for all your sensitive work. And it provides a full range of convenience features especially for the electronics workplace, from finger tip control to the LED indicator signal that flashes when the calibrated temperature is reached. The accuracy is ± 10°F control in a range of 350° to 850°F. Eight self-sealing tapered tiplets, in eight sizes, deliver good heat transfer. They interchange without recalibration of the power unit.

984-6000. Model DS700M.....**EACH 767.90**



DS2000

DS2000 Elecronically Controlled Soldering/Desoldering Station

This fully electronic, complete soldering/desoldering station utilizes high precision electronic systems to control soldering and desoldering tip temperatures. Digital temperature setting and readout for both soldering and desoldering. Tools use precision platinum sensors and can be unplugged and replaced without affecting accuracy of the station. Fast, noise-free temperature control and dynamic response. Zero crossing or optically isolated electronic circuitry is used throughout the unit. Detects proper air flow in the desoldering intake line. Station indicates tiplet restriction or low vacuum when flow is not within acceptable limits. Allows you to create a vacuum with internal vacuum pump or external shop air. Supplied with soldering tool EC1201P and pistol grip desoldering tool. 120V, 165W, 60Hz.

984Q6010. Model DS2000.....**EACH 1613.15**

984Q6015. Model DS100. Desoldering Station.....**EACH 1105.69**

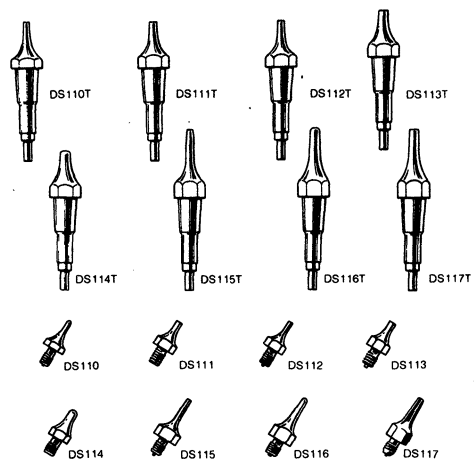
Replacement Iron and Tips

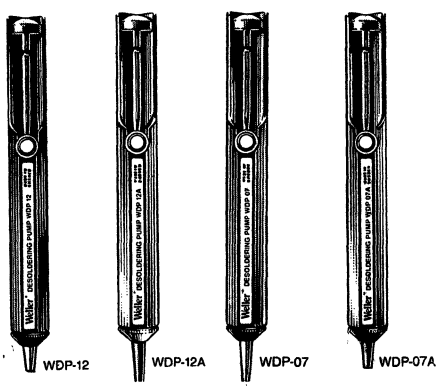
Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-24	48-Up
984-1201	EC1201P	Soldering iron	75.85	68.13	60.41
984-0210	ETA	1/16" tip-screwdriver	4.36	3.92	3.47
984-0222	ETB	3/32" tip-screwdriver	4.36	3.92	3.47
984-0300	ETC	1/8" tip-screwdriver	4.36	3.92	3.47
984-0301	ETD	3/16" tip-screwdriver	4.36	3.92	3.47
984-0302	ETH	1/32" tip-screwdriver	4.36	3.92	3.47
984-0303	ETK	3/64" tip-long screwdriver	4.36	3.92	3.47
984-0304	ETL	5/64" tip-long screwdriver	4.36	3.92	3.47
984-0305	ETM	1/32" tip-long screwdriver	4.36	3.92	3.47
984-0306	ETO	1/32" tip-long conical	4.36	3.92	3.47
984-0232	ETP	1/32" tip-conical	4.36	3.92	3.47
984-0307	ETR	1/16" tip-narrow screwdriver	4.36	3.92	3.47
984-0308	ETS	1/64" tip-long conical	4.36	3.92	3.47
984-0309	ETCC	1/8" tip-single flat	4.36	3.92	3.47
984-0310	ETDD	3/16" tip-single flat	4.36	3.92	3.47

Replacement Desoldering Tiplets

- For Models DS600, DS700M, DS2000

Stock No.	Mfr.'s Type	O.D. "A"	I.D. "B"	Length "C"	EACH		
					1-11	12-47	48-Up
984-0010	DS110T	.060"	.025"	1/2"	10.19	9.15	8.11
984-0011	DS111T	.090"	.025"	1/2"	10.19	9.15	8.11
984-0012	DS112T	.076"	.036"	1/2"	10.19	9.15	8.11
984-0013	DS113T	.098"	.046"	1/2"	10.19	9.15	8.11
984-0014	DS114T	.125"	.071"	1/2"	10.19	9.15	8.11
984-0015	DS115T	.060"	.025"	3/4"	10.19	9.15	8.11
984-0016	DS116T	.098"	.045"	3/4"	10.19	9.15	8.11
984-0017	DS117T	.090"	.025"	3/4"	10.19	9.15	8.11
984-1100	DS110	.060"	.025"	1/2"	10.19	9.15	8.11
984-1110	DS111	.090"	.025"	1/2"	10.19	9.15	8.11
984-1120	DS112	.076"	.036"	1/2"	10.19	9.15	8.11
984-1130	DS113	.098"	.046"	1/2"	10.19	9.15	8.11
984-1140	DS114	.125"	.071"	1/2"	10.19	9.15	8.11
984-1150	DS115	.060"	.025"	3/4"	10.19	9.15	8.11
984-1160	DS116	.098"	.045"	3/4"	10.19	9.15	8.11
984-1170	DS117	.090"	.025"	3/4"	10.19	9.15	8.11





Desoldering Pumps

Easy lightweight operation. Plunger seal spring creates strong suction. Screw-in tips ensure strong vacuum. Aluminum body withstands high temperatures.

Pumps

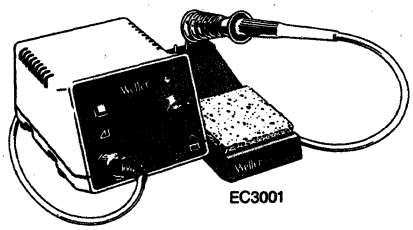
Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-24	48-Up
984-9950	WDP-07	Desoldering pump with .07" tip	15.20	13.64	12.09
984-9951	WDP-07A	Desoldering pump with .07" tip - antistatic	22.70	20.39	18.07
984-9952	WDP-12	Desoldering pump with .12" tip	15.18	13.64	12.09
984-9953	WDP-12A	Desoldering pump with .12" tip - antistatic	22.70	20.39	18.07

Replacement Tips

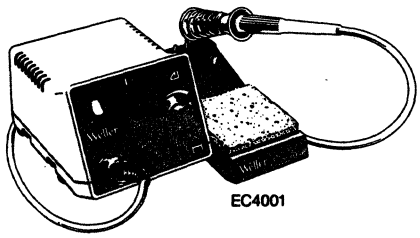
984-9954	WDT-07	Desoldering pump replacement tip - 0.7"	3.47	3.12	2.77
984-9955	WDT-07A	Desoldering pump replacement tip - .07" antistatic	5.93	5.33	4.72
984-9956	WDT-12	Desoldering pump replacement tip - .12"	3.47	3.12	2.77
984-9957	WDT-12A	Desoldering pump replacement tip - .12" antistatic	5.93	5.33	4.72

Soldering Equipment

Model EC4001. The EC4001 soldering station has three-digit LED readout for the temperature setting and the tip temperature (resolution and setability of 1°F or 1°C). All tip temperature readings are made by setting the selector switch to "read". The tip temperature (variable from 350°F to 850°F) remains at set point by feedback from the sensor in the tip. The operator controls, selects, and locks in all temperatures. A thyristor control is used to ensure against any high voltage spikes or magnetic fields on the soldering tip. A transformer isolates the EC power unit from the AC line; 24 VAC isolated voltage drives the heating element. 24 Watts. The irons are interchangeable on EC units and do not require recalibration. EPH101 tip is included.
984-4000. EC4001. **1-11** ..... **EACH 273.66**
12-47 ..... **EACH 245.81**

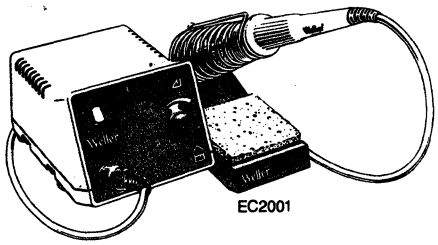

EC3001

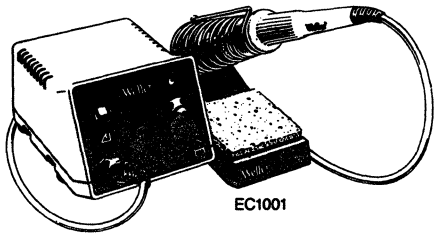
Model EC3001. The EC3001 features automatic response to soldering load variations, maintenance of the temperature selected (± 10°F), and a lighted on/off switch. This dial-controlled station is calibrated in 10°F (6°C) steps and provides accurate temperature control at all times. Standard tip EPH101 is included.
984-3000. EC3001. Without Digital Readout. **1-11** ..... **EACH 189.31**
12-47 ..... **EACH 170.04**


EC4001

Tips for EC3001 and EC4001

984-3201. EPH101. 1/64 × 7/16" Micropoint. **1-11**						**EACH**	**4.48**
12-47	**EACH**	**4.02**	**48-Up**			**EACH**	**3.36**
984-3202. EPH102. 1/32 × 7/16" Bent Conical. **1-11**						**EACH**	**4.48**
12-47	**EACH**	**4.02**	**48-Up**			**EACH**	**3.36**
984-3205. EPH105. 3/64 × 7/16" Singleflat. **1-11**						**EACH**	**4.48**
12-47	**EACH**	**4.02**	**48-Up**			**EACH**	**3.36**
984-3206. EPH106. 1/16 × 7/16" Screwdriver. **1-11**						**EACH**	**4.48**
12-47	**EACH**	**4.02**	**48-Up**			**EACH**	**3.36**
984-3202. EPH107. 1/64 × 7/16" Screwdriver. **1-11**						**EACH**	**4.48**
12-47	**EACH**	**4.02**	**48-Up**			**EACH**	**3.36**


EC2001


EC1001

Soldering Station with Digital Readout

Model EC2001. Temperatures are electronically controlled, selected and locked in by the operator. Temperature settings and readings are shown on a large three digit LED digital display. Continuously variable tip temperature from 350°F to 850°F. Positive temperature coefficient sensor inside tip provides temperature feedback to maintain tip temperature at set point. Zero crossing control of heater current to eliminate RFI/EMI and accurate time proportioning to reduce tip temperature hysteresis are features of the control circuit. Plug-in soldering irons with positive plug lock, ground tip, and room temperature compensation are interchangeable with all EC power units without recalibration of the temperature settings. Temperature adjusting control can be locked at any desired temperature. Power unit provided with extra large sponge, iron holder tip holding tray, solder drip shield, over current protection (circuit breaker) and lighted on/off switch. Instantaneous tip temperature readings are available by setting a selector switch to "read" position.
984-0200. EC2001. **1-11** ..... **EACH 252.95**
12-47 ..... **EACH 245.81**

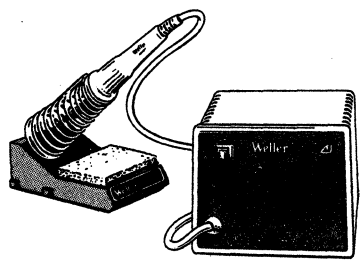
Model EC1001. Identical to EC2001 in all specifications except the LED digital temperature readout. The EC1001 is dial controlled.
984-0100. EC1001. **1-11** ..... **EACH 189.31**
12-47 ..... **EACH 170.04**

Tips for EC1001 and EC2001

984-0210. ETA. Tip 1/16" screwdriver. **1-11**						**EACH**	**4.36**
12-47	**EACH**	**3.92**	**48-Up**			**EACH**	**3.47**
984-0222. ETB. Tip 3/32" screwdriver. **1-11**						**EACH**	**4.36**
12-47	**EACH**	**3.92**	**48-Up**			**EACH**	**3.47**
984-0232. ETP. Tip 1/32" conical. **1-11**						**EACH**	**4.36**
12-47	**EACH**	**3.92**	**48-Up**			**EACH**	**3.47**

Controlled Output Station

- **Automatic Output and Temperature Control**
- **Lightweight Iron**
- **U.L. Listed**
- **Impact-Resistant Case**


WTCPS

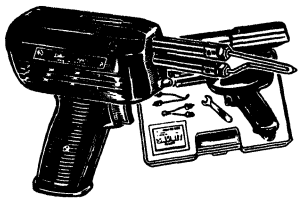
Model WTCPS. This closed-loop, low-voltage circuit automatically controls output and temperature in three ranges: 600°F (315°C), 700°F (371°C), and 800°F (427°C). The operator selects temperatures by changing grounded, heat-sensing tip with the knurled thumbscrew. This unit's lightweight iron has locking designs for interchangeability and a nonburnable silicone rubber cord. The power unit is in an impact-resistant case and has a unitized on/off rocker switch with indicator light, nonheat-sinking iron holder, storage tray for extra tips, and tip cleaning sponge. **Cord:** 3-wire 4.5 ft. (1.4 m) long. **Tip:** 1/16" (1.58 mm) screwdriver tip 700°F (371°C) PTA7 furnished. U.L. Listed. Features the TC201P iron and is safe for IC soldering.
984-2507. 1-11 ..... **EACH 132.90** **12-47** ..... **EACH 119.37**

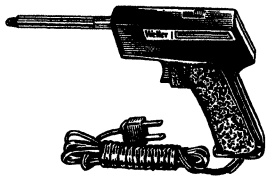
Replacement Tips for WTCPS Soldering Station

Stock No.	Mfr.'s Type	Description	Temp.	EACH 1-11	EACH 12-47	EACH 48-Up
984-1506	PTA6	1/16" Screwdriver	600°F	**4.64**	**4.17**	**3.70**
984-1906	PTC6	1/8" Screwdriver	600°F	**4.64**	**4.17**	**3.70**
984-1910	PTD6	3/16" Screwdriver	600°F	**4.64**	**4.17**	**3.70**
984-2106	PTH6	1/32" Screwdriver	600°F	**4.64**	**4.17**	**3.70**
984-2306	PTL6	5/64" Long Screwdriver	600°F	**4.64**	**4.17**	**3.70**
984-2345	PTM6	1/8" Long Screwdriver	600°F	**4.64**	**4.17**	**3.70**
984-1495	PTAA6	1/16" Single Flat	600°F	**4.64**	**4.17**	**3.70**
984-1706	PTCC6	1/8" Single Flat	600°F	**4.64**	**4.17**	**3.70**
984-1990	PTDD6	3/16" Single Flat	600°F	**4.64**	**4.17**	**3.70**
984-1507	PTA7	1/16" Screwdriver	700°F	**4.64**	**4.17**	**3.70**
984-1600	PTB7	3/32" Screwdriver	700°F	**4.64**	**4.17**	**3.70**
984-1907	PTC7	1/8" Screwdriver	700°F	**4.64**	**4.17**	**3.70**
984-2010	PTD7	3/16" Screwdriver	700°F	**4.64**	**4.17**	**3.70**
984-2107	PTH7	1/32" Screwdriver	700°F	**4.64**	**4.17**	**3.70**
984-2307	PTL7	5/64" Long Screwdriver	700°F	**4.64**	**4.17**	**3.70**

Stock No.	Mfr.'s Type	Description	Temp.	EACH 1-11	EACH 12-47	EACH 48-Up
984-2350	PTM7	1/8" Long Screwdriver	700°F	**4.64**	**4.17**	**3.70**
984-1500	PTAA7	1/16" Single Flat	700°F	**4.64**	**4.17**	**3.70**
984-1707	PTCC7	1/8" Single Flat	700°F	**4.64**	**4.17**	**3.70**
984-2000	PTDD7	3/16" Single Flat	700°F	**4.64**	**4.17**	**3.70**
984-2370	PTP7	1/32" Conical	700°F	**4.64**	**4.17**	**3.70**
984-2030	PTF7	1/32" Conical Flat	700°F	**4.64**	**4.17**	**3.70**
984-1508	PTA8	1/16" Screwdriver	800°F	**4.64**	**4.17**	**3.70**
984-1605	PTB8	3/32" Screwdriver	800°F	**4.64**	**4.17**	**3.70**
984-1908	PTC8	1/8" Screwdriver	800°F	**4.64**	**4.17**	**3.70**
984-1915	PTD8	3/16" Screwdriver	800°F	**4.64**	**4.17**	**3.70**
984-2108	PTH8	1/32" Screwdriver	800°F	**4.64**	**4.17**	**3.70**
984-2308	PTL8	5/64" Long Screwdriver	800°F	**4.64**	**4.17**	**3.70**
984-1505	PTAA8	1/16" Single Flat	800°F	**4.64**	**4.17**	**3.70**
984-1708	PTCC8	1/8" Single Flat	800°F	**4.64**	**4.17**	**3.70**
984-1995	PTDD8	3/16" Single Flat	800°F	**4.64**	**4.17**	**3.70**

Dual-Heat Soldering Guns





984R0551. D-550PK.1-11 ..... EACH 40.75
12-47 ..... EACH 39.24 **48-Up** ..... EACH 34.79
Model D550. Soldering Gun Alone. Wt. 3½ lbs.
984-0550. D550.**1-11** ..... EACH 37.54
12-47 ..... EACH 33.72 **48-Up** ..... EACH 29.90
Model 8200. Soldering Gun. All purpose 140/100 watts. Ready to solder in six seconds. High efficiency tip of pre-tinned copper. Light illuminates work. Soldering hints booklet included. U.L. listed.
984-8200. 1-11 ..... EACH 27.64
12-47 ..... EACH 24.83 **48-Up** ..... EACH 22.01

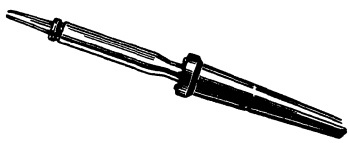
Replacement Tips for Above

Stock No.	Mfr.'s Type	For Models	PER PKG./2		
			1-11	12-47	48-Up
984-5901	7135	8200	3.14	2.82	2.50
984-5902	7250	D550	3.14	2.82	2.50

Replacement Parts
For maintaining Weller soldering guns. Switch. Av. shpg. Wt. 3 oz.

Stock No.	Mfr.'s Type	Use with Models	EACH		
			1-11	12-47	48-Up
984-7324	7324	Switch for all Dual-heat type Soldering Guns	6.96	6.26	5.55
984-7325	7325	Tip Nut	1.35	1.22	1.08

Soldering Irons with "Temperature Sensing" Tips



Model W60P 60-Watt Soldering Iron. Temperature-sensing device in tip automatically maintains correct soldering temperature. Does work of conventional 15 to 100-watt irons. Never overheats; saves current when idling. Reaches full heat quickly, gives rapid heat transfer. Much less tip redressing is required. Tips are easily removed and replaced by loosening tip nut. Only 2-½ oz. Length, 7-¼". 700°F. 1/16" screwdriver tip. 120VAC.
984-2515. Shpg. wt. 10 oz. **1-11** ..... EACH 50.78
12-47 ..... EACH 46.62 **48-Up** ..... EACH 40.45

Model W100PG 100-Watt Iron. As above, 100 watts. Does the work of 75 to 150-watt irons. Length, 8¼"; weighs only 3-½ oz. With 700°F, 3/8" screwdriver tip. For 120 volts, 60 Hz AC.
984-2520. Shpg. wt. 12 oz. **1-11** ..... EACH 52.86
12-47 ..... EACH 47.48 **48-Up** ..... EACH 42.09

Premium-Plated Replacement Tips for Above Irons
Series CT5 is for Model W60P iron; Series CT6 for W100PG iron.

Stock No.	Mfr.'s Type	Description	Temp.	EACH		
				1-11	12-47	48-Up
984-1001	CT5A6	1/16" Screwdriver	600°F	5.19	4.67	4.14
984-1002	CT5A7	1/16" Screwdriver	700°F	5.19	4.67	4.14
984-1003	CT5A8	1/16" Screwdriver	800°F	5.19	4.67	4.14
984-1004	CT5B6	3/32" Screwdriver	600°F	5.19	4.67	4.14
984-1005	CT5B7	3/32" Screwdriver	700°F	5.19	4.67	4.14
984-1006	CT5C7	1/8" Screwdriver	700°F	5.19	4.67	4.14
984-1009	CT5C8	1/8" Screwdriver	800°F	5.19	4.67	4.14
984-1011	CT5D7	3/16" Screwdriver	700°F	5.19	4.67	4.14
984-1012	CT5D8	3/16" Screwdriver	800°F	5.19	4.67	4.14
984-1015	CT6D7	3/16" Screwdriver	700°F	7.41	6.66	5.91

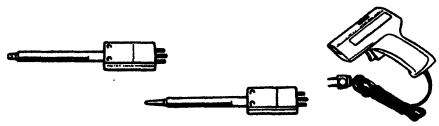
Replacement Heating Element

Stock No.	Mfr.'s Type	Description	Wt.	EACH		
				1-11	12-47	48-Up
984-0960	HE-60	For W-TCP pencil	2 oz.	16.68	14.99	13.29

Soldering Iron Stand

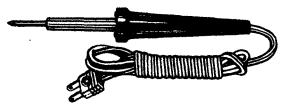
Model PH60. Designed especially for Model W60P pencil. Keeps iron conveniently and safely at your fingertips. Includes special sponge for cleaning tips. Shpg. wt. 2 lbs.
984-1306. 1-11 ..... EACH 15.25
12-47 ..... EACH 13.70 **48-Up** ..... EACH 12.14

Tempmatic® Soldering Gun



Model GT. Combines temperature-controlled operation with the convenience of a pistol-shaped, trigger-operated gun with small-frame pencil iron. Quick heating, patented powerhead gives control of maximum temperature for damage-free soldering. Requires #7A long-life 700°F, 3/16" chisel point powerhead or #6B, 600°F, 1/8" conical powerhead. Powerhead ejection button. 110-120V, 60 Hz AC.

Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-3700	GT	Solder Gun Body	19.46	17.48	15.49
984-0707	7A	700°F Powerhead	32.70	29.37	26.04
984-0706	6B	600°F Powerhead	32.70	29.37	26.04

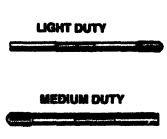


"Marksman" Soldering Iron

Model SP-23 Featherweight 25-Watt Pencil Iron. Features long-reach stainless steel barrel. Thin, nickel-plated removable tip. Excellent for detailed work. Develops 750°F. For 115VAC. Shpg. wt. 8 oz.
984-2423. 1-11 ..... EACH 9.92
12-47 ..... EACH 8.91 **48-Up** ..... EACH 7.90
Tips for SP23 (Card of Two).
984-2425. Type MT1. 1-11 ..... EACH 2.87
12-47 ..... EACH 2.58 **48-Up** ..... EACH 2.29
984-2427. Type MT3. 1-11 ..... EACH 2.87
12-47 ..... EACH 2.58 **48-Up** ..... EACH 2.29

Precision Knives

Light and medium-duty knives for the professional and hobbyist alike. Precision made for durable life. Interchangeable blades held firm in sure-locking four-jaw chuck. Stay sharp blades are made from surgical steel and honed for closest cutting and long-lasting edge.
Light and Medium Duty Knife Set. Complete with 10 assorted blades for a wide range of cutting operations.



984-1290. XNS-100. **1-11** ..... EACH 7.28
12-47 ..... EACH 6.54 **48-Up** ..... EACH 5.80
Type XN-100 Light Duty. For light-duty cutting on paper, soft and lightweight materials or wood.
984-1275. 1-11 ..... EACH 1.69
12-47 ..... EACH 1.52 **48-Up** ..... EACH 1.34
Type XN-200 Medium Duty. For heavy paper and medium density materials.
984-1278. 1-11 ..... EACH 2.59
12-47 ..... EACH 2.33 **48-Up** ..... EACH 2.06

Blades

Blades for XN-100

Stock No.	Mfr.'s Type	Fig.	Description	PER PKG./5		
				1-11	12-47	48-Up
984-1212	XNB-103	1	Fine Pointed	1.54	1.38	1.22
984-1215	XNB-101	2	Standard	2.19	1.97	1.74
984-1221	XNB-105	3	Stencil	1.54	1.38	1.22

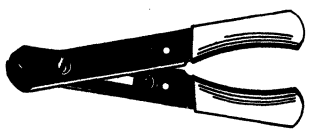
Blades for XN-200

984-1230	XNB-203	4	General purpose	2.42	2.18	1.93
984-1239	XNB-205	5	Pointed	1.54	1.38	1.22

Adjustable Wrenches

Thin-pattern design permits access where regular adjustable will not fit. Rugged construction, chrome-plated, polished heads, with quick one-hand adjustment and Cushion-Grip.

Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-0044	44CG	4" lgth., 1/2" opening	12.37	11.12	9.86
984-0046	46CG	6" lgth., 3/4" opening	11.96	10.74	9.52
984-0048	48CG	8" lgth., 15/16" opening	13.54	12.17	10.79



Wire Stripper and Cutter with Cushion Grip Handle Line Drawing

Type 100X has adjustable screw stop for different wire sizes. Cuts and strips both solid and stranded wire cleanly, neatly.

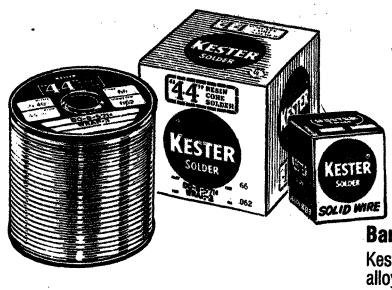
984-1000 ..... EACH 5.28

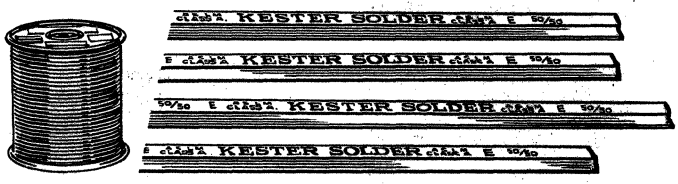
14

Solder

► For Faster Instant Action Soldering

Kester "44" Resin Core Solder is designed for electrical and electronic work. Its flux residue is completely non-corrosive and electrically non-conductive. It makes soldering faster than ever before and provides a stronger, longer lasting bond. Available on 1-lb., 4-lb. and 5-lb. spools in diameters of (.093) 3/32", (0.62) 1/16" and other diameters. Available in alloys (tin/lead) such as 40/60, 50/50, 60/40, etc.





"44"® Resin Core Solder

Stock No.	Spool Size	Tin/Lead Alloy	Core	Gauges	Dia. In.	EACH		
						1-10	11-24	25-Up
833-5040	1 lb.	40/60	#66	16	.062	9.63	8.95	8.34
833-5041	1 lb.	40/60	#66	13	.093	9.78	9.03	8.39
833-5042	5 lb.	40/60	#66	13	.093	52.47	48.72	45.47
833-5045	1 lb.	50/50	#66	16	.062	12.14	11.20	10.40
833-5046	5 lb.	50/50	#66	16	.062	54.30	51.60	46.15
833-5047	1 lb.	50/50	#66	13	.093	9.94	9.44	8.45
833-5060	1 lb.	60/40	#66	23	.025	13.60	12.92	11.56
833-5070	1 lb.	60/40	#66	21	.031	12.34	11.72	10.82
833-5081	4 lb.	60/40	#66	21	.031	49.12	46.64	41.76
833-5090	1 lb.	60/40	#66	19	.040	12.13	11.52	10.31
833-5100	1 lb.	60/40	#66	18	.050	11.92	11.32	10.13
833-5105	5 lb.	60/40	#66	18	.050	58.95	56.00	50.10
833-5110	1 lb.	60/40	#66	16	.062	12.82	11.84	10.99
833-5120	5 lb.	60/40	#66	16	.062	58.85	54.65	51.00
833-5125	1 lb.	60/40	#66	13	.093	11.18	10.62	9.50
833-5128	1 lb.	63/37	#66	23	.025	16.10	14.85	13.78
833-5130	1 lb.	63/37	#66	21	.031	13.64	12.96	11.60
833-5133	1 lb.	63/37	#66	19	.040	13.67	12.70	11.84
833-5135	1 lb.	63/37	#66	18	.050	13.12	12.46	11.15
833-5140	1 lb.	63/37	#66	16	.062	12.69	12.06	10.79

Bar Solder

Kester Bar Solder is available in all the high purity tin-lead alloys. The uniform distribution of tin-lead alloy in the bar provides for more efficient and easy application. Freedom from oxides is virtually assured.

Stock No.	Mfr.'s Type	Tin/Lead Alloy	Unit	EACH		
				1-10	11-24	25-Up
833-4995	04-3070-0000	30/70	1 lb. bar	7.07	6.72	6.01
833-4997	04-4060-0000	40/60	1 lb. bar	7.26	6.75	6.30
833-4998	04-5050-0000	50/50	1 lb. bar	8.51	8.08	7.23
833-5000	04-6040-0000	60/40	1 lb. bar	10.19	9.45	8.82
833-5010	04-6337-0000	63/37	1 lb. bar	10.93	10.15	9.50

Solid Wire Solder

Kester solid wire solders are the equal of the flux-core solders in purity, quality and fabrication, always uniform in diameter and alloy. Available in 1-lb. spools. Recommended for copper tubing, plumbing and crafts. **Gauge:** 16.

Stock No.	Mfr.'s Type	Spool Size	Tin/Lead Alloy	Dia.	EACH		
					1-10	11-24	25-Up
833-5150	14-4060-0125	1 lb.	40/60	.125	8.80	7.48	6.60
833-5155	16-4060-0125	5 lb.	40/60	.125	43.70	41.50	37.15
833-5160	14-5050-0125	1 lb.	50/50	.125	9.94	9.44	8.45
833-5165	16-5050-0125	5 lb.	50/50	.125	49.35	46.90	41.95

Solder Items

Lead Free Solder

This solid wire solder is lead free and the perfect answer for tough copper tubing, pipe and fitting jobs. Also for stainless steel utensils. **Alloy:** 95% tin/5% antimony. **Weight:** 1/4 lb.

833-5170. Type 82-5000-0025 ..... **EACH 5.49**

Sil-Strong Solder

Now a Flux-Cored silver bearing solder that eliminates the need for any external flux, a real cost saving in labor and material. "Sil-Strong" silver bearing solders are high strength solders for use in refrigeration, air conditioning, heating, plumbing and food service equipment. **Alloy:** 4% silver/96% tin. **Weight:** 1 lb.

833-5175. Type 24-7050-2437. 1-10 ..... **EACH 29.05**
11-24 ..... **EACH 27.60**
25-Up ..... **EACH 24.69**

Computer/Electronic Solder

Computer/Electronic solder with resin flux is designed for electronic soldering applications. The unique fluxing action combined with low melting solder alloy prevents heat damage to delicate components. **Alloy:** 60% tin/40% lead. **Weight:** 1 oz.

833-5180. Type 83-0000-5055 ..... **EACH 1.52**

Kester® Kwik-Draw®

Kester's Kwik-Draw package is handy-sized, yet hefty enough for use by the serious home handyman or repairman. With a resin flux core, the wire feeds easily from the handy dispenser. **Alloy:** 60% Tin/40% Lead "44" resin core.

833-5020 ..... **EACH 1.52**

Kester Pocket-Pak™

The Pocket-Pak is as easy to handle as a pen or pencil, and comes with an appropriate pocket clip. Ideal for repairs for the home and shop. **Alloy:** 60% Tin/40% Lead "44" resin core.

833-5030 ..... **EACH 1.12**

All Purpose Brushes

These 6-inch all-purpose brushes can be used for flux, paste, paint, grease, or any number of other uses. Available on carded packs of 3.

833-5185. Type 82-5000-0023 ..... **PER PKG./3 0.66**

Soldering Chemicals

Kester manufactures a wide variety of chemicals formulated to meet all manufacturing techniques, including highly specialized assembly procedures, such as automation and modular techniques.

Stock No.	Description	Size	EACH
833-1185	Type 197 RMA Flux	Qt.	10.00
833-1190	Type 197 RMA Flux	Gal.	26.94
833-1195	Type 108 Thinner for 197	Gal.	20.84
833-1200	Type 1544 RA Flux	Qt.	10.00
833-1201	Type 1544 RA Flux	Gal.	26.94
833-1202	Type 104 Thinner for 1544	Gal.	20.84
833-1205	Type 1587 RA Flux	Qt.	10.00
833-1210	Type 1587 RA Flux	Gal.	26.94
833-1215	Type 103 Thinner for 1587	Gal.	20.84
833-1220	Type 2331 Organic Flux	Qt.	10.32
833-1225	Type 2331 Organic Flux	Gal.	28.42
833-1230	Type 4662 Thinner for 2331	Gal.	20.84
833-1420	Type 5235 Flux Remover	Qt.	10.00
833-1425	Type 5235 Flux Remover	Gal.	26.95
833-1430	Type 5121 Vapor Degreasing Solvent	Qt.	10.32
833-1435	Type 5121 Vapor Degreasing Solvent	Gal.	28.84
833-1440	84-0000-1429 All Purpose Liquid Flux	4 oz.	1.63

Wire Core Solders With Rosin Flux

Multicore wire solders are uniquely manufactured with multiple, independent cores of high grade Ersin rosin Flux. Combination of 5 core construction, purity of metals and fluxing activity insures fast wetting even on partially oxidized surfaces. All alloys also available in solid wire solder.

Advantages of 5 Cores

► Ultra thin wall of solder between flux and heat source results in instant flux flow for rapid wetting . . . much more rapidly than possible with single cores.
► Soldering iron dwell time is minimized because of rapid surface preparation and wetting. Result, heat conduction and radiation are minimized.

► Eliminates flux voids common to single cores. Also, because of precision manufacturing controls required to achieve 5 cores, uniform flux to metal ratio is maintained as required by QQ-S-571e.

Standard Alloys. QPL. QQ-S-571e.

Stock No.	Mfr.'s Type/Gauge	Spool Size	Alloy Sn/Ph	Description/ Application**	PER SPOOL
801-4014	SN40/14	1 lb.	40/60	1	**10.10**
801-4016	SN40/16	1 lb.	40/60	1	**10.34**
801-4018	SN40/18	1 lb.	40/60	1	**10.98**
801-5014	SN50/14	1 lb.	50/50	1	**11.78**
801-5016	SN50/16	1 lb.	50/50	1	**12.02**
801-5018	SN50/18	1 lb.	50/50	1	**12.56**
801-6014	SN60/14*	1 lb.	60/40	1	**13.23**
801-6016	SN60/16*	1 lb.	60/40	1	**13.47**
801-6018	SN60/18*	1 lb.	60/40	1	**14.13**
801-6316	SN63/16†	1 lb.	63/37	1	**13.98**
801-6318	SN63/18†	1 lb.	63/37	1	**14.62**

Silver Alloys

Stock No.	Mfr.'s Type/Gauge	Spool Size	Alloy Sn/Ph	Description/ Application**	PER SPOOL
801-1016	HMP/16	1 lb.	5/93.5/1.5 (Ag)	2	**17.70**
801-1018	HMP/18	1 lb.	5/93.5/1.5 (Ag)	2	**18.27**
801-1022	HMP/22	1 lb.	5/93.5/1.5 (Ag)	2	**20.61**
801-1116	TLC/16	1 lb.	50/33/17 (Cd)	3	**21.84**
801-1118	TLC/18	1 lb.	50/33/17 (Cd)	3	**22.46**
801-1122	TLC/22	1 lb.	50/33/17 (Cd)	3	**24.88**
801-6216	SN62/16‡	1 lb.	62/36/2 (Ag)	4	**31.10**
801-6218	SN62/18‡	1 lb.	62/36/2 (Ag)	4	**31.55**
801-6220	SN62/20‡	1 lb.	62/36/2 (Ag)	4	**32.24**
801-9618	SN96/18	1 lb.	96/4 (Ag)	5	**41.30**
801-9622	SN96/22	1 lb.	96/4 (Ag)	5	**47.74**

*Also available in 19-24 SWG. †Also available in 20-22 SWG. ‡Also available in 21, 22, 24 gauges. ****Description/Application:** 1 = As listed manufactured with RA (rosin-activated) flux. Electronic and general purpose soldering. 2 = High melting point. RA flux. 3 = Low melting point. RA flux. 4 = Silver eutectic solder. RA flux. 5 = High strength, lead-free. RA flux. Stocked at Allied in 1 lb. spools. Also available from the factory in 5 lb. spools.

Gauge Table

Standard Wire Gauge	10	14	16	18	19	20	21	22	24	28	32	34
Decimal Inches	.128	.080	.064	.048	.040	.036	.032	.028	.022	.014	.0108	.009

Note: All SN60 and SN63 alloys are also available from stock with R (non-activated), RMA (mildly activated), X-32 (no-residue), Xersin 2000 (non-cleaning), Hydro-X (water soluble) and SA (solvent soluble) flux cores. Flux cores for other alloys on special order.

Soldering Fluxes

Rosin Base

Listed are most commonly used and advanced formulations for wave-soldering, with 38% solids (except PC 26). Also available (except PC 26) with 25% solids. In pint, quart or gallon containers. Residues are solvent soluble: need not be removed.

Stock No.	Mfr.'s Type	Type Base	Characteristic*	PER GALLON		
				1-4	5-9	10-25
801-0360	0360	R	Non-activated (MIL-F-14256)	**24.80**	**20.77**	**19.29**
801-4381	5381	RMA	Mildly-activated (MIL-F-14256)	**24.80**	**20.77**	**19.29**
801-6381	6381-15	RMA	Mildly-activated (MIL-F-14256) (Ideal for multilayers) 15% S	**26.80**	**22.77**	**21.15**
801-0366	366	RA	Activated(38% solids)	**26.80**	**22.77**	**21.15**
801-0026	PC26	RA	Activated (15% solids)	**22.80**	**18.77**	**17.43**

*Can be foam, wave, dip and spray applied except 0360 is not recommended for foam applications.

Flux Residue Removers Solvent

Stable, selective blends of organic, polar and non-polar solvents.

Stock No.	Mfr.'s Type	Application	PER GALLON		
			1-4	5-9	10-25
801-0080	PC80	Cold tank; ultrasonic-Rosin	**29.80**	**25.77**	**23.93**
801-0081	PC81	Vapor degreasing; cold tank-Rosin	**29.80**	**25.77**	**23.93**

Saponifier for Water Cleaning

Biodegradable for aqueous systems.

Stock No.	Mfr.'s Type	Application	PER GALLON		
			1-4	5-9	10-25
801-0085	PC85	Rosin flux residues	**22.80**	**18.77**	**17.43**
801-2085	2085	Xersin grade fluxes	**30.70**	**26.70**	**24.79**

Xersin No Cleaning

A new generation of fluxes.

Stock No.	Mfr.'s Type	Characteristic	PER GALLON		
			1-4	5-9	10-25
801-2016	X-2016	No-cleaning	**31.30**	**27.31**	**25.36**
801-0032	X-32S	No-Residue (for wave, spray, dip)	**28.70**	**24.70**	**22.93**
801-0033	X-32F	No-Residue (for foaming)	**30.80**	**26.77**	**24.86**

Hydro-X Organic/Inorganic

Residue must be removed.

Stock No.	Mfr.'s Type	Characteristic	PER GALLON		
			1-4	5-9	10-25
801-0701	SA701	Solvent soluble (Synthetic activator)	**30.30**	**26.31**	**24.43**
801-0001	ARAX	Water soluble, extremely active*	**26.80**	**22.77**	**21.15**

*For difficult to solder metal joining (non-electrical).

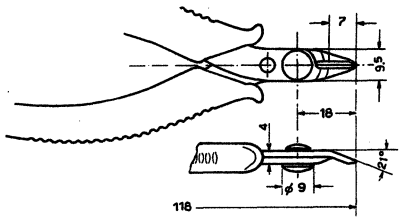
Desoldering Wick

Vacuumized braided copper, flux coated for fast desoldering and long storage life. Pull-out 66 in. wick in special covered reel.

Stock No.	Mfr.'s Type	Width	Application	EACH		
				1-4	5-9	10-25
801-0002	X-00	1/32 in.	Micro circuits; SMDs	**1.55**	**1.50**	**1.42**
801-0003	X-AA	1/16 in.	PC boards, thin wires or leads; miniature circuitry	**1.55**	**1.50**	**1.42**
801-0004	X-AB	3/32 in.	General purpose	**1.60**	**1.49**	**1.39**
801-0005	X-BB	1/8 in.	Large wires, connectors or terminals, metal to metal solder connectors	**1.85**	**1.72**	**1.62**

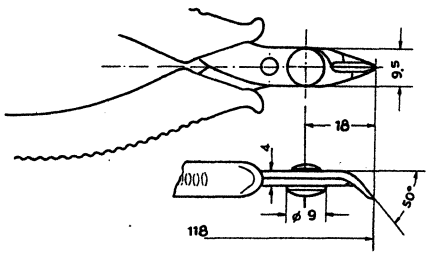
14

TR-20-M



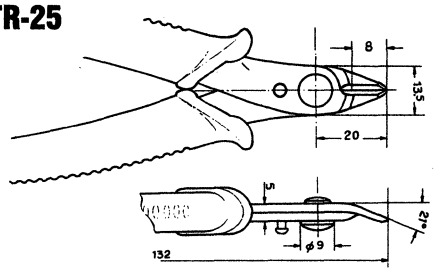
Micro Clean Cut Nippers. Anatomically formed. They are used for delicate work. Cutting capacity up to 20 AWG.
959-2000. TR-20M. . . . . **EACH 9.95**

TR-20-50-M



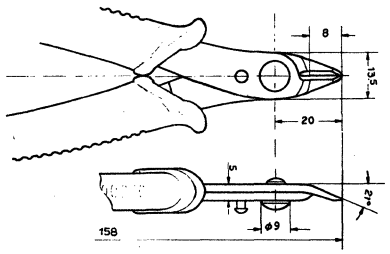
Clean Cut Micro-Nippers, particularly studied to cut leads located in difficult places. 20 AWG.
959-2050. TR-20-50-M . . . . . **EACH 9.95**

TR-25



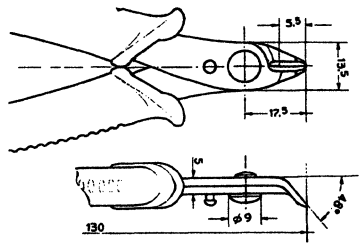
Clean Cut Nippers, light weight, easy to handle, exceptional cutting ability, particularly finished in consideration of its use in the electronic field and for thousands of finishing cuts of leads. 16 AWG.
959-2500. TR-25 . . . . . **EACH 9.95**

TR-25-L



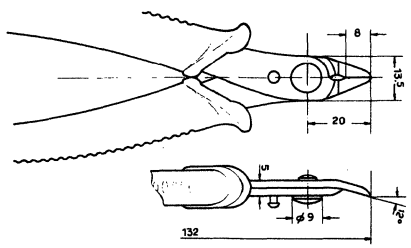
Same as TR-25 but with long handles.
959-2501. TR-25-L. . . . . **EACH 9.95**

TR-25-50



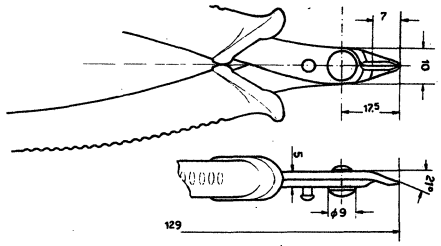
Clean Cut, particularly studied to cut leads located in difficult places. 16 AWG.
959-2551. TR-25-50. . . . . **EACH 9.95**

TR-25-15



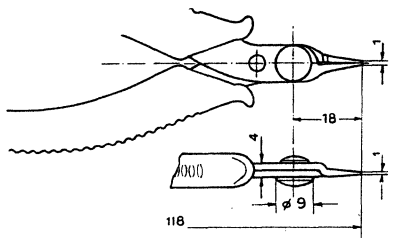
Clean Back-Cut Nippers allow to cut leads at 1,5 mm. from the level of projection. 16 AWG.
959-2515. TR-25-15. . . . . **EACH 9.95**

TR-25-P



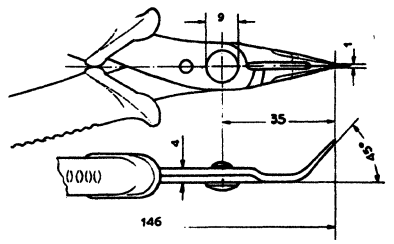
Clean Cut Nippers with very sharp cutting edges for very delicate workings. 18 AWG.
959-2502. TR-25-P . . . . . **EACH 9.95**

PN-20-M



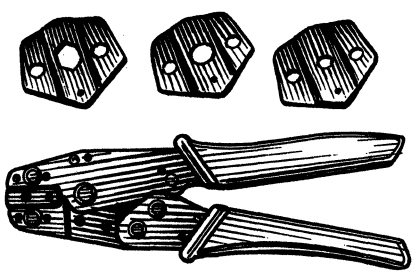
Micro Pliers light weight, easy to handle. They are used for delicate work.
959-2001. PN-20-M . . . . . **EACH 9.95**

PN-2002-PM



Bent Long Needle Nose Pliers with rounded off external edges for very delicate work.
959-2002. PN-2002-PM. . . . . **EACH 9.95**

Premier Crimp Tools



The **Premier Crimp Tool** has been designed to give maximum comfort and reduce operator fatigue. With the erogonomical design of the handles and the smaller size of the full cycle compound leverage frame. You achieve crimp compression to meet MS39012 and UL Standards. Built in Safety Release. The frames are made of high quality steel and the dies are a hardened tool steel for long life. The **Premier Frame** is built to cycle over 100,000 crimps. Dies are available for the **Premier Series** to crimp Hex type BNC/TNC connectors, open barrel pins and sockets, insulated terminals for connectors from Trompeter, Kings, Panduit, T & B, AMP, ETC, Molex, Ideal, Amphenol, Waldom and many others.

Premier Crimp Tool

RG58 and 59 BNC/TNC HEX coax connectors — three cavities .213, .255 and .068.
954-5004. 80-5004 . . . . . **EACH 69.50**

Premier Replacement Die Sets

RG58 BNC/TNC HEX crimp die set — two cavities .213 and .068.
954-6001. 81-6001 . . . . . **EACH 27.00**

RG59/62AU BNC/TNC HEX crimp die set — two cavities .255 and .068.
954-6002. 81-6002 . . . . . **EACH 27.00**

RG174 BNC/TNC HEX crimp die set — two cavities .178 and .068.
954-6003. 81-6003 . . . . . **EACH 27.00**

RG58/59 Combo BNC/TNC HEX crimp die set — three cavities .213, .255 and .068
954-6004. 81-6004 . . . . . **EACH 27.00**

Belden 8281 BNC/TNC HEX crimp die set — two cavities .324 and .068.
954-6005. 81-6005 . . . . . **EACH 27.00**

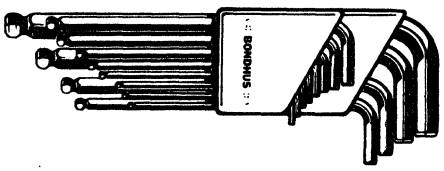
8281/59 Combo BNC/TNC HEX crimp die set — three cavities .324, .255 and .068.
954-6008. 81-6008 . . . . . **EACH 27.00**

Die set crimps red/blue insulated rings and splices.
954-6009. 81-6009 . . . . . **EACH 29.25**

24/14 AWG open barrel pin and socket die set.
954-6010. 81-6010 . . . . . **EACH 43.50**

30/18 AWG open barrel D-sub RS232 die set.
954-6012. 81-6012 . . . . . **EACH 43.50**

BALLDRIVER® L-Wrench Sets



BALLDRIVER® L-wrench sets feature the patented Bondhex case. Each wrench slips easily into its own marked slot and locks securely into place. The compact BALLDRIVER L-wrench sets are ideal where multiple sizes are needed.

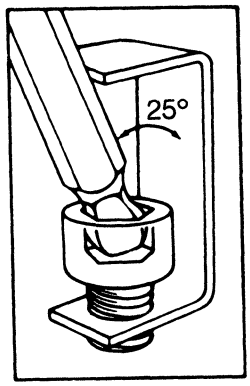
Stock No.	Mfr.'s Type	Description	EACH
951-0936	10936	BLX 12 .050-5/16	11.67
951-0937	10937	BLX 13 .050-3/8	14.95
951-0938	10938	BLX 10 1/16-1/4	7.99
951-0932	10932	BLX 8 .050-5/32	6.05
951-0999	10999	BLX 9mm 1.5-10mm	13.23
951-0946	10946	BLX 6mm 1.5-5mm	5.26

BALLDRIVER® Hex Tools

BALLDRIVER® tools make standard hex tools obsolete. Made of AISI-SAE 8650 heat-treated alloy steel, handles and blade length are proportioned to ball size allowing you to tighten manually without fear of breakage. Tighten or loosen at angles up to 25°.

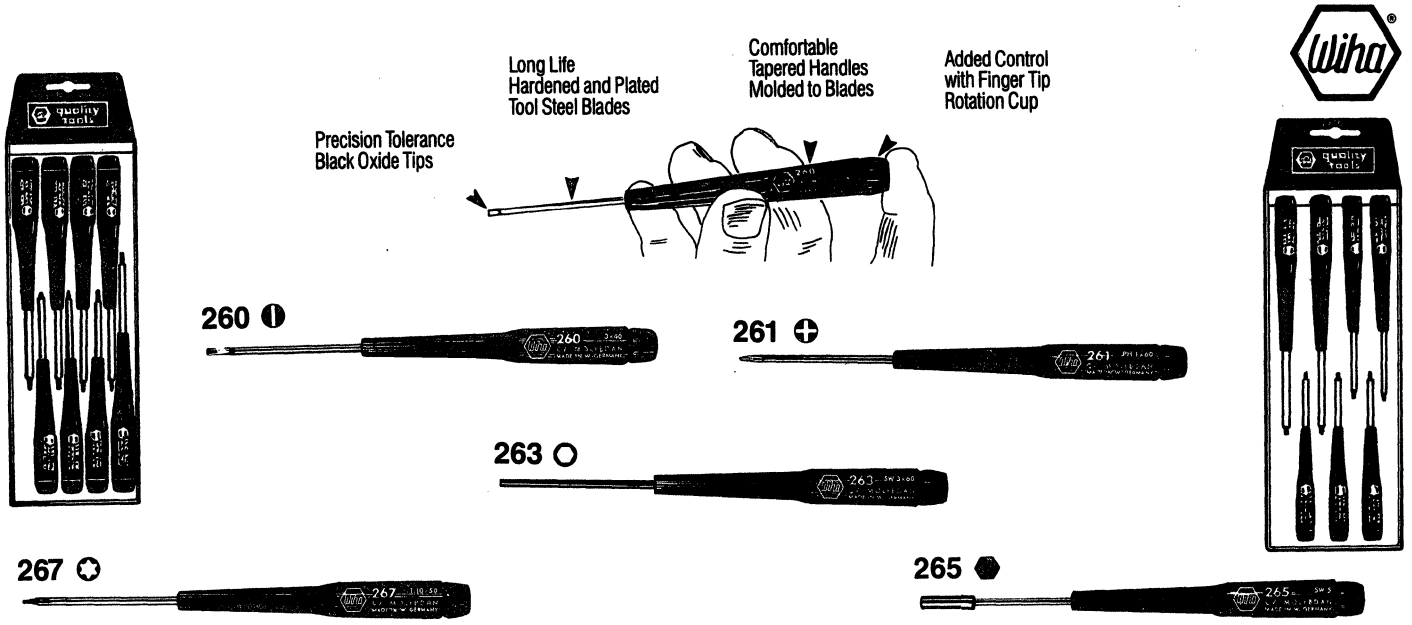
Stock No.	Mfr.'s Type	Description	EACH
951-0632	10632	BSX 8S .050-5/32	11.53
951-0637	10637	BSX 13 .050-3/8	26.48
951-0687	10687	BSX 7mm 1.27-5mm	10.05
951-0699	10699	BSX 9mm 1.5-10mm	21.45

BONDHUS Balldriver Hex Tools



- **Screws can be tightened or loosened at angles up to 25°**
- **Works in hard to reach areas when ordinary hex wrenches simply can't**
- **Faster insertion and removal. Full 360° turning.**
- **Available in inch and metric dimensions.**

WIHA® Precision Electronic Tools from BONDHUS



26090 6 Piece-Set
Set contains 1 each Precision Slotted: 1.5 (1/16) × 40mm; 2.0 (5/64) × 40mm; 2.5 (3/32) × 50mm; 3.0 (1/8) × 50mm; 3.5 (9/64) × 60mm; 4.0 (5/32) × 60mm.
Fig. A.
951-6090 ..... **EACH 20.45**

26190 7 Piece Set
Set contains 1 each Precision Slotted/Phillips: 1.5 (1/16) × 40mm; 2.0 (5/64) × 50mm; 2.5 (3/32) × 50mm; 3.0 (1.8) × 60mm; #00 × 40mm; #0 × 50mm; #1 × 60mm.
Fig. A/B.
951-6190 ..... **EACH 24.95**

26790 6 Piece Set Torx®
Set contains 1 each Precision Torx® : T6 × 40mm; T7 × 40mm; T8 × 40mm; T9 × 50mm; T10 × 50mm; T15 × 60mm.
Fig. E.
951-6790 ..... **EACH 30.45**

26390 7 Piece Set MM
Set contains 1 each Precision Hex Driver: .71 (.028) × 40mm; .89 (.035) × 40mm; 1.3 (.050) × 40mm; 1.5 × 50mm; 2.0 × 50mm; 2.5 × 60mm; 3.0 × 60mm.
Fig. C.
951-6390 ..... **EACH 23.45**

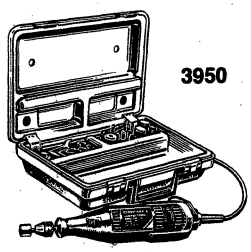
26391 8 Piece Set Inch
Set contains 1 each Precision Hex Driver:
.028 × 1.6; 5/64 × 2.0; .035 × 1.6; 3/32 × 2.4; .050 × 1.6; 7/64 × 2.4; 1/16 × 2.0; 1/8 × 2.4
Fig. C.
951-6391 ..... **EACH 26.40**

Precision Nut Drivers
26590 8 Piece Set MM
Set contains 1 each Precision Nutdriver: 2.5 × 60mm; 3.0 × 60mm; 3.5 × 60mm; 4.0 × 60mm; 5.0 × 60mm; 5.5 × 60mm; 6.0 × 60mm; 4.5 × 60mm.
Fig. D.
951-6590 ..... **EACH 47.40**

Precision Nut Drivers
26591 8 piece Set Inch
Set contains 1 each Precision Nut Driver:
3/32 × 2.4; 5/32 × 2.4; 7/64 × 2.4; 3/16 × 2.4; 1/8 × 2.4; 7/32 × 2.4; 9/64 × 2.4; 1/4 × 2.4
Fig. D.
951-6591 ..... **EACH 47.10**

Moto-Tools and Kits

- ► 30% More Power
- ► New Tapered Housing Shape
- ► New Thrust Bearing for Greater Drilling Capacity
- ► Double Insulated Motor - No Grounding Required
- ► 6 Foot 2-Wire Cord - Requires No Adapter Plug



3950

Model 3950 Variable Speed Moto-Tool Kit

5,000 to 30,000 RPM; 5 speeds. Ball bearing motor construction reduces friction. Replace bits quickly with keyless chuck, up to 1/8" shank bits. Also uses collets from 1/32" to 1/8". Comes in deluxe storage/carrying case. **Kit contains:** 6 Cut-Off Wheels, 7 Standing Discs, 2 Mandrels, 1 Collet (3/32"), 1 Drill (1/8"), 1 Cup Brush, 1 Paste Brush, 1 Wrench, 1 Dressing Stone, 1 Keyless Chuck, 2 Engraving Cutters, 2 Felt Polishing Wheels, 1 Polishing Wheel, 3 each Silicon Carbide and Aluminum Oxide Grinding Stones, 3 Sanding Bands, 1 Drum Sander, and 3 High Speed Cutters.
772-3950. Model 3950 ..... **EACH 104.00**

285

Model 395 Variable Speed Moto-Tool

Tool only; no kit. **Motor Specification:** 115V, 50-60 Hz, AC, 1.15 Amps.
772-0395. Model 395 ..... **EACH 93.50**

Model 2850 Two-Speed Moto-Tool Kit

2 speeds: 15,000 and 28,000 RPM. Features long life lubricated bronze sleeve bearing motor for smooth operation. Keyless chuck for fast bit replacement, up to 1/8" shank sizes. Also uses collets from 1/32" to 1/8". Comes in deluxe storage/carrying case. **Kit contains:** 6 Cut-Off Wheels, 3 Sanding Discs, 2 Mandrels, 1 Collet (3/32"), 1 Drill (1/8"), 1 Cup Brush, 1 Paste Brush, 1 Wrench, 1 Dressing Stone, 1 Keyless Chuck, 2 Felt Polishing Wheels, 1 Polishing Wheel, 2 each Silicon Carbide and Aluminum Oxide Grinding Stones, 1 Drum Sander, 2 Sander Bands, 1 High Speed Cutter, and 1 Engraving Cutter.
772-2850. Model 2850 ..... **EACH 83.50**

275

Model 285 Two-Speed Moto-Tool

Tool only, no kit. **Motor Specification:** 115V, 50-60 Hz, AC, 1.15 Amps.
772-0285. Model 285 ..... **EACH 71.50**

Model 2750 Single Speed Moto-Tool Kit

28,000 RPM. Long life lubricated bronze sleeve bearing motor for smooth operation. Comes with Accessory/Bit holder. **Accessory/Bit Assortment includes:** 1 each Aluminum Oxide and Silicon Carbide Grinding Stones, 1 Wrench, 1 Cup Brush, 1 Drill (1/8"), 2 Mandrels, 3 Cut-Off Wheels, 3 Sanding Discs, and 2 Felt Polishing Wheels.
772-2750. Model 2750 ..... **EACH 56.00**

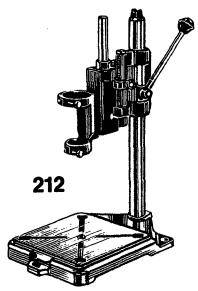
Kit for 2750

Model 275 Single Speed Moto-Tool

Tool only; no kit. **Motor Specifications:** 115V, 50-60 Hz, AC, 1.15 Amps.
772-0275. Model 275 ..... **EACH 47.50**

Model 212 Drill Press

6" sq. work surface. 0" to 3" adjustable tool carriage. 3" throat depth. Table slotted for guides, hold-downs. Use with Moto-Tools 395, 285, and 275 only.
772-0212. Model 212 ..... **EACH 42.75**



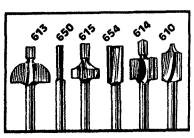
212

Model 225 Flex Shaft

36" long cable; use with Moto-Tools 395, 285, and 275. Features cool-running, 1/2" dia. pencil-like hand piece.
772-0225. Model 225 ..... **EACH 28.50**

225

Accessory Sets



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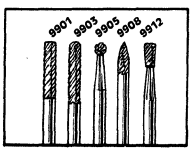
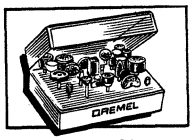


9925



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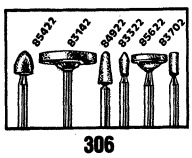

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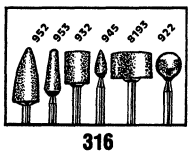

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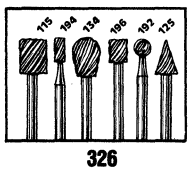


326

Each accessory set is packed in a convenient reusable plastic storage case that organizes and protects the bits when not in use. Dremel reserves the right to substitute accessories of equal value for all bit sets subject to availability.

Model 602. 6 piece (Bits 613, 650, 615, 654, 614, 610) high speed router bit set. Rout, inlay, and mortise wood and other soft materials. For use with Dremel Router Attachment No. 230.
772-0602 ..... **EACH 32.95**

Model 9925. 5 piece (Bits 9901, 9903, 9905, 9908, 9912) tungsten carbide cutter set. Engraves, carves, and shapes wood, ceramic, and metals.
772-9925 ..... **EACH 34.95**

Model 90349. Assortment of 34 general purpose accessories for a variety of applications.
772-9034 ..... **EACH 40.90**

Model 306. 6 piece (Bits 83142, 85422, 84922,83322, 85622, 83702) silicon carbide grinding stone set. Grinds on hard steel, ceramic, glass, and other hard materials.
772-0306 ..... **EACH 9.95**

Model 316. 6 piece (Bits 952, 953, 932, 8193, 922) aluminum oxide grinding stone set. Sharpens, deburrs, and grinds metal.
772-0316 ..... **EACH 9.95**

Model 326. 6 piece (Bits 115, 194, 134, 196, 192, 125) high speed cutter set. Carves, shapes, and hollows most woods, metals, and plastics.
772-0326 ..... **EACH 19.95**

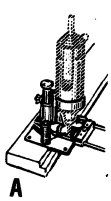
Moto-Tool Accessories

- ► Popular Drill Press Allows Precision Shop Work

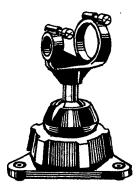
(A) #230 Router Attachment. Allows fingertip guidance, superior visibility. Integral guide bars provide excellent depth adjustment. Can be used portably or in permanent bench-mounted position.
772-0229. Shpg. wt. 1 lb ..... **EACH 29.75**

(B) #2217 Moto Tool Holder. Designed to hold the Moto-Tool while leaving hands free to control work piece. Sturdy swivel base can be mounted to the work surface.
772-0223. Shpg. wt. 2 lbs ..... **EACH 34.55**

(C) #219 Speed Control. Solid-state circuitry. Portable. Dial right speed from 0 to full rpm. 115VAC.
772-0219. Shpg. wt. 1 1/2 lbs ..... **EACH 41.50**



A



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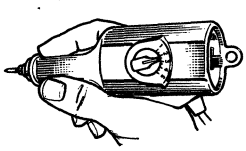


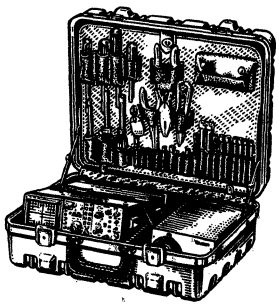
Electric Engraver

Model 290. Permanently marks most materials from hardened steel to glass. Calibrated 5 pos. stroke adjust, regulates length of stroke and depth of engraving. High speed reciprocating motor delivers 7200 strokes per minute. Carbide point. Nylon housing with hanger ring.
772-0290. Shpg. wt. 1 1/2 lbs ..... **EACH 22.50**
No. 9929 Diamond Engraving Point. For Model 290 above.
772-9929 ..... **EACH 15.25**

600 Series Zipper Cases

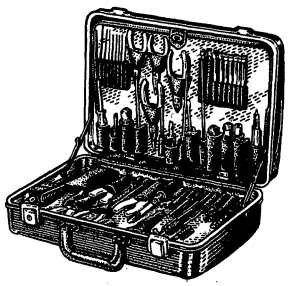
Model 640 zipper case is the 'new look' in field service cases. Made of rugged Dupont Cordura®, the 640 features a soft leather wrapped handle, one large pocket on one side and two smaller pockets on the opposite side. Points of stress have been reinforced to assure longlasting durability. 15 1/2 × 11 1/4 × 2 1/2" O.D. The 640 holds most commonly used tools needed for servicing computer and office products. Everyday punishment is no match for this ruggedly crafted tool case. It's compact, sturdy and attractive. Made for those fast action service calls. Brown. (Tools and accessories not included). **Model 627** measures 12 1/2 × 10 1/2 × 2 1/2". **Model 629** measures 15 1/2 × 11 1/4 × 2 1/2", with retractable handles. Both of vinyl.

8300 Series High Density Polyethylene Cases



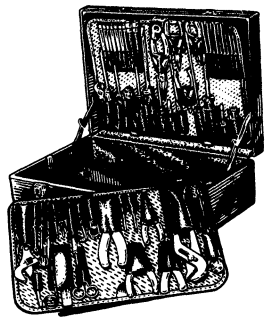
8300 Series cases are made from high density polyethylene which can withstand years of rugged use. The case features a tongue and grove aluminum valance, a full length continuous hinge, deep drawn ribs for improved strength, and molded bumpers which protect two chrome plated key lock latches. The ideal case for air, rail, or vehicle transportation of delicate & expensive equipment. The 8300 Series is available in several models. See chart below. (Tools and accessories are not included.)

9000 Series Injection Molded Industrial Cases



Model 9001 combines rugged injection molded polypropylene with double wall construction. Convenient removable pallets in the lid and bottom. Distinctly comfortable padded steel core handles and reinforced molded feet can withstand virtually unlimited bumping and banging around. Hardened, steel ball bearing lid stays. (Tools and accessories not included). 18 × 13 × 5 1/2" I.D. **Model 9002** eliminates the old method of notching with the new, continuous valance. Polyethylene liners repel most commonly used chemicals and solvents. Inner walls are constructed with sturdy plastic. Durable lid stays and cushioned steel core handles. (Tools and accessories not included). 18 × 13 × 6 1/4" I.D. Charcoal gray.

9800 Series Wood Vinyl Field Service Cases

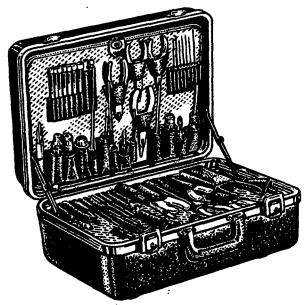


Model 9810 computer field engineer service case is an oversized case designed to carry the large selection of tools and test instruments necessary to service the computer and electronic industries. This case is also capable of carrying an extra large supply of spare parts. Has two removable tool pallets with partitioned areas in bottom of case. Space allotted for three plastic parts boxes. Lid has pocket for literature and service order pad. Each case has a solid wood frame construction, with mahogany paneling and dovetailed corners. Outer finish is MARVELON covering, a practically scuffproof material with the rich toned appearance of leather. (Tools not included). 17 7/8 × 12 1/2 × 4 1/2" I.D. Classic brown. **Model 9811** extra deep computer service case. Same as Model 9810 with dimensions of 17 7/8 × 12 7/8 × 7 3/8" I.D.

9100 Series High Impact Tool Cases

Model 9100 includes hardened steel ball bearing lid stays and deluxe handles, designed to withstand punishment of customer calls. Wider valance provides increased depth in base and elegant appearance. Injection molded. Two removable pallets supply ample storage area for spare parts and tools. (Tools and accessories not included). 18 × 13 × 6 1/2 I.D. Charcoal gray. **Model 9102** extra deep case. The old method of notching is replaced with a new method of forming the inside radius of the valance. Injection molding allows controlled corners and consistent wall thicknesses for added protection. Withstands field abuse and the rigors of traveling. (Tools and accessories not included). 18 × 13 × 7 1/4" I.D. Charcoal gray.

9200 Series High Density Polyethylene Molded Cases



The 9200 Series cases are molded from high density polyetheylene for heavy duty protection. Designed with an extra rugged 'plano hinge', the 9200 has all the features of a top flight case. The lid also features ball bearing locked stays. Deluxe handles are equipped with padded steel cores. Chrome keyed latches are standard. The 9200 cases also have molded-in protective legs on both the bottom and base. Available in **9201** thin style (17 3/4 × 12 3/4 × 6") or **9202** deep style (17 3/4 × 12 3/4 × 8"). Both cases feature two removable pallets with numerous pockets for tool storage and extra heavy duty extruded valance. (Tools and accessories not included). Also available as 6" or 8" deep ether foam filled case (see chart below).

Stock No.	Mfr.'s Type	Description	EACH 1-4	EACH 5-9	EACH 10-24
560-1010	627	Vinyl Zipper Tool Case 12 1/2 × 10 1/2 × 2 1/2"	36.00	33.60	31.25
560-1015	629	Vinyl Zipper Tool Case w/handles 15 1/2 × 11 1/4 × 2 1/2"	52.10	48.50	45.25
560-1020	640	Cordura Zipper Case 15 1/2 × 11 1/4 × 2 1/2", Brown	67.50	62.95	58.50
560-1025	9810	Computer Service Case 17 7/8 × 12 1/2 × 4 1/2" w/2 pallets, Brown	111.05	103.60	96.25
560-1030	9811	Computer Service Case Deep 17 7/8 × 12 7/8 × 7 3/8" w/2 pallets, Brown	126.80	118.30	109.90
560-1035	9001	Standard Depth Tool Case 18 × 13 × 5 1/2" w/2 pallets, Black	97.90	91.35	84.85
560-1040	9002	Extra Deep Tool Case 18 × 13 × 6 1/4" w/2 pallets, Black	102.80	95.90	89.10
560-1045	9101	Wide Valance Tool Case 18 × 13 × 5 1/2" w/2 pallets, Gray	100.55	93.80	87.15
560-1050	9102	Wide Valance, Super Deep 18 × 13 × 7 1/4" w/2 pallets, Gray	103.55	96.60	89.75
560-1055	9201	Black 6" Deep Tool Case, 2 pallets 17 3/4 × 12 1/2 × 6"	115.15	107.45	99.80
560-1060	9202	Black 8" Deep Tool Case, 2 pallets 17 3/4 × 12 1/2 × 8"	116.65	108.85	101.10
560-1070	8206	Black 8" Ether Foam Filled Case 17 3/4 × 12 1/2 × 8"	85.50	79.80	74.10
560-1075	8303	Gray Poly. Molded Case 17 3/4 × 14 1/2 × 6 1/4", w/2 pallets	125.30	116.90	108.60
560-1080	8304	Gray Poly. Molded Case w/2 pallets, 17 3/4 × 14 1/2 × 9"	127.55	119.00	110.55

Note: Tools and Accessories Not Included. For Tools see Section 14.

Tool Kits

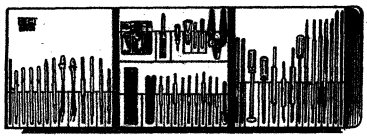
(A) Alignment and Specialty Tool Kit. This kit contains a selection of popular alignment and service tools in a handsome carrying case, ideal for the technician and engineer. Each tool's application is described on inside of case. The kit, containing 44 tools, includes: five hex tools, three hex wrenches, four screwdrivers, eight aligners, three Tel-A-Turn tools, wirestripper, wrench kit, inspection mirror, K-Tran tool, Neo-Lite tester, Lo Volt tester, fuse puller, tweezers, TV channel tuning tool, capacitor tool, two 2-IN-1 tools, oiler, reamer tool, heat sink, solder probe, brush/scraper tool, ruler, burnishing tool, transistor tool, and double end tool.

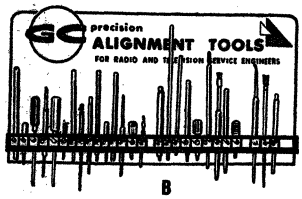
796-5060. Type 5050 ..... **EACH 71.96**

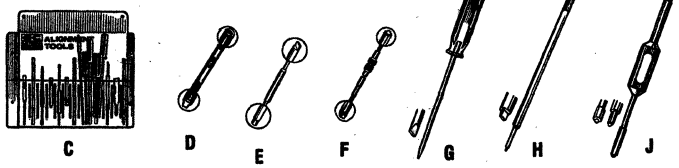
(B) GC Type 9200 Alignment Tool Kit. Wall mounting kit includes 27 most needed radio-TV alignment tools. Housed in sturdy, 3-color steel panel with 2-hole mounting. Precision made of the finest materials including low-loss plastics and extra-hard bone fiber; tips are hardened spring steel. **Includes:** various length alignment screwdrivers; special short tools; alignment wrenches; channel tuners; core aligners; oscillator adjust tools; trimmer, IF aligners; solder probe; nylon replacement tip for long reach aligner; hex tools; etc. Panel is 9 3/4" high and 18 3/4" wide.

796-9200. Shpg. Wt, 8 oz. ..... **EACH 40.37**

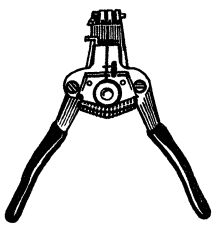
Stock No.	Mfr.'s Type	Fig.	Description	Oz.	EACH
796-8276	8276	D	Short duplex aligner	3	1.15
796-8605	8605	E	Capacitor/tuner hex and screwdriver	3	1.47
796-8606	8606	F	Zenith-Admiral Delrin 5" hex wrench	3	.85
796-8987	8987	G	7" blade plastic screwdriver	3	1.53
796-9089	9089	H	5 3/4" thin-end metal-tipped aligner	3	1.20
796-9300	9300	J	.075" hex coil slug and alignment	3	1.07







(C) Type 8280 TV Tool Kit. Contains 15 TV alignment tools in a handy roll-up plastic case. **Includes:** 'Shorty' duplex aligner; 1/8" sq. socket wrench; K-Tran tool; 0.100 hex wrench; recessed screwdriver; others. Tip of Delrin, extra-hard bone fiber, or hardened spring steel.
796-8280. Shpg. Wt. 8 oz. ..... **EACH 18.34**



Speed-O-Matic Wire Stripper

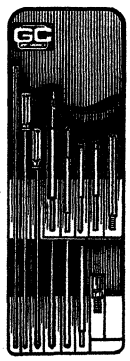
Features "Fully Automatic Delayed Action" to prevent crushing fine wires. Speed-O-Matic has narrow, easy-grip, handles and interchangeable blades. Patent No. 2,755,691.

Stock No.	Mfr.'s Type	Description	EACH
796-2900	766	For Sizes 12 to 20 Wire	13.77
796-2905	766-A	For Sizes 14 to 30 Wire	13.77
796-2910	766-B	For Sizes 10 to 18 Wire	13.77
796-2915	766-C	For RG-58, RG-59 & RG-62 Coax Cable	13.77
796-2925	766-IP	For Sizes 8 to 22 Wire	13.77
796-2930	766-T	For 4-Cond. Flat Telephone Wire	13.77
796-2935	766-TEF	Teflon Stripper	20.37
796-2940	766-ITC	766-I with Coax & Telephone	22.39

Anti-Static Alignment Tool Kit

Kit contains all nine anti-static alignment tools. The wide range of tip styles and sizes assures that the user will have a tool for adjusting or aligning any conventional component. Supplied with pocket storage case.

796-0145. Type AS-5007 ..... **EACH 9.75**



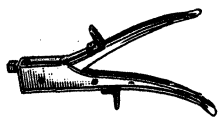
Replacement Tools for Above Kit

Stock No.	Mfr.'s Type	Description	EACH
796-0100	AS-5004	Adjustment Screwdriver (7" long; tips 1/32" each)	1.15
796-0105	AS-8275	Combination Aligner (4 15/16" long; tips 1/32" and 1/8" steel)	1.35
796-0110	AS-8276	Steel Tip Duplex Aligner (6 1/8" long; tips 1/8", 1 end recessed)	1.45
796-0115	AS-8605	Small Hex and Screwdriver (5 3/16" long; tips-0.05" hex, 3/32" screwdriver)	1.53
796-0120	AS-8606	Hex and Tip Tool (5 3/32" long; tips-0.095" screwdriver, 0.10" hex)	1.15
796-0125	AS-8608	Mini Potentiometer and Trimmer Tool (4 15/16" long; tips-0.085", one side recessed)	1.45
796-0130	AS-9300	Double Ended Hex Tool (5" long; tips 1/4" and 3/8" hex)	1.15
796-0135	AS-9302	3-in-1 Hex Core Tool (5 3/8" long; tips-0.078" and 0.10" hex)	1.15
796-0140	AS-9440	Square and Hex Tool (5-1/8" long; tips-0.10" hex, 1/16" square)	1.15

Deluxe PC Mini-Drill

Particularly designed with PC board work in mind but capable of handling metal and plastic chassis boxes too. Operates as a portable on 4 "AA" batteries (not included) at 2500 RPM. Includes power cord, connector, collets, 3 bits, grinding wheel, collet wrenches and plastic storage box.
796-1210. Model 12-107 ..... **EACH 22.95**

Nibbling Tool



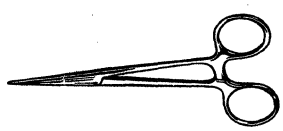
Type GC-805. This precision, hand operated tool is easy to use. Cuts sheet metal like a chassis punch. Start with a 3/8" hole and nibble to desired shape and size. Cuts up to 18 ga. steel 1/16" copper, aluminum or plastic.
796-3660 ..... **EACH 10.50**
796-3665 (Deluxe) ..... **EACH 11.80**

Micro Inspection Magnifier

2 1/2" dia. precision ground and polished glass. Non-tip base. Chrome plated arms and rims. Head swings a full 350°. Adjustable magnifier. Positive-lock swivel adjustments. Base 2 1/4" deep, 2" wide.

796-2386. Type 22-386 ..... **EACH 9.40**

Multi-Purpose Seizer



Holds Wires, Acts as a Heat Sink, Retrieves Parts
Versatile tool clamps firmly to hold wires for soldering; acts as a heat sink - retrieves small parts from hard-to-reach places. Has two-position snap lock, serrated jaws, box-joint construction. Precision machined from stainless steel.
Type 7977 6" Straight Nose. 3 oz.
796-7977 ..... **EACH 8.12**
Type 7979 6" Curved Nose. 3 oz.
796-7979 ..... **EACH 8.12**

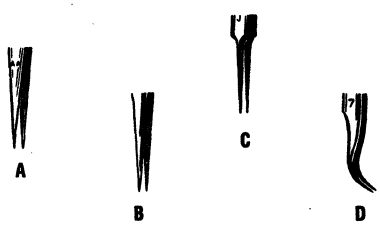
14

Palm Grip Pliers

For assembly and repair of electronic components, PC boards, and hundreds of other tasks. Precision-built with rust-proof stainless steel working ends and lightweight but durable molded handles. Spring loaded with minimal travel. The color coded handles aid in distinguishing one tip from the other. Machined Stainless Steel.

Stock No.	Mfr.'s Type	Description	EACH
796-0200	12-200	flush cutter	9.95
796-0204	12-204	flat-nose pliers (serrated)	9.95
796-0208	12-208	flat-nose pliers	9.95
796-0212	12-212	round-nose pliers	9.95
796-0216	12-216	needle-nose pliers	9.95
796-0220	12-220	curved-nose pliers	9.95

Precision Assembly Tweezers



For electronics assembly of miniature and micro-fine scale. Finest quality steel; workmanship assures freedom from misalignment. Points are ground flat on the inside. Precision sharp and shaped points, tension spring action. In a wide variety of styles—see illustrations.

Stock No.	Mfr.'s Type	Fig.	Length Inches	EACH
796-7948	7948*	A	4 1/2	2.00
796-7993	7993	A	4 1/8	3.32
796-7992	7992	B	5 1/2	9.09
796-7994	7994	C	4 1/4	3.32
796-7995	7995	D	4 1/2	3.32

All stainless steel except *nickel plated forged steel.

Slug Splitter™ Heavy Duty Punching Systems

Punches clean, exact size holes in 10 gauge stainless and mild steel. NEMA 12 and fiberglass enclosures. In heavy duty applications, lasts 20 times longer than conventional punches. Fast and easy slug removal.

Model 7506. Includes 767 hydraulic hand pump, ram unit, punches and dies for 1/2" through 2" size holes, 2 draw studs in metal carrying case.
799-2000 ..... **EACH 861.91**

Model 7307. Includes punches and dies for 1/2" through 2" conduit size holes and 7/32" size for oil tight switches, 2 draw studs in metal carrying case.
799-2005 ..... **EACH 571.34**

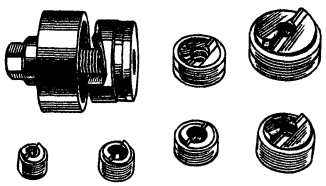
Model 744. Includes punches and dies for 1/2" through 1 1/4" conduit size holes and 2 draw studs in metal carrying case.
799-2010 ..... **EACH 271.36**

Model 745R. For making 1/2" conduit size holes using ratchet driver.
799-2015 ..... **EACH 61.49**

Model 745H. For making 1/2" conduit size holes for oil tight switches using hydraulic driver.
799-2020 ..... **EACH 75.79**

Model 740H. For making 17/32" holes for oil tight switches using hydraulic driver.
799-2025 ..... **EACH 113.41**

Slug-Buster™ Knockout Punching Systems

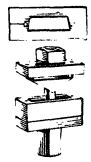


Slug-Busters split slug in half so that it falls freely from the die. Punches 10 gauge mild steel, fiberglass and plastic enclosures. Permits close-fitting pilot holes for fast and accurate alignment. May be used manually or with ratchet or hydraulic drivers. Uses standard dies and draw studs. Each set includes punch and die. Order draw studs separately.

Stock No.	Mfr.'s Type	Conduit Size Hole	EACH
799-2030	7211BB-1/2	1/2"	20.36
799-2035	7211BB-3/4	3/4"	29.47
799-2040	7211BB-1	1"	33.71
799-2045	7211BB-1 1/4	1 1/4"	36.57
799-2050	7211BB-1 1/2	1 1/2"	46.53
799-2055	7211BB-2	2"	56.71
799-2060†	7216	—	147.34

† Punch and Die Set includes all of above; does not include draw studs.

RS-232 Panel Punch

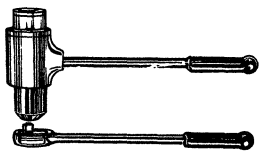


Fast and accurate panel punching for 25 pin D subminiature connectors. You only need to drill one 7/16" pilot hole. For manual wrench or hydraulic operation. Universal size punch for front or rear mounting of TRW Cinch, and ITT cannon type DB-25P and DB-25S or equivalent connectors.

799-2075. Model RS-232 ..... **EACH 209.89**

Quick Draw™ Hydraulic Punch Driver

Punches 1/2" through 1 1/4" conduit plus 17/32" oil tight holes in one punching operation. Also punches 1 1/2" and 2" conduit size holes in two steps using 3/4" draw stud. Includes special adaptor that converts standard 3/4" knockout punches to use 7/16" draw stud for one-step punching in 14 gauge mild steel. Develops 8 tons of hydraulic force for easy punching. Compact, lightweight design. Includes hydraulic driver, 3 draw studs and adapter.
799-2070. Model 7804SB ..... **EACH 324.00**

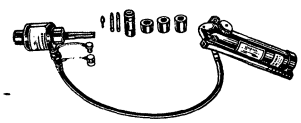


Ratchet Knockout Driver

Requires 50% less effort than conventional ratchet drivers while punching holes 8 times faster than the wrench method. Punches up to 3" conduit size holes in 10 gauge mild steel, excellent for NEMA 12 enclosures. Unique design eliminates stud rotation, lowers strain on studs. Ratchet action lets you work in confined areas. For use with standard knockout punches or Slug-Splitter heavy duty punches. Includes driver and 4 draw studs in metal case.
799-2065. Model 1904 ..... **EACH 334.00**

Hydraulic Knockout Punch Driver

With hand pump. Drives both standard and Slug Splitter™ Knockout punches. For all sizes, from 1/2" through 5". Punches up to 10 gauge mild or stainless steel. Includes powerful 11 ton hydraulic Ram, 767 hand pump and dies. Use with 730, 730M, 730S, 730T, 731M and 731S punches. Packed in carrying case. **Weight:** 25 lbs.
799-2080. Model 7646 ..... **EACH 407.04**



Round Metal Punches

Standard punches for clean, true holes. Cuts through up to 16 gauge metal. Model 112AVBB ball bearing drive screws are for easier hand operation on round chassis punches.

Stock No.	Mfr.'s Type	Hole Size	EACH
799-3212	730 1/2	1/2"	12.76
799-3216	730 9/16	9/16"	14.86
799-3214	730 5/8	5/8"	14.86
799-3218	730 11/16	11/16"	14.86
799-3220	730 3/4	3/4"	14.86
799-3222	730 13/16	13/16"	14.86
799-3224	730 7/8	7/8"	14.86
799-3226	730 15/16	15/16"	15.96
799-3228	730 1	1"	15.96
799-3230	730 1 1/16	1 1/16"	15.96
799-3232	730 1 1/8	1 1/8"	15.96
799-3236	730 1 3/16	1 3/16"	15.96
799-3238	730 1 1/4	1 1/4"	15.96
799-3240	730 1 3/8	1 3/8"	20.57
799-3242	730 1 1/2	1 1/2"	21.89
799-3246	730 1 3/4	1 3/4"	29.91
799-3248	730 2	2"	38.26
799-3250	730 2 1/4	2 1/4"	44.66
799-3254	730M 2 25/32	2 25/32"	43.34
799-3201	112AVBB*	—	8.90

* Ball Bearing Drive Screws

Square/Rectangular Punches

Square and Rectangular Punches. For wrench and hydraulic drive methods. Cuts 10 and 16 gauge mild steel.
Special Shape Punches. For 16 gauge mild steel. Wrench drive method.

Square Punches

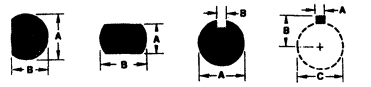
Stock No.	Mfr.'s Type	Hole Size	Capacity Mild Steel	EACH
799-3256*	731 1/2	1/2"	16GA	43.34
799-3257*	731 5/8	5/8"	16GA	43.34
799-3258*	731 3/4	3/4"	16GA	45.43
799-3259*	731 7/8	7/8"	16GA	53.90
799-3260*	731 1	1"	16GA	53.90
799-3261†	731E46	1 13/16"	10GA	354.04
799-3262†	731M	2"	10GA	359.70
799-3263†	731E68	2 11/16"	10GA	488.66
799-3264†	731E92	3 5/8"	10GA	772.74
799-3265†	731S	4 1/8"	10GA	929.61

Rectangular Punches

Stock No.	Mfr.'s Type	Hole Size	Capacity Mild Steel	EACH
799-3285*	731RE 17 × 19	.67 × .749"	16GA	164.30
799-3286*	731R 1.018 × .861	.861 × 1.018"	16GA	86.90
799-3287*	731RE 22 × 30	.866 × 1.181"	16GA	125.09
799-3288*	731R .99 × 1.14	.99 × 1.14"	16GA	119.90
799-3289*	731R 1 1/4 × 1 3/8	1.25 × 1.375"	16GA	133.10

Drive Method: * Wrench. † Hydraulic.

Special Shape Punches



16 gauge capacity mild steel; wrench drive method.

733 "D" Punch

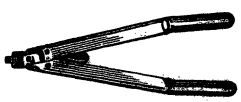
Stock No.	Mfr.'s Type	Dimensions A	Dimensions B	Punch	EACH
799-3270	733 1/2	1/2"	15/32"	3033AV	44.10
799-3271	733 5/8	5/8"	19/32"	4240AV	46.76
799-3272	733 3/4	3/4"	45/64"	30316	70.41
734 Double "D" Punch					
799-3273	734-1 1/8 × 1 3/8	1 3/8"	1 1/8"	5489AV	148.50
799-3274	734E-17.6 × 20.1	51/64"	11/16"	21497	97.51
799-3275	734E-19.1 × 23.1	29/32"	3/4"	21501	101.76
732 "Key" Punch					
799-3276	732-15/32	15/32"	.055"	73253	38.29
799-3277	732-1 11/64	1 11/64"	.123"	3257AV	65.46
799-3278	732-1 17/64	1 17/64"	.156"	2976AV	73.70
799-3279	732-1 21/64	1 21/64"	.102"	3263AV	77.56

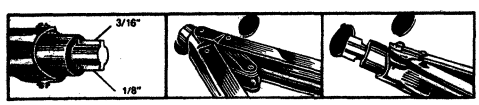
730K Keyway Punch

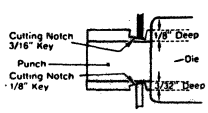
Stock No.	Mfr.'s Type	Dimensions A	Dimensions B	Dimensions C	Punch	EACH
799-3281	730K 3/16	3/16"	11/16"	17/32"	20828	98.40

720 Keyway Punch

Cuts both 1/8" and 3/16" keyways, in any pre-drilled or pre-punched hole 3/4" diameter or larger, fast and easy. Eliminates hand sawing and filing for oil-tight pushbutton switches. Punches up to 10 gauge mild steel.
799-2085. Model 720 ..... **EACH 109.19**







Stripmaster® Wire Strippers

Automatic single squeeze feature holds jaws open for removing wire without crushing end. For stripping lighter gauge wires. Units have 6 holes, except 14-22 with 4 holes.

Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4592	45-092	10 to 22 Wire	19.95
988-4593	45-093	14 to 22 Wire	19.95
988-4597	45-097	16 to 26 Wire	19.95
988-4598	45-098	20 to 30 Wire	19.95

Replacement Blades

Stock No.	Replacement Blades	PER PAIR
988-4421	L-4421	5.95
988-4422	L-4422	5.95
988-4994	L-4994	5.95
988-5361	L-5361	5.95

Custom Stripmaster® Wire Strippers

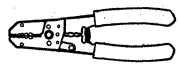
Blade construction and holding power of broad jaws permit fast accurate stripping. Strips without nicking wire or marking insulation to meet the most rigid inspection standards. Includes short stop latch and adjustable wire stop.

Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4586	45-186	10 to 14 Wire	84.95
988-4587	45-187	16 to 26 Wire	84.95
988-4588	45-188	20 to 30 Wire	84.95

Replacement Blades

Stock No.	Replacement Blades	PER PAIR
988-5559	L-5559	34.95
988-5560	L-5560	34.95
988-5561	L-5561	34.95

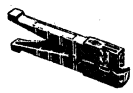
7-In-1 Stripper

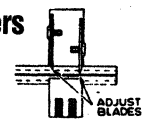


One tool performs seven functions.

988-4577. 45-777 ..... **EACH 16.95**

Coaxial Cable Strippers





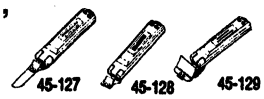
Stock No.	Mfr.'s Type	Description	EACH
988-4562	45-162	Coaxial Stripper, up to 1/8" O.D.	14.95
988-4563	45-163	Coaxial Stripper, 1/8" to 7/32" O.D.	14.95
988-4564	45-164	Coaxial Stripper, 1/4" to 9/16" O.D.	24.95
988-4565	45-165	Coaxial Stripper, 3/16" to 5/16" O.D.	14.95
988-9225	L-9225	Replacement Blade Set for 45-162, 45-163, and 45-165	2.50
988-9226	L-9226	Replacement Blade Set for 45-164	3.00

T-Wire Stripper/Cutters

For clean stripping of wires used in electronic instruments and appliances. Sturdy, compact, constructed of hardened steel for rugged duty and long service. Comfortable plastic grips for sure handling and safety.

Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4520	45-120	10 to 18 Solid	6.95
988-4521	45-121	16 to 26 Stranded	7.95
988-4525	45-125	22 to 30 Solid	7.95
988-4523	45-123	Cutter Only	7.95

"Swivel-Blade" Cable Strippers



Strip most types of cable. Cut outer sheathing without damaging inner conductor or insulation. Can be used on coaxial and power cable from 5/16" to 1 1/2" O.D. Adjustable blade strips insulation, up to 5/32". "Swivel-blade" automatically turns to direction in which tool is moved.

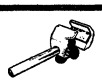
Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4527	45-127	Stripper w/Utility Knife for 5/16" to 3/4" O.D.	14.95
988-4528	45-128	Stripper for 5/16" to 3/4" O.D.	14.95
988-4529	45-129	Stripper for 3/4" to 1 1/2" O.D.	14.95

Electrician's Pliers with Crimping Die

Can be used for twisting wires and deburring conduit. Has New England nose and special plastic grips.

988-3020. 30-420. 8 1/2" ..... **EACH 24.95**
988-3030. 30-430. 9" ..... **EACH 27.95**

Heavy-Duty Cable Stripper



Tool for stripping common size concentric cable, 1/2" to 19/16" O.D. (approximately #1 to 1000 MCM). Perfect for polyethylene, irradiated PVC, hard Nylon, indoor/outdoor PVC, outdoor/weatherproof PVC. Will not nick insulation.

988-4526. 45-126 ..... **EACH 89.95**

Electric Marker

Marks metal, glass, stone, ceramics, plastics, hard rubber, wood. Vibrates at 7200 strokes per minute. Reduces "bouncing". Has carbide-tipped point.

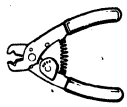
988-1111. 11-111 ..... **EACH 37.95**

Slim Electronics Screwdriver

Screwdrivers for working in tight areas, remarkable strength and accuracy. Precision-engineered tips that offer a precise fit.

Stock No.	Mfr.'s Type	Description	EACH
988-3648	36-248	Set of 7 slim electronics screwdrivers. Contains one of each of 36-240 thru-246.	34.95
988-3649	36-249	Set of 4 slim electronics screwdrivers. Contains one each of 36-240, -241, -242 and -246.	19.95

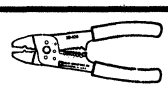
V-Notch Stripper



Both strips and cuts solid and stranded copper and aluminum wire. With Spring

988-4501. 45-101. 10-28 AWG ..... **EACH 4.50**

Combination Crimp Tool



Five tools in one: Crimps, strips, cuts wire, cuts screws and bolts and cleans/chases threads. Light-weight 8-inch hardened steel tool.

988-3028. 30-428 ..... **EACH 16.95**

Diagonal-Cutting Pliers

Induction-hardened cutting edges provide precision cutting in tight work areas. 6" Diagonal-cutting.

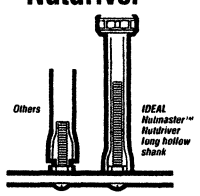
988-3526. 35-076 ..... **EACH 16.95**

Cable Cutter

Cuts 2/0 aluminum and copper. Not recommended for steel or ACSR. 9 1/2" Cable Cutter.

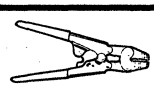
988-3552. 35-052 ..... **EACH 19.95**

Nutmaster™ Nutdriver



Stock No.	Mfr.'s Type	Description	EACH
988-3590	35-290	3/16" Nutdriver	4.95
988-3591	35-291	1/4" Nutdriver	5.24
988-3592	35-292	5/16" Nutdriver	5.50
988-3593	35-293	11/32" Nutdriver	5.75
988-3594	35-294	3/8" Nutdriver	5.95
988-3595	35-295	7/16" Nutdriver	6.24
988-3596	35-296	1/2" Nutdriver	6.50
988-3599	35-299	7-Piece Nutdriver Set	38.02

Ratchet Crimp Tool



Tool crimps both insulated or bare terminals and splices for wire sizes 22 to 10 AWG.

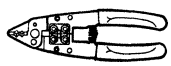
988-8301. 83-001 ..... **EACH 89.95**

Lite-Strip™ Optical Fiber Stripper

Precisely strips outer cable jacket insulations, tight buffer tubes and mechanically strippable coatings. Blades are knife-type.

Description

Life-Strip™ Optical Fiber Stripper (900μ/250μ)



Fiber Capacity

125μ/250μ and 140μ/250μ

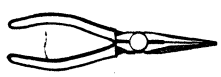
988-4550. 45-350 ..... **EACH 39.95**

Multi-Crimp Tool

Crimps bare or insulated terminals and splices on wire sizes 22-10 AWG.

988-3029. 30-429 ..... **EACH 24.95**

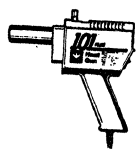
Long-Nose Pliers



Extra-long, thin jaws of these pliers are useful for electrical and mechanical workers. 6" Long-nose w/cutter.

988-3536. 35-086 ..... **EACH 17.95**

101 Plus Heat Gun



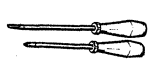
Perfectly suited to the unique requirements of electronic assembly. 101 Plus Heat Gun (comes with gold nozzle only) 120V., 60 Hz., 4.5A., UL listed.

988-4601. 46-101 ..... **EACH 84.95**

Nozzles for 120 volt, 101 Plus heat Gun (Cat. No. 46-101)

Stock No.	Mfr.'s Type	Color	Nominal Temp. Range	BTU	Wattage	EACH
988-4621	46-921	Green	600°-800°F	1110	325	10.95
988-4622	46-922	Gold	800°-1000°F	1620	475	10.95
988-4623	46-923	Red	1000°-1250°F	1790	525	10.95

Comfort Handle Screwdriver



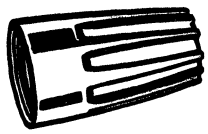
More power and torque, Nickel matt-chromed with black tips treated to protect against chipping, peeling and corrosion.

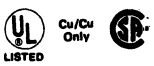
Stock No.	Mfr.'s Type	Description	EACH
988-3600	36-200	3" shank w/3/16" Keystone blade	4.95
988-3601	36-201	4" shank w/7/32" Keystone blade	5.95
988-3603	36-203	6" shank w/5/16" Keystone blade	6.95
988-3611	36-211	2 1/2" shank w/1/8" (#0) Phillips blade	3.18
988-3612	36-212	3 1/4" shank w/3/16" (#1) Phillips blade	3.95
988-3613	36-213	4" shank w/7/32" (#2) Phillips blade	4.95
988-3614	36-214	6" shank w/5/16" (#3) Phillips blade	7.95
988-3620	36-220	1" shank w/1/4" Keystone blade	3.95
988-3623	36-223	1" shank w/7/32" (#2) Phillips blade	3.95
988-3625	36-225	4" shank w/5/32" Cabinet-tip blade	3.18
988-3626	36-226	5" shank w/5/32" Cabinet-tip blade	3.18
988-3630	36-230	6" shank w/1/8" Cabinet-tip blade	3.95

Wire Nut® Wire Connectors

Five models cover solid and stranded wires, 10 to 24 AWG. High-temperature models are rated up to 150°C. Standard models are rated up to 105°C.

Wire-Nut® connectors comply with Federal Specification W-S-610d, are UL 486C listed (#E5238), and CSA Certified (#LR9706).





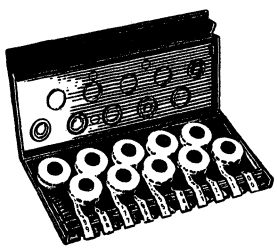
Stock No.	Mfr.'s Type	Model	Color	Min. & Max. Wire Combin.	PER PKG./100	PER PKG./1000
988-3071	30-071	71B	Gray	2#18, 2#16	3.83	—
988-3017	30-171	71B	Gray	2#18, 3#16	—	29.95
988-3072	30-072	72B	Blue	2#18, 3#16	4.31	—
988-3027	30-172	72B	Blue	2#18, 3#16	—	33.95
988-3073	30-073	73B	Orange	2#18, 3#16	4.15	—
988-3037	30-173	73B	Orange	1#18, 3#16	—	41.95
988-3074	30-074	74B	Yellow	1#14, 1#18	5.99	—
988-3047	30-174	74B	Yellow	2#14, 3#16	—	48.95
988-3076	30-076	76B	Red	1#12, 2#18	8.63	—
988-3067	30-176	76B	Red	2#10, 1#12	—	70.95

Wire Markers

Ten pages in each booklet—each page bearing the legend assortment indicated. All booklets except 44-111 contain 450 wire markers and 450 terminal markers. Booklet 44-111 has 348 wire markers and 348 terminal markers.

Stock No.	Mfr.'s Type	Number of Markers and Legend	EACH
988-4401	44-101	45 Each: 0-9	10.35
988-4402	44-102	10 Each: A-Z, 0-15, +, –, /	10.35
988-4403	44-103	10 Each: 1-45	10.35
988-4404	44-104	10 Each: 46-90	10.35
988-4405	44-105	150 Each: 1, 2, 3	10.35
988-4406	44-106	150 Each: A, B, C	10.35
988-4407	44-107	150 Each: T1, T2, T3	10.35
988-4408	44-108	150 Each: L1, L2, L3	10.35
988-4409	44-109	6 Each: 1-15; 4 Each: 16-90; 2 Each: A-Z, +, –, /, 0	10.35
988-4410	44-110	45 Each: 1,2,3,A,B,C; 30 Each: T1, T2, T3, L1, L2, L3	10.35
988-4411	44-111	45 Each: +, –, AC, DC; 33 Each: POS, NEG, GND; 27 Each: NEUT; 21 Each: SPARE, BLANK	10.35

Wire-Marker Dispenser



With this Ideal Dispenser, you can carry all the wire-marker legends needed for the job in one convenient, easy-to-use package. It measures only 4 7/8" × 7 1/2", and can be carried comfortably in shirt or pants pocket. If desired, you can even use the built-in hook to hang the dispenser from your belt or tool pouch.

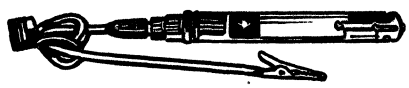
Stock No.	Mfr.'s Type	Description	EACH
988-4201	42-301	Dispenser with 0 thru 9 legend rolls	20.75
988-4202	42-302	Dispenser with asst'd. NEMA color rolls	19.75
988-4203	42-303	Dispenser only	1.25
Refills			
988-4239	42-399	Refill pack with 1 each of 0-9 legend rolls	12.45
988-4240	42-400	0	12.45
988-4241	42-401	1	12.45
988-4242	42-402	2	12.45
988-4243	42-403	3	12.45
988-4244	42-404	4	12.45
988-4245	42-405	5	12.45
988-4246	42-406	6	12.45
988-4247	42-407	7	12.45
988-4248	42-408	8	12.45
988-4249	42-409	9	12.45

ESD Field Service Static Guard

Type 61-038 plug indicates hard ground for 3-wire. 125V receptacles. Banana jack insert allows easy connection of ESD wrist strap and cordset to a proven ground. **Type 61-046** field service system includes plug. 10' lead set, medium wrist strap aand extra-long lead set for on-site flexibility. All cordsets have an integral 1 megohm resistor for safety.

Stock No.	Mfr.'s Type	Description	EACH
988-6138	61-038	Standard Plug	18.95
988-6139	61-039	10' Lead Set	12.95
988-6141	61-041	15' Lead Set.	13.95
988-6142	61-042	Small Wrist Strap	6.95
988-6143	61-043	Medium Wrist Strap	6.95
988-6144	61-044	Large Wrist Strap	6.95
988-6146	61-046	Statguard Kit	34.95

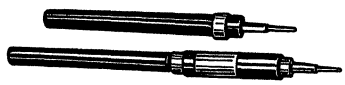
Continuity Tester



Pocket-size tester (5 1/2" long) checks continuity grounds on conduit systems and identities wires in multi-wire cables. Its light signal indicates completed circuit. For use on electrical control equipment, panel-board wiring and various other applications. 4-foot removable cord with alligator clip included. Powered by two AA batteries, not included. Not for use on live circuits.

988-6130. 61-030.....**EACH 13.95**

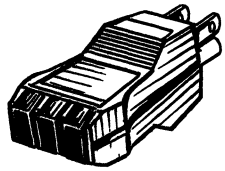
Test-Glo™ Circuit Tester



Use this industrial-quality tester for safe, easy checking of electrical circuits, sparkplugs, motors, fuses, and more. Resistors between each test prod and lead reduce voltage reaching the leads. Long thin handles allow deep probing with 'no-slip' safety rings. Neon lamp at front of prod for easy spotting. 24" lead (rated 10,000V) allows wide-span usage. Dust-proof and moisture resistant. Use with 80 to 600V, AC or DC.

988-6140. 61-040.....**EACH 13.95**

E-Z Check™ Receptacle Circuit Tester



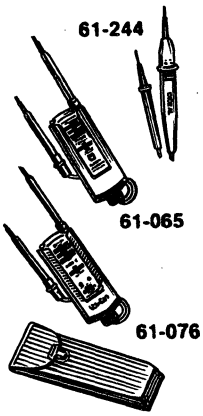
Type 61-035 identifies faults in 3-wire, 125V receptacles. Checks for open ground, reverse polarity, open hot, open neutral, hot and ground reversed, hot on neutral and hot open. Safer push-pull shape. Easy-to-read indicator lights. Yellow color for safety.

988-6135. 61-035.....**EACH 12.95**

One tool performs 8 tests. Quickly and easily checks 7 common wiring conditions, plus also tests the integrity and operation of any GFCI protected circuit or outlet.

988-6151. 61-051.....**EACH 25.95**

Voltage Testers



Durable, safe and versatile voltage tester provides long-life service. Tests for 110 to 600VAC or VDC. 25 to 60Hz. AC or DC identification, blown fuses, grounding and leakage. Two separate voltage indicators for double protection. UL listed and CSA certified.

988-6165. 61-065.....**EACH 25.95**

Voltage/continuity tester functions as a heavy-duty voltage tester (up to 600V, AC, or DC), low voltage indicator (low as 6 volts), and non-switching continuity tester. Tests for circuit continuity, identification of AC or DC, 24 to 60Hz, DC polarity, blown fuses, grounding and current leakage. UL listed and CSA certified.

988-6176. 61-076.....**EACH 47.95**

Leather Case and Leads for 61-076 and 61-065

988-6110. 61-010. Case.....**EACH 17.95**

988-6170. Type 61-070 Leads.....**EACH 11.95**

Test-Glo™ 244 voltage, continuity and polarity indicator is perfect for solving numerous problems in the house, workshop, auto and hobby areas. For use on 4.5-440VAC or VDC. LED's let you check polarity at a glance. Tests continuity from 0-20 kOhm and semi-conductors for continuity. Powered by 12-volt battery.

988-6124. 61-244.....**EACH 19.95**

Fuse Pullers—Safety Grips

Fuse pullers for maximum safety in pulling all sizes of cartridge fuses from 0-600 amps. Carefully designed for maximum efficiency whenever removing or replacing cartridge type fuses. No more danger of shock and burns or bending fuses clips through improper removal. For positive alignment and contact between fuses and clips.

Stock No.	Mfr.'s Type	Length	Style	Removes Fuses:	EACH
988-3401	34-001	5"	Midget	Small 9/32"—1/2" dia.	2.95
988-3402	34-002	7 1/2"	Pocket	0-100A, 250V; 600V	5.95
988-3403	34-003	11 3/4"	Giant	31-600A, 250V; 31-400A, 600V	12.95
988-3415	34-015	5"	Small	0-30A, 250V	3.75
988-3416	34-016	7 1/4"	Medium	0-100A, 250V; 0-60A, 600V	4.95

S-Class™ Fish Tape

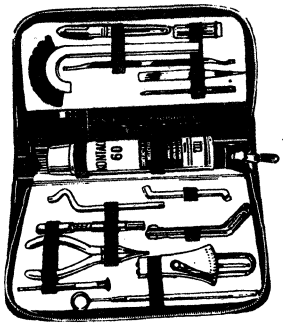
Stock No.	Mfr.'s Type	Description	EACH
988-3151	31-151	50' tape with Tape-Pak® reel and winder and Gold-Fish® leader	95.95
988-3153	31-153	100' tape with Tape-Pak® reel and winder and Gold-Fish® leader	129.20
988-3155	31-155	200' tape with Tape-Pak® reel and winder and Gold-Fish® leader	208.95

Tape-Pak™ Fish Tapes

Tough, high-impact plastic reel provides sure, non-slip handling. Built-in winder helps prevent kinks.

Stock No.	Mfr.'s Type	Tape Length & Size	Reel Dia.	EACH
988-3124	31-024	100ft. × 1/8" × .060"	12"	39.85
988-3125	31-025	200ft. × 1/8" × .060"	12"	54.95

15-Piece Relay Service Tool Kit



K-55. Designed for adjusting and maintaining relays, contactors, switches, controls, and other telecommunication and electronic components. Carbon steel, chrome plating. Most have a heavy plastic insulation for work on "live" equipment. Leather zippered case. Tools include 1 double-end hex wrench and screwdriver FW-24; 1 back stop bender SB-22; 1 angle thickness gauge T-255; 12 replacement blades for contact burnishers RB-4; 1 tweezer TW-57; 1 selector switch brush HB-75; 1 Kontact 60 contact spray K-60; 1 spring adjuster SA-7; 1 spring adjuster SA-17; 1 duck bill plier PL-8; 1 inspecttion mirror IM-64; 1 armature arm bender AB-21; 1 penfile contact burnisher P-4; 1 tension gauge 0-50 gr. G-50; 1 screwdriver SD-63; TKC-5 tool case alone.

830-0344. 1-9 .....EACH 173.75
10-Up .....EACH 162.20

42-Piece Basic Service Kit

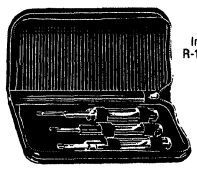
TK-200 Business Office Machine Tool Kit. This tool kit offers a wide spectrum of tools and devices designed for use in hard-to-reach areas, which reduces tear-down of the machine in order to make on-the-spot repairs. Additional space is provided for more parts, tools and papers. Upper and lower boards are removable for service ease. Tools can be modified or exchanged to suit your requirements. Complete kit weighs 11 lbs. and measures 13 × 17 × 3¾″ deep. Solidly constructed leather-finish case. Kit includes nutdrivers, screwdrivers, pliers and wrenches in a variety of sizes. Also included are spring adjusters, a wire stripper, extra long tweezers (straight and curved), an inspection mirror, retriever clamp, offset ratchet driver, soldering iron and various accessories for the above.

830-0560. 1-9 .....EACH 669.57
10-Up .....EACH 517.39

Contact Insertion and Removal Tool Kits

Includes A-12, A-16, A-20

KR-260 Contact Insertion Kit



Includes R-12, R-16, A-20

KA-260 Contact Removal Kit

These kits provide invaluable assistance to technicians. Include tools required for insertion and removal of the most popular contact sizes — all contained in a small handy case.

Stock No.	Mfr.'s Type	Contact Size	EACH	
			1-9	10-Up
830-5000	KA-260	12, 16, 20	173.08	162.00
830-5001	KR-260	12, 16, 20	189.08	176.47

14

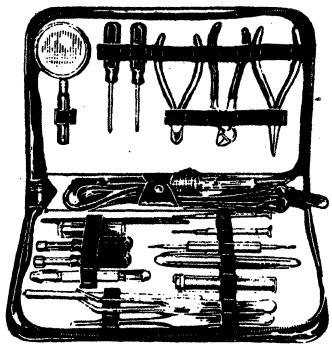
Contact Connector Insertion and Removal Tools

Designed for use on connectors conforming to MIL-C-38999 standards. Precision engineered for maximum efficiency. **Insertion:** Tapered nose tools permit contact to be inserted from the rear, allowing the tines in the retaining clip to lock behind the contact shoulder. **Removal:** Contacts are removed from the rear by sliding the tip into the clip while straddling the wire. The tip holds the tines away from the contact shoulder while it is pulled out by the wire. Color code optional. Genuine leather-zippered cases.

Insertion Tools

Stock No.	Mfr.'s Type	Old Military Standard	New Military Standard	Contact Size	EACH	
					1-9	10-Up
830-1531	A-0531	27495A12	8196918-09	12	74.65	69.48
830-1529	A-0529	27495A16	8196918-07	16	74.65	69.48
830-6967	A-6967	27495A20	8196918-05	20	74.65	69.48
830-9140	A-9140	27495A22	8196918-03	22	74.65	69.48
830-9503	A-9503	27495A22M	8196918-01	22M	74.65	69.48
Removal Tools						
830-9708	R-9708	27495R12	8196918-10	12	74.65	69.48
830-5206	R-5206	27495R16	8196918-08	16	74.65	69.48
830-6966	R-6966	27495R20	8196918-06	20	74.65	69.48
830-6557	R-6557	27495R22	8196918-04	22	74.65	69.48
830-6558	R-6558	27495R22M	8196918-02	22D,22M	74.65	69.48

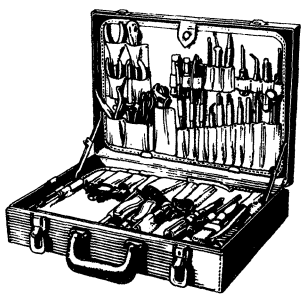
20-Piece Precision Tool Set



K-600. Designed for electronic assembly service and repair. These high quality tools were specially produced for: servicing, adjusting, trouble-shooting of complex equipment. Special assortment makes it easy and economical for use in assembly work. **Durable leather zipper case includes:** 1 needle nose plier PL-6; 1 "groove-grip" plier PL-4; 1 diag. cutting plier PL-3; 1 screwdriver K-601; 1 Phillips screwdriver K-602; 1 round magnifier K-605; 1 soldering iron SI-25; 1 straight blade tweezer TW-54; 1 curved blade tweezer TW-52; 1 solder aid K-614; 1 alignment tool K-620; 2 needle files K-621, K-622; 1 penfile burnisher P-6 with 12 repl. blades RB-6; 1 pin vise PV-609; 1 solder SC-12; 1 nut driver 3/16″ K-603; 1 nut driver 1/4″ K-604; 1 miniature driver .095″ K-623; 1 miniature driver .083″ K-624; TKC-60 tool case alone.

830-0350. 1-9 .....EACH 153.80
10-Up.....EACH 138.41

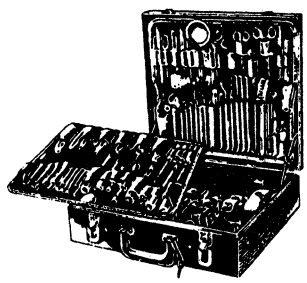
52-Piece Instrumentation and Computer Tool Kit



TK-300. Kit contains virtually all basic tools used for adjusting, maintaining and servicing all types of computers, electronic instruments, radar and other electro-mechanical devices. Tools may be used to service complex data processing and electronic equipment. Tools are precision made and individually mounted on 2 removable boards for ease of service. Extra-large space for more tools and papers. Tools can be modified or exchanged to suit your requirements. All tools are mounted on 2 removable boards in rough-duty, leather-finish case. Kit weighs only 13 lbs. and measures 14 × 18 × 4¾″ deep. Includes pliers, screwdrivers, wrenches, and tweezers of various sizes. Also included are solder (rosin core), solder aid, inspection mirror, adjuster spring, crimper and cutting tool, circuit tester, tension gauge, vinyl electrical tape, and contact cleaner spray.

830-0570. 1-9 .....EACH 805.07
10-Up .....EACH 751.40

78-Piece Universal Tool Kit



TK-500. Now with just one kit you can install, adjust, service and maintain central office systems (inside and outside plant), telecommunication systems, switchboards, R & D, production, general repair (work of precise nature in labs and service shops for all industries). Designed especially for on-the-spot service, adjustment and maintenance in any location. No loss of time for lack of certain tools. Contains removable boards for instant selection of all tools. Extra pockets for your favorite tools and separate compartments for your notes and papers provided. All 76 tools are securely mounted in individual pockets in a highly durable, scratch resistant Barco case. Complete kit weighs only 16 lbs. and is 5½H × 18¼W × 16¼″D. Kit includes spring adjusters, wrenches, screwdrivers and blades, nutdrivers, pliers and tweezers of various sizes. Also included are soldering equipment, test probe, circuit tester, crimping and cutting tool, hand magnifier, penlight and wire stripper.

830-0550. 1-9 .....EACH 816.50
10-Up.....EACH 760.15

Hand Wire-Wrap and Unwrap Tool Kits

KW-350 Wrapping Tools

KW-350 Wrapping Tools

A set of wrapping tools selected to handle the most popular wire wrap connections.

WDI-2426. Standard; insulated, .073 × .750″ deep hole.
WD-2225. Single-ended, .075 × .800″ deep hole.
WD-2000. Single-ended, .071 × .625″ deep hole.
830-5350. KW-350. 1-9 .....**EACH 164.57**
10-Up .....EACH 153.50

KU-360 Unwrapping Tools

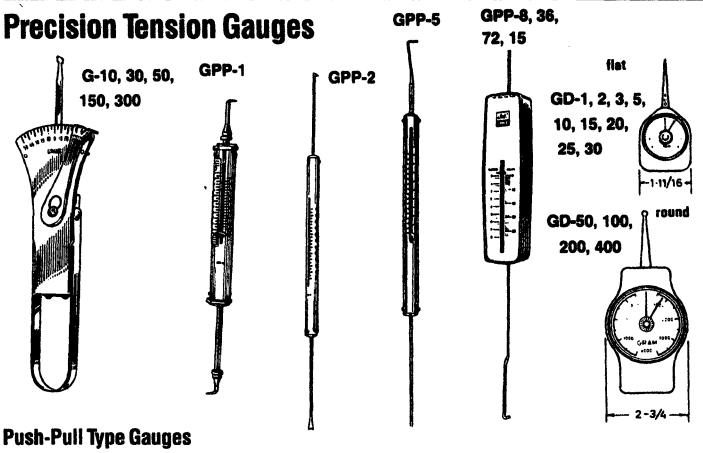
KU-360 Unwrapping Tools

A set of unwrapping tools selected to handle the most popular wire unwrap connections.

UDL-2027. Double-ended, left-hand, .052″/.070 × 1.25″ deep hole.
UDLR-2026. Double-ended, left and right-hand, .070 × .750″ deep hole.
UDR-2426. Double-ended, right-hand, .066″/.073″ with 1″ deep hole.
830-5360. KU-360. 1-9 .....**EACH 171.14**
10-Up .....EACH 159.74

JONARD

Precision Tension Gauges



Push-Pull Type Gauges

Stock No.	Mfr.'s Type	Size Dia. × L	EACH 1-9	EACH 10-Up
830-0424	GPP-1	5/8 × 9 1/4″	149.62	128.13
830-0425	GPP-2	3/8 × 11″	78.64	65.73
830-0426	GPP-5	1/2 × 15″	91.07	83.15
830-0427	GPP-25	5/8 × 9 1/4″	155.85	143.17

Spring Type Gauges

Stock No.	Mfr.'s Type	Size W × L	EACH 1-9	EACH 10-Up
830-0428	G-10	1 1/2 × 5″	47.39	43.29
830-0429	G-30	1 1/2 × 5″	47.39	43.29
830-0430	G-50	1 1/2 × 5″	47.39	43.29
830-0431	G-150	1 1/2 × 5″	47.39	43.29
830-0432	G-300	1 1/2 × 5″	36.07	33.29

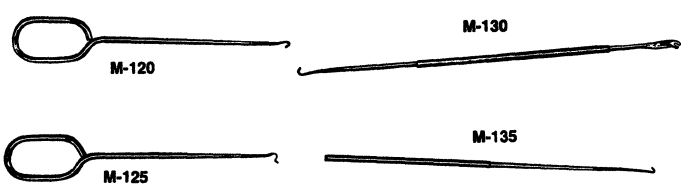
Economy Push-Pull Tension Gauges

Stock No.	Mfr.'s Type	Size W × D × L	EACH 1-9	EACH 10-Up
830-0433	GPP-8	1 1/2 × 1 × 14 1/2″	68.21	59.93
830-0434	GPP-36	1 1/2 × 1 × 14 1/2″	68.21	59.93
830-0436	GPP-15	1 1/2 × 1 × 14 1/2″	68.21	59.93

Precision Dynamometer Tension Gauges

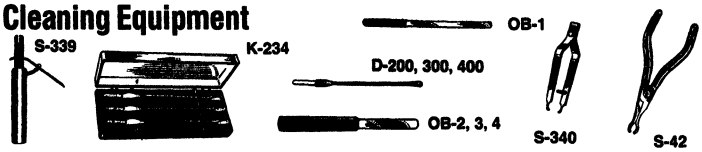
Stock No.	Mfr.'s Type	Dial Dia.	Wt. Oz.	EACH 1-9	EACH 10-Up
830-0437	GD-1	1 1/2″	4 1/2	96.38	89.50
830-0438	GD-2	1 1/2″	4 1/2	96.38	89.50
830-0439	GD-3	1 1/2″	4 1/2	96.38	89.50
830-0450	GD-10	1 1/2″	4 1/2	96.38	89.50
830-0455	GD-15	1 1/2″	4 1/2	96.38	89.50
830-0460	GD-20	1 1/2″	4 1/2	96.38	89.50
830-0465	GD-25	1 1/2″	4 1/2	96.38	89.50
830-0470	GD-30	1 1/2″	4 1/2	96.38	89.50
830-0490	GD-50	2 1/2″	14	181.78	162.35
830-0500	GD-100	2 1/2″	14	181.78	162.35
830-0510	GD-200	2 1/2″	14	200.35	179.03
830-0520	GD-400	2 1/2″	14	205.85	184.75

Telecommunication Tools



Stock No.	Mfr.'s Type	Size	EACH 1-9	EACH 10-Up
830-0620	M-120	Hook, spring; pull, 6″ L	9.78	6.52
830-0625	M-125	Hook, spring; push, 6″ L	9.78	6.52
830-0630	M-130	Hook, spring; pull & lifter, 8″ L	9.78	6.52
830-0635	M-135	Hook, pull; for very fine springs, 7″ L	11.13	7.43

Cleaning Equipment



Diamfile, Diamond Cleaner-Burnishers for Contacts and Relays

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-Up
830-0240	D-200	Coarse, two diamond faces, .019″ thick, 6″ lg.	26.04	24.93
830-0244	D-300	Medium, two diamond faces, .017″ thick, 6″ lg.	33.62	31.22
830-0349	K-234	Three-piece diamond burnisher kit.*	107.08	99.43

*Consists of 3 assorted or all of one type of listed spatulas in a rigid plastic case.

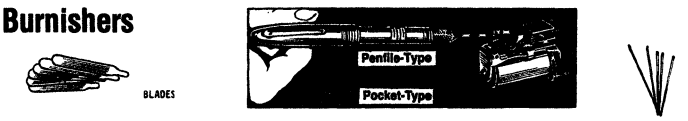
Economy Burnishers

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-Up
830-0418	OB-1/12	For fine contacts. Abrasive. .007″ thick. 3 1/2L × 3/16″W. Pkg./12	21.54	18.95
830-0419	OB-2/12	For extra sensitive points. Abrasive. .007″ thick. 3 1/2L × 1/4″W. Pkg./12	24.77	19.85
830-0420	OB-3/12	For general purpose use. Abrasive. .010″ thick. 3 1/2L × 1/4″W. Pkg./12	44.00	40.86
830-0421	OB-4/12	For industrial use. Abrasive. .020″ thick. 3 1/2L × 1/4″W. Pkg./12	54.92	51.00

Extraction Tools

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-Up
830-0710	S-339	Switchboard lamp, inside dia. 3/8″, handle dia. 1/2″, Length 4″	16.76	15.57
830-0715	S-42	Plier lamp cap, Overall length 5″	42.16	39.15
830-0720	S-340	Tweezer type, Open pos. 1/2″, closed 1/16″, Length 3 1/2″	34.93	31.93

Burnishers



Pocket-Type Burnishers

Stock No.	Mfr.'s Type	Blade Size Thickness	EACH 1-9	EACH 10-Up
830-0356	PB-3	.0035″	19.39	18.00
830-0357	PB-7	.007″	17.06	15.35
830-0422	PB-3R	.0035″	23.77	22.35
830-0211	B-3/25	.0035″*	22.15	19.55
830-0212	B-7/25	.007″*	24.00	20.57
830-0423	B-3R/50	**	35.62	33.08

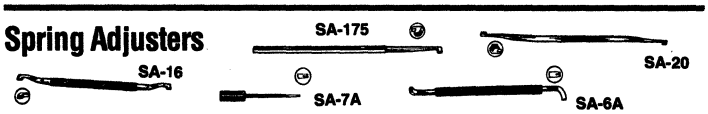
*Replacement blades (pkg. of 25) **Replacement rods (pkg. of 50)

Penfile-Type Burnishers

Stock No.	Mfr.'s Type	Size W × L × Thickness	EACH 1-9	EACH 10-Up
830-0366	P-4	1/4 × 1 1/4 × .007″	24.39	22.65
830-0375	RB-4	Replacement for P-4*	21.14	17.85
830-0377	RB-6	Replacement for P-6*	21.14	17.85

*Replacement blades (pkg. of 25)

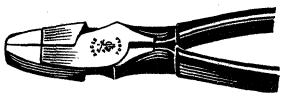
Spring Adjusters



Stock No.	Mfr.'s Type	Size Slot, Length	EACH 1-9	EACH 10-Up
830-0413	SA-16	.031″, 8″	34.47	32.00
830-0414	SA-6A	.029″, 5 1/2″	27.08	25.14
830-0415	SA-20	.024″, 7″	39.08	36.29
830-0416	SA-175	.031″, 5 1/4″	29.70	27.58
830-0417	SA-7A	.031 × 3.16″, 4″	18.77	16.05

14

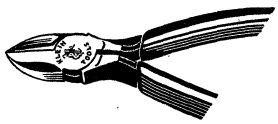
High-Leverage NE Type



Our most popular side cutting plier. Smooth, streamline nose with knurled jaws. High-leverage design provides 46% greater cutting and gripping power than regular 8 1/2 inch and 9 1/4 inch side cutters. Blue plastic-dipped handles.

726-2137. Type D201-7NE ..... **EACH 16.38**
726-2138. Type D213-8NE ..... **EACH 18.08**
726-2139. Type D213-9NE ..... **EACH 18.42**

Standard Diagonal Cutting Pliers



Basic diagonal cutting pliers with tapered nose and standard bevel cutting knives. Model D245-5C has coil spring to hold jaws open. Red plastic-dipped handles. **Dimensions: Overall Length:** 5″ (127mm). **Jaw Length:** 11/16″ (17mm). **Jaw Width:** 9/16″ (14mm). **Jaw Thickness:** 3/8″ (10mm).

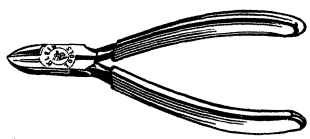
Stock No.	Mfr.'s Type	Description	EACH
726-1000	D245-5	Std. Diagonal Cutter	**12.92**
726-1005	D245-5C	With Coil Spring	**13.58**

Standard Cutting Pliers

Tapered nose and standard bevel cutting knives. Available with or without coil spring. Red plstic-dipped handles. **Jaw Length:** 13/16″ (21mm). **Jaw Width:** 11/16″ (17mm). **Jaw Thickness:** 7/16″ (11mm).

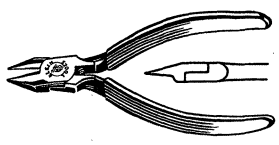
Stock No.	Mfr.'s Type	Overall Length	Description	EACH
726-1010	D202-5	5 1/2″ (140mm)	Std. Cutter	**13.12**
726-1015	D202-5C	5 1/2″ (140mm)	With Coil Spring	**13.56**
726-1020	D202-6	6 1/16″ (154mm)	Std. Cutter	**12.54**
726-1025	D202-6C	6 1/16″ (154mm)	With Coil Spring	**13.08**

Standard Nose, Semi-Flush Cutting Pliers



General-purpose cutter with short, strong, tapered nose. Knives are semi-flush cutting. With coil spring. **Overall Length:** 4 3/16″ (106mm). **Jaw Length:** 1/2″ (13mm). **Jaw Width:** 7/16″ (11mm). **Jaw Thickness:** 1/4″ (6mm).
726-1030. Type D257-4C ..... **EACH 13.18**

Slim Pointed Nose Pliers



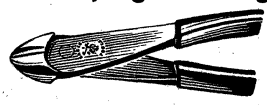
Semi-flushed cutting pliers are relieved in the back to permit entry into confined areas. Specifically designed for tip cutting. With coil spring. Plastic-dipped handles. **Overall Length:** 4 3/16″ (106mm). **Jaw Length:** 1/2″ (11mm). **Jaw Thickness:** 1/4″ (6mm).

Stock No.	Mfr.'s Type	Description	EACH
726-1035	D219-4C	Semi-flushing Cutting	**13.20**
726-1040	D219-5C	Full-flush Cutting	**14.52**

Pointed Nose, Extra-Narrow Jaw, Full-Flush Cutting Pliers

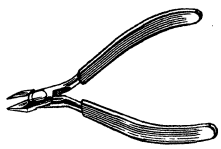
Diagonal cutter with fine, narrow jaw taper and narrow hinge for especially delicate work. Fully polished head and neck. With coil spring. Plastic-dipped handles. **Overall Length:** 4 3/16″ (106mm). **Jaw Length:** 1/2″ (13mm). **Width:** 13/32″ (10mm). **Jaw Thickness:** 1/4″ (6mm).
726-1045. Type D259-4C ..... **EACH 15.66**

Standard Nose, High-Leverage



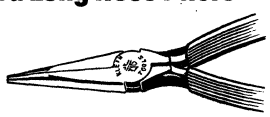
High-leverage design provides a 36% greater mechanical cutting and gripping advantage than regular 7″ and 8″ heavy-duty diagonal cutters. Standard bevel cutting knives. Red plastic-dipped handles.
726-2288. Type D228-8 ..... **EACH 13.32**
726-2287. Type D228-7 ..... **EACH 13.28**

Tapered Nose, Midget Jaw, Full-Flush Cutting Pliers



These small, diagonal cutting, clean room electronics pliers are designed to permit working in very close quarters with maximum visibility. Fully polished head and neck. With coil spring. Plastic-dipped handles. **Overall Length:** 4 3/16″ (106mm). **Jaw Length:** 1/2″ (13mm). **Jaw Width:** 3/8″ (10mm). **Jaw Thickness:** 1/4″ (6mm).
726-1050. Type D295-4C ..... **EACH 15.92**

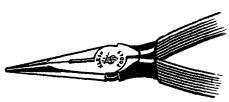
Standard Long Nose Pliers



The basic long nose plier is available with or without coil spring. Knurled jaws, yellow plastic-dipped handles. **Overall Length:** Types D301-5 and -5C, 5 9/16″ (141mm). Types D301-6, -6C, 6 5/8″ (168mm). Types D301-7, -7C, 7 1/8″ (181mm). **Jaw Length:** Types D301-5 and -5C, 1 9/16″ (40mm). Types D301-6 and -6C, 1 15/16″ (49mm). Types D301-7 and -7C, 2 7/16″ (62mm). **Jaw Width:** 11/16″ (17mm). **Jaw Thickness:** 3/8″ (10mm). **Point Thickness:** 3/32″ (2mm).

Stock No.	Mfr.'s Type	Description	EACH
726-1055	D301-5	Std. Long Nose	**11.14**
726-1060	D301-5C	Coil Spring, 1/16″ (1.6mm) point	**11.62**
726-1065	D301-6	Std. Long Nose	**11.02**
726-1070	D301-6C	Coil Spring, 1/16″ (1.6mm) point	**11.52**
726-1075	D301-7	Std. Long Nose	**11.62**
726-1080	D301-7C	Coil Spring, 1/16″ (1.6mm) point	**12.12**

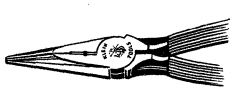
Standard Long Nose Pliers with Side Cutters



Standard long-nose design with cutting knives at hinge. Permits wrapping, looping, and cutting with a single plier. With or without coil spring. Yellow plastic-dipped handles. (Type 203-6 has plain handles.) **Dimensions:** Types D203-5 and -5C. **Overall Length:** 5 9/16″ (141mm). **Jaw Length:** 1 9/16″ (40mm). Types 203-6, D203-6, and -6C. **Overall Length:** 6 5/8″ (168mm). **Jaw Length:** 1 15/16″ (49mm). Types D203-7 and -7C. **Overall Length:** 7 1/8″ (181mm). **Jaw Length:** 2 7/16″ (62mm). **All Types: Jaw Width:** 11/16″ (17mm). **Jaw Thickness:** 3/8″ (10mm). **Knife Length:** 1/2″ (13mm).

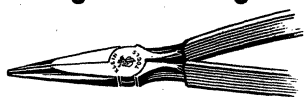
Stock No.	Mfr.'s Type	Description	EACH
726-1095	D203-6	Std. with 3/32″ (2mm) Point	**13.34**
726-1105	203-6	Std. with 3/32″ (2mm) Point	**13.12**

Heavy-Duty Side Cutters with Skinning Hole



With skinning hole for No. 12 B & S insulated wire. Yellow plastic-dipped handles. **Overall Length:** 8 5/16″ (211mm). **Jaw Length:** 2 5/16″ (59mm). **Jaw Width:** 1″ (25mm). **Jaw Thickness:** 1/2″ (13mm). **Knife Length:** 5/8″ (16mm). **Point Thickness:** 1/8″ (3mm).
726-1120. Type D203-8N ..... **EACH 18.82**

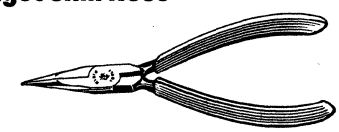
Special Long-Reach Designer Pliers



Longer handles for more convenient use and greater jaw gripping power. Knurled jaws. Yellow plastic-dipped handles. **Overall Length:** 8″ (203mm). **Jaw Length:** 1 15/16″ (49mm). **Jaw Width:** 11/16″ (17mm). **Jaw Thickness:** 3/8″ (10mm). **Point Thickness:** 3/32″ (2mm).

Stock No.	Mfr.'s Type	EACH
726-1125	D314-8	**11.88**

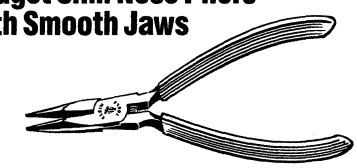
Midget Slim Nose



This small, light, slim nose plier is designed for precision subminiature assembly work. Knurled jaws. With coil spring. Plastic-dipped handles. **Overall Length:** 4 3/4″ (121mm). **Jaw Length:** 1 1/16″ (27mm). **Jaw Width:** 7/16″ (11mm). **Jaw Thickness:** 1/4″ (6mm). **Point Thickness:** 1/32 × 1/16″ (.8 × 1.6mm).

Stock No.	Mfr.'s Type	EACH
726-1130	D321-4 1/2C	**11.10**

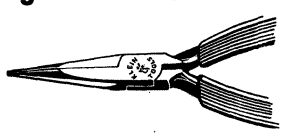
Midget Slim Nose Pliers with Smooth Jaws



Small, light slim nose plier with smooth inside jaws and radiused jaw edges to prevent nicking wire. With coil spring. Plastic-dipped handles. **Overall Length:** 4 3/4″ (121mm). **Jaw Length:** 1 1/16″ (27mm). **Jaw Width:** 7/16″ (11mm). **Jaw Thickness:** 1/4″ (6mm). **Point Thickness:** 1/32 × 1/16″ (.8 × 1.6mm).

Stock No.	Mfr.'s Type	EACH
726-1135	D322-4 1/2C	**11.78**

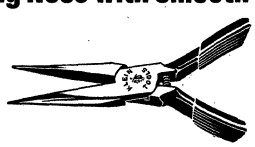
Slim Long Nose Pliers



Longer nose and handles for deeper reach into work. Knurled jaws. With or without coil spring. Yellow plastic-dipped handles. **Overall Length:** 5 9/16″ (141mm). **Jaw Length:** 1 3/4″ (44mm). **Jaw Width:** 17/32″ (13mm). **Jaw Thickness:** 5/16″ (8mm). **Point Thickness:** 1/16″ (1.6mm).

Stock No.	Mfr.'s Type	Description	EACH
726-1145	D307-5 1/2C	With Coil Spring	**12.06**

Slim Long Nose with Smooth Jaws



Features longer nose, handles for deeper reach into work and smooth inside jaws and radiused jaw edges to prevent nicking wire. With coil spring. Blue plastic-dipped handles. **Overall Length:** 5 9/16″ (141mm). **Jaw Length:** 1 3/4″ (44mm). **Jaw Width:** 17/32″ (13mm). **Jaw Thickness:** 5/16″ (8mm). **Point Thickness:** 1/16″ (1.6mm).

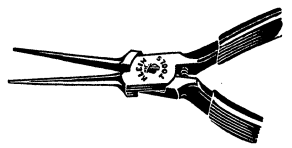
Stock No.	Mfr.'s Type	EACH
726-1150	D327-5 1/2C	**13.14**

Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

Long Needle Nose Pliers

Designed for accurate assembly work in hard to reach areas. Provides maximum visibility. Features knurled jaws, coil spring, and yellow plastic-dipped handles. **Overall Length:** 5 13/32" (137mm). **Jaw Length:** 1 3/4" (44mm). **Jaw Width:** 1/2" (13mm). **Jaw Thickness:** 5/16" (8mm). **Point Thickness:** 1/16" (1.6mm).
726-1155. Type D318-5 1/2C ..... **EACH 12.90**

Long Needle Nose Pliers With Smooth Jaws

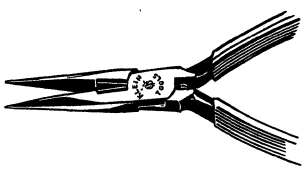


Similar to Type D318-5 1/2C but with smooth inside jaws and radiused jaw edges. Prevents nicking wire. Features coil spring and blue plastic-dipped handles. **Overall Length:** 5 13/32" (137mm). **Jaw Length:** 1 3/4" (44mm). **Jaw Width:** 1/2" (13mm). **Jaw Thickness:** 5/16" (8mm). **Point Thickness:** 1/16" (1.6mm).
726-1160. Type D328-5 1/2C ..... **EACH 15.08**

Cable Cutters

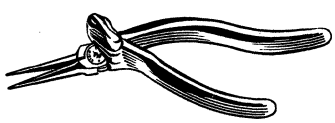
This handy, economical tool handles most cable-cutting jobs with ease. Special high-leverage design gives it amazing cutting capability for its size. Cable-gripping, shear-type jaws cut up to 4/0 aluminum (not ACSR)...up to 2/0 soft copper...up to 100-pair, 24-gauge communication cable. Makes clean, efficient cuts. Compact...only 9 1/2" (241 mm) long, can be carried in tool pouch or Klein No. 5112 or No. 5112T tool holders. Ideal for working in confined spaces. Tough, comfortable, red plastic-dipped handles. **Not designed for cutting steel or ACSR.**
726-6305. Type 63050 ..... **EACH 15.22**

Slim Long Nose Pliers with Side Cutters



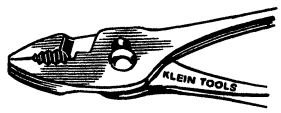
Designed for precision assembly work — needle tip only 1/32" in diameter. Features side cutters for bending, forming, and cutting with a single plier. Also, knurled jaws, coil spring, and yellow plastic-dipped handles. **Overall Length:** 5 9/16" (141mm). **Jaw Length:** 1 3/4" (44mm). **Jaw Width:** 17/32" (13mm). **Jaw Thickness:** 5/16" (8mm). **Knife Length:** 7/16" (11mm). **Point Thickness:** 1/32" (.8mm).
726-1170. Type D221-5 1/2C ..... **EACH 14.08**

Fatigue-Reducing Needle Nose Pliers



The special Klein design minimizes bending of the wrist and reduces strain and fatigue. Features knurled jaws with rounded edges, coil spring, and comfortable red foam plastic-covered handles. Produced in conjunction with Western Electric Company engineers. **Overall Length:** 7 1/2" (191mm). **Jaw Length:** 2" (51mm). **Jaw Width:** 11/16" (17mm). **Jaw Thickness:** 3/8" (10mm). **Point Thickness:** 1/16" (1.6mm).
726-1175. Type D336-6C ..... **EACH 17.88**

Regular Nose Pliers

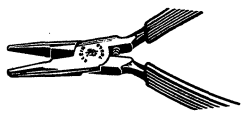


Klein slip-joint nickel-chrome plated pliers with knurled handles, shear-type wire cutter, and 2 jaw positions. With or without yellow plastic-dipped handles.

Stock No.	Mfr.'s Type	Overall Length	Jaw Length	Jaw Width	Jaw Thickness	EACH
726-1185	D511-6	6" (152mm)	13/32" (28mm)	13/16" (30mm)	3/32" (10mm)	**6.22**
726-1190	511-6*	6" (152mm)	13/32" (28mm)	13/16" (30mm)	3/32" (10mm)	**6.24**
726-1195	D511-8	8" (203mm)	15/16" (33mm)	1 1/4" (32mm)	7/16" (11mm)	**8.36**
726-1200	511-8*	8" (203mm)	15/16" (33mm)	1 1/4" (32mm)	7/16" (11mm)	**7.96**
726-1205	D511-10	10" (254mm)	1 1/2" (38mm)	1 1/2" (38mm)	1/2" (13mm)	**11.28**
726-1210	511-10*	10" (254mm)	1 1/2" (38mm)	1 1/2" (38mm)	1/2" (13mm)	**10.86**

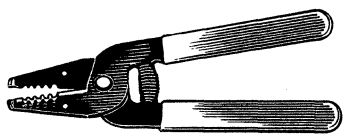
* Without yellow plastic-dipped handles.

Transverse End Cutting Pliers



Semi-flush cutting knives at tip with ample 5/8" (16mm) jaw slot for wire end. Can be extended vertically into work. Features coil spring and plastic-dipped handles. **Overall Length:** 4 5/8" (118mm). **Jaw Length:** 15/16" (24mm). **Jaw Width:** 7/16" (11mm). **Jaw Thickness:** 1/4" (6mm). **Knife Length:** 1/8" (3mm). **Point Thickness:** 1/8" (3mm).
726-1180. Type D224-4 1/2C ..... **EACH 14.04**

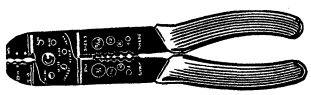
Wire Stripper-Cutter



Compact, lightweight — gauge cut, strip, and loop wire. Flat design; constructed of strong hardened steel with precision ground stripping holes. Spring-loaded, self-opening action. Clear gauge markings on both sides of the tool. With black oxide finish and plastic-dipped handles. Overall length 6".

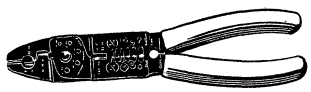
Stock No.	Mfr.'s Type	Handle Color	Strips AWG Gauges	EACH
726-1215	11045	Yellow	Solid wire 10, 12, 14, 16, 18	**8.70**
726-1220	11046	Red	Stranded wire 16, 18, 20, 22, 24, 26	**8.70**
726-1225	11047	Yellow	Solid wire 22, 24, 26, 28, 30	**8.70**

Multi-Purpose 6-In-1 Tool



Designed for a variety of applications - shears bolts clean; cuts, strips, and gauges wire; measures stud sizes; crimps insulated terminals. With red plastic-covered handles. **Length:** 7 1/2" (191mm).
726-1230. Type 1000 ..... **EACH 13.00**

All-Purpose Tool

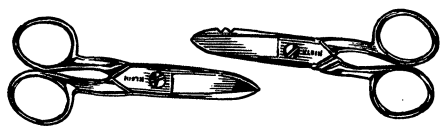


Will crimp insulated and non-insulated terminals, lugs, and splices; cut and strip wire; cut bolts; crimp 7mm ignition and distributor terminals. For sizes 10 to 22 AWG. Features wire cutter in nose and full-sized red plastic-covered handles. **Length:** 8 1/2" (216mm).
726-1235. Type 1002 ..... **EACH 15.36**

Adjustable Wire Stripper

Strips six standard wire sizes without nicking wire: No. 10 through 20 AWG and 5.3 through .5 metric. Scissors action of 1/2" wide cutter makes clean cuts with little effort. Serrated nose jaws to bend, shape, or pull wire; holes for looping wire ends. Compact; only 6" long. Coil spring reduces fatigue. Comfortable, blue plastic-covered handles.
726-1011. Type 1011 ..... **EACH 6.30**

Electrician's Scissors

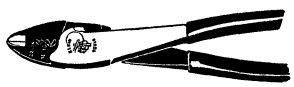


Designed for heavy-duty use. Strong, tough, tempered steel. Nickel-plated finish. Scraper and file on outside of both blades. Sharp points. Screw hinge permits adjustment. **Overall Length:** 5" (12.7cm).
726-2100. 2100-5 ..... **EACH 10.72**

Stripping Notches

Similar to No. 2100-5 above, but with lower blade serrated to minimize slippage of wire when cutting. Upper blade has notches for stripping 19- and 23- gauge wire. Rounded points. **Overall Length:** 5" (12.7cm).
726-2107. 2100-7 ..... **EACH 9.15**

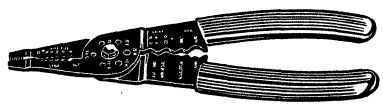
Crimping Tools



Type 1006. For crimping non-insulated solderless terminals and connectors (10 to 22 AWG). Features tapered nose containing specially hardened wire cutter and plastic-dipped handles (one black, one red). **Length:** 9 3/4" (248mm).
726-1240. Type 1006 ..... **EACH 15.66**

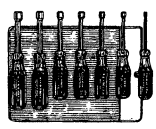
Type 1005. For insulated and non-insulated terminals and connectors; will handle wire from 10 to 22 AWG. Features thin nose for work in tight areas, wire cutter in nose, and red plastic-dipped handles. **Length:** 9 3/4" (248mm).
726-1250. Type 1005 ..... **EACH 15.16**

Long-Nose All-Purpose Tool



Combination cutter/crimper features crimping dies for insulated and non-insulated connectors from 10-22 gauge, and cutters for 4-40, 5-40, 6-32, 8-32, 10-32, and 10-24 screws. Designed to cut screws and cut, strip, and crimp wire. Cutters and strippers located in front of the pivot. With narrow serrated plier jaws to pull, loop, and bend wire, and blue plastic-covered handles. **Length:** 8 1/4" (210mm).
726-1245. Type 1010 ..... **EACH 13.66**

Nut Drivers



Consists of seven nut drivers in handy plastic pouch with hang hole.

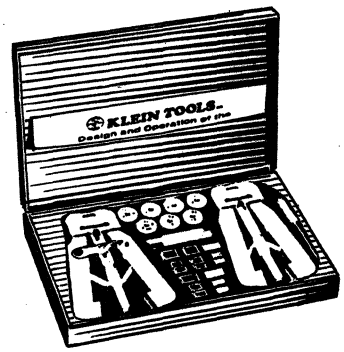
Stock No.	Mfr.'s Type	Color Code	Hex Size	Shank Length
631	630-3/16	Black	3/16"	3 1/8"
631	630-1/4	Red	1/4"	3 1/8"
631	630-5/16	Yellow	5/16"	3 1/8"
631	630-11/32	Green	11/32"	3 1/8"
631	630-3/8	Blue	3/8"	3 1/4"
631	630-7/16	Brown	7/16"	3 1/2"
631	630-1/2	Red	1/2"	3 1/2"

726-0631. Type 631 ..... **EACH 24.42**

MS Stripping Kits

These precision stripping tool kits include a selection of the most-used components for either fiber optic or wire stripping, together with complete instruction, cleaning brush and push-out tool. Cutter-Blade Sets included in kits are Normal sharpness. Sharp blade can be ordered separately if desired.

Fiber-Optic Stripping Kit MS-FOK-1



Kit Components for Stripping Fiber-Optic Buffer Coating up to 900 Microns

Stock Assembly Cat. No.	Blade Sets (with Tube Guide Locks)		Tube Guides	
	Cat. No.	Size (In.)	Cat. No.	Size (In.)
MS-1-FS	—	—	MS1-RT-10	.010
MS-1-FS	MS1-RB-05	.0063	MS1-RT-13	.013
MS-1-FS	MS1-RB-08	.008	MS1-RT-21	.021
MS-1-FS	MS1-RB-10	.010	MS1-RT-25	.025
MS-1-FS	—	—	MS1-RT-40	.040

Kit Components for Jacket Stripping

Stock Assembly Cat. No.	Blade Sets (with Tube Guide Locks)		Tube Guides	
	Cat. No.	Size (In.)	Cat. No.	Size (In.) (mm)
MS-2-L	MS2-RB-44	.044	MS2-RT-01	.103 (2.6 mm)
MS-2-L	MS2-RB-54	.054	MS2-RT-02	.122 (3.1 mm)

Kit includes Cleaning Brush, Push-Out Tool and Instructions.
726Q0001. Type MS-FOK-1 ..... **EACH 240.00**
NOTE: Cutter-Blades are Normal sharpness. Sharp Cutter-Blades can be ordered separately if desired.

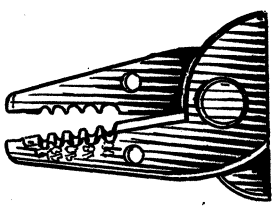
Wire Stripping Kit MS-TK-1

Kit Components for Stripping
18-32 A.W.G. Solid or Stranded Wire

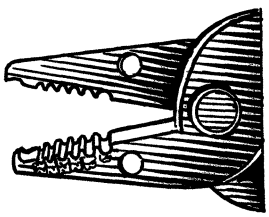
Stock Assembly Cat. No.	Blade Sets (with Tube Guide Locks)		Tube Guides	
	Cat. No.	Size (In.)	Cat. No.	Size (In.)
MS-1	MS1-RB-08	.008	MS1-RT-13	.013
MS-1	MS1-RB-10	.010	MS1-RT-16	.016
MS-1	MS1-RB-12	.012	MS1-RT-18	.018
MS-1	MS1-RB-14	.014	MS1-RT-21	.021
MS-1	MS1-RB-16	.016	MS1-RT-25	.025
MS-1	MS1-RB-18	.018	MS1-RT-31	.031
MS-1	MS1-RB-21	.021	MS1-RT-35	.035
MS-1	MS1-RB-23	.023	MS1-RT-40	.040
MS-1	MS1-RB-25	.025	MS1-RT-46	.046
MS-1	MS1-RB-28	.028	MS1-RT-52	.052
MS-1	MS1-RB-31	.031	MS1-RT-55	.055
MS-1	MS1-RB-34	.034	MS1-RT-63	.063
MS-1	MS1-RB-37	.037	MS1-RT-67	.067
MS-1	MS1-RB-44	.044	MS1-RT-70	.070
MS-1	MS1-RB-54	.054	MS1-RT-76	.076
MS-1	—	—	MS1-RT-81	.081
MS-1	—	—	MS1-RT-86	.086
MS-1	—	—	MS1-RT-93	.093

Kit includes Cleaning Brush, Push-Out Tool and Instructions.
726Q0002. Type MS-TK-1 ..... **EACH 375.32**

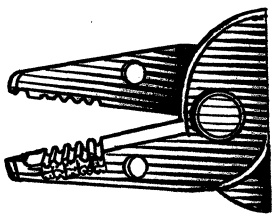
Wire-Stripping



11045



11046

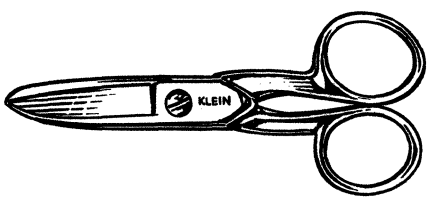


11047

Compact, lightweight strippers gauge, cut, strip and loop wire. Spring-loaded, self-opening action. Flat design makes them easy to store and carry. Narrow nose fits into tight places. Strip wire quickly, cleanly, evenly. Strong, hardened-steel with precision-ground stripping holes. Clear gauge markings on both sides. Black oxide finish. Comfortable plastic-dipped handles. Overall length 6" (152 mm). **Do not use on live electrical circuits.**

Stock No.	Mfr.'s Type	Handle Color	Strips AWG Gauges	EACH
726-1215	11045	Yellow	No. 10, 12, 14, 16, 18 solid wire (2.6, 2.1, 1.6, 1.3, 1.0 mm)	8.70
726-1220	11046	Red	No. 16, 18, 20, 22, 24, 26 stranded wire (1.3, 1.0, .81, .64, .51, .40 mm)	8.70
726-1225	11047	Yellow	No. 22, 24, 26, 28, 30 solid wire (.64, .51, .40, .32, .25 mm)	8.70

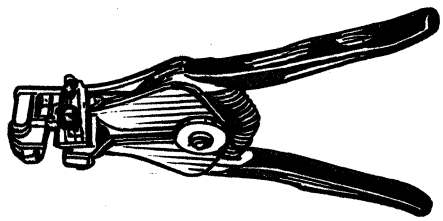
Electrician's Scissors



Designed for heavy-duty use. Strong, tough, tempered steel. Nickel-plated finish. Scraper and file on outside of both blades. Sharp points. Screw hinge permits adjustment.

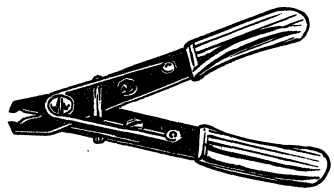
Stock No.	Mfr.'s Type	Overall Length	EACH
726-2100	2100-5	5" (12.7 cm)	10.72

Wire-Stripping Tools



Stock No.	Mfr.'s Type	Strips AWG Gauges	EACH
726-1226	11062	10, 12, 14, 16, 18, 20, 22 (2.6, 2.1, 1.6, 1.3, 1.0, .81, .64 mm)	28.62

Wire Stripper-Cutter



A handy, light, compact tool for stripping insulation from wire. Convenient hole for looping or bending wire. With or without hold-open spring. Yellow plastic-dipped handles.

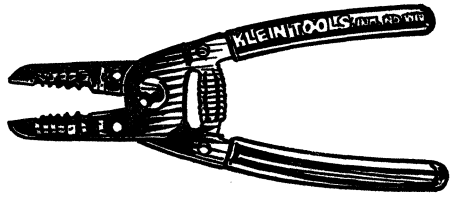
Stock No.	Mfr.'s Type	Overall Length	EACH
726-1237	1004 (with spring)	5" (127 mm)	4.78
726-1236	1003 (without spring)	5" (127 mm)	3.96

All-Purpose Tool

Crimps insulated and non-insulated terminals, lugs, and splices. Also cuts wire, strips wire, cuts bolts, crimps 7 mm ignition and distributor terminals. For sizes No. 10 to 22 AWG. Cuts bolt sizes 10-24, 10-32, 8-32, 6-32 and 4-40. Wire cutter in nose. Red plastic-covered handles.

Stock No.	Mfr.'s Type	Overall Length	EACH
726-1235	1002	8½" (216 mm)	15.36

Multi-Purpose Wire Stripper-Cutter

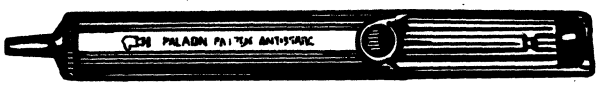


Strips six standard wire sizes without nicking wire: No. 10 through 20 AWG (2.6 through .8 mm). Scissors action of ½" wide cutter makes clean cuts with little effort. Serrated nose jaws to bend, shape, or pull wire; holes for looping wire ends. Compact; only 6" long. Coil spring reduces fatigue. Comfortable, plastic-covered handles. **Do not use on live electrical circuits.**

Stock No.	Mfr.'s Type	Overall Length	EACH
726-1011	1011	6" (152 mm)	6.30

14

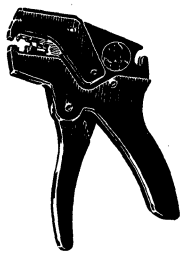
Anti-Static Desoldering Tool



Protects sensitive circuit components by discharging static build-up upon contact with the tool by a grounded operator. Removes solder quickly and completely.

889-1704. PA1704. Conductive Desoldering Tool ..... **EACH 16.95**
889-1705. PA1705. With Miniature Tip..... **EACH 19.95**

Mini-Stripax Wire Stripping Tool



► **Lightweight**
► **With Built-In Wire Cutter**

The perfect tool for stripping wires from AWG 30 to AWG 16, and for work in tight areas. Easy insertion; no "nicking". Steel stripping blades adjust automatically to wire size. Adjustable length of stripped section from 2.5 to 7mm (.098 to .276″). For use with PVC-insulated solid or stranded wire (including hard PVC insulation). Also includes a built-in wire cutter. The Mini-Stripax is not suited for Teflon, neoprene, or asbestos insulated wires; PVC insulated wires must be oil - and grease-free. Will not cut steel wires, nails, or cotter pins. Made of corrosion-resistant fiberglass-reinforced nylon. Blades made of hardened steel. **Weight:** 4 oz. approx.

889-1115. PA1115. Mini-Stripax ..... **EACH 59.95**
889-2108. PA2108. Replacement blades and jaws..... **EACH 16.95**

Self-Adjusting Wire Stripper

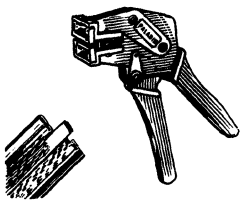
Maxi-Stripax® Wire Stripper

► **Accommodates AWG wire from 24 to 10 gauge**
► **Stainless steel laminated blades stay aligned and sharp for up to 200,000 strips**
► **Front feed**
► **Built-in wire cutter**
► **Fully insulated to 600 volts**
► **Lightweight - weighs just 5.1 ounces**
► **Easy to handle - only 7.75″ long**
► **Electrically Insulated form Shock Hazards**

Cut and strip wire in one clean action. Ergonomic construction and contoured handles provide maximum operator comfort. Exclusive cam system reduces hand pressure by as much as 30%, and allows effortless stripping of up to 8 conductors simultaneously.

889-1100. PA1100 ..... **EACH 59.95**
889-2101. PA2101. Replacement stripping blades ..... **EACH 22.95**
889-2102. PA2102. Replacement wire stop ..... **EACH 1.95**

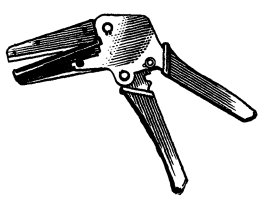
Flat Ribbon Cable Stripper



A tool that strips up to 32 conductors of bonded, laminated or twisted pair conductor flat cable — a major advance in flat cable preparation technology, both in function and versatility. The PA1121 strips the insulation back, but does not remove it, thus preserving the centerline spacing. No other flat ribbon cable stripper on the market today can equal the quality or cost effectiveness that this tool delivers.

889-1110. PA1121..... **EACH 219.95**

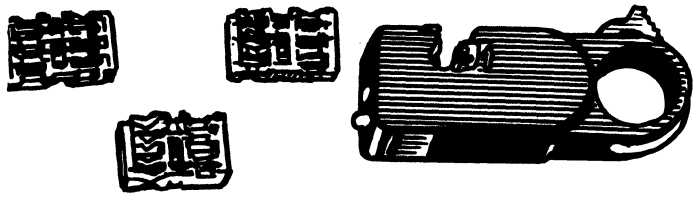
Flat Ribbon Cutter



This tool gives the user machine-like cutting capabilities on all flat ribbon cable up to 64 conductors wide. The hollow ground surgical-quality stainless steel blade cuts against a patented flexible "anvil" for an accurate, precise cut every time. A built-in guide assures users of a true square cut.

889-1812. PA1812. Ribbon cutter ..... **EACH 94.95**
889-2803. PA2803. Replacement cutting blade..... **EACH 17.45**
889-2804. PA2804. Replacement anvil ..... **EACH 17.45**

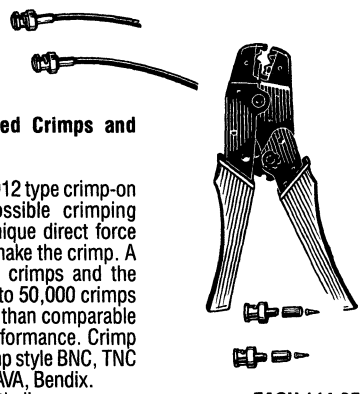
PA1240



Stock No.	Mfr.'s Type	Strip Dimensions	EACH
889-1240	PA1240	3-Step .28″, .13″	**49.95**
889-1241	PA1241	2-Step .25″	**43.95**
889-1242	PA1242	2-Step .48″	**43.95**

Stock No.	Mfr.'s Type	Color	Accessories For	EACH
889-2240	PA2240	Green	PA1240	**19.95**
889-2241	PA2241	Blue	PA1241	**17.45**
889-2242	PA2242	Yellow	PA1242	**17.45**
889-2245	PA2245	—	All	**19.95**

Ratcheted Crimping Tools

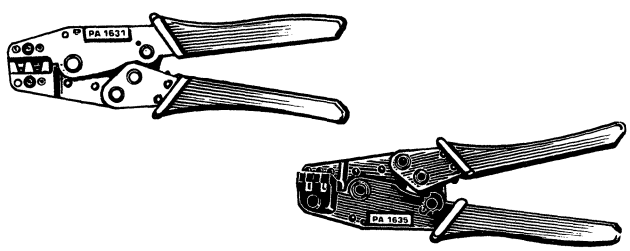


► **For BNC/TNC Coax Connectors**
► **Safety Release to Prevent Unwanted Crimps and Personal Injury**

These Ratcheted Crimping Tools for MS39012 type crimp-on BNC connectors combine the best possible crimping features at the lowest possible cost. A unique direct force design reduces the hand force needed to make the crimp. A safety release feature prevents unwanted crimps and the possibility of personal injury. Rated for up to 50,000 crimps these hardened steel crimp tools cost less than comparable "factory" tools and give better overall performance. Crimp dies are designed for these companies crimp style BNC, TNC connectors: Amphenol, Kings, Trompeter. AVA, Bendix.

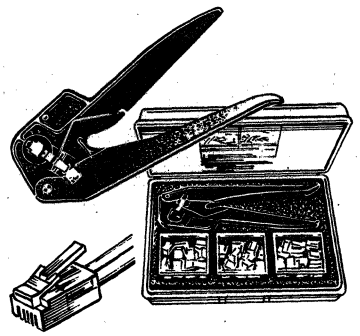
889-1610. PA1610 for RG58. Crimp tool with die ..... **EACH 114.95**
889-2001. PA2001. Replacement die for PA1610 ..... **EACH 69.95**
889-1616. PA1616 for RG174. Crimp tool with die ..... **EACH 114.95**
889-2003. PA2003. Replacement die for PA1616 ..... **EACH 69.96**
889-1130. PA1615 for RG59. Crimp tool with die ..... **EACH 114.95**
889-2002. PA2002. Replacement die for PA1615 ..... **EACH 69.96**

Open Barrel Crimping Tools



PA-1631 and **PA-1645.** Double-action tools for an entire range of open barrel contacts. The PA-1631 has a crimp range of 14-24 gauge. The PA-1645 crimps smaller wire sizes, 18-30 gauge. The unique straight-sided die design enables users to crimp virtually any open barrel contact (including pins and sockets, spring contacts, and open barrel slide-ons) from AMP, Molex, Burndy, Sourieau, TRW, Cinch, ITT Cannon, Amphenol, and Waldon.

889-1140. Model PA-1631 ..... **EACH 114.95**
889-1160. Model PA-1645 ..... **EACH 114.95**
PA-1635. Features a specially designed locator for .250 slide-on type connectors. This unique tool holds any 22-14 gauge AWG .250 slide-on connector in proper alignment with the dies. This assures a perfect crimp every time.
889-1635. Model PA-1635 ..... **EACH 114.95**



Modular Plug Crimp Tool and Telephone Termination Kits

Modular Plug Crimp Tool. Makes telephone line cord sets instantly. Crimps both primary and secondary relief points simultaneously crimps and connects all contacts on the RJ-11 modular plug connector. Self-bottoming tool is designed for all 2, 4, and 6 position 28 ga. AWG modular plugs. Fiberglass-reinforced nylon tool body. **Termination Kits.** Includes PA-1500 crimp tool and 50 pieces of RJ-11 2, 4, or 6 position line cord modular plug connectors. **Connectors.** Designed to meet all commercial applications. Features phosphor bronze contacts and dual strain reliefs for excellent conductivity and superior mechanical strength. 2, 4, or 6 positions.

Stock No.	Mfr.'s Type	Description	EACH
889-1500	PA-1500	Modular plug crimping tool without accessories	41.46
889-1551	PA-1551	Kit w/4-position line cord modular plug connectors	69.16
889-1552	PA-1552	Kit w/6-position line cord modular plug connectors	57.79
889-9519	PA-9519*	RJ-11 4-position line cord modular plug connectors	23.95
889-9520	PA-9520*	RJ-11 6-position line cord modular plug connectors	30.95

* Sold in 100-piece packages.

Teflon Wire Stripper

Strips 32-18 gauge AWG E or EE Teflon, Kynar or Tefzel insulated wire with just one squeeze. A unique stripping system provides 360° die cut blade surface. Proper blade alignment is assured with a patented self-aligning wire-centering device. A built-in wire cutter means there is no need for any additional tools. Model PA-1110 comes with a complete set of five different snap-in blades for 18-32 ga. AWG.

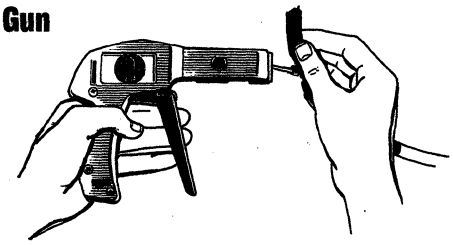
Tool Without Blade Set

Stock No.	Mfr.'s Type	EACH
889-1108	PA-1108	44.95

Complete Kit With Blades

889-1111	PA-1110	189.95

Cable TY Gun

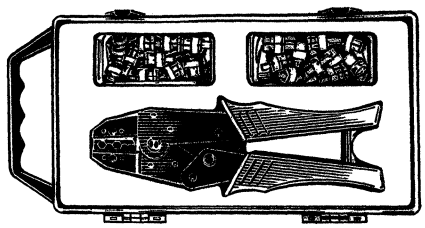


PA1825. Cable Ty Gun gives the user the highest quality at a truly economical price. Cable Tys are tensioned to cut cleanly and smoothly with no ragged edges. The tension adjustment gives great flexibility in selecting bundling pressure while keeping operator fatigue to a minimum. 10 ounces. 3/4" wide tys.
889-1825 ..... **EACH 73.79**

Flat Ribbon Cable Slitter

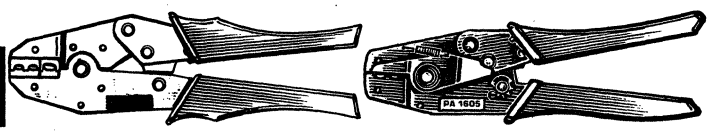
Slit bonded and laminated 26-28 gauge .050 centerline ribbon cable up to 26 conductors simultaneously. With one quick squeeze the Flat Ribbon Slitter accurately separates conductors making them ready for individual terminations. With this tool flat ribbon cable can be separated at the end or at any point in its length for daisy chain applications. Lightweight, compact, and versatile.
889-1135. Model PA-1130 ..... **EACH 289.95**

Model PA-4305 Insulated Terminal Termination Kit



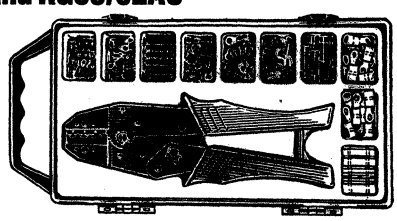
Ideal for field service or in-plant repairs! The PA-4305 kit features the PA-1305 full-cycle steel body ratcheted crimp tool for 22-12 gauge insulated red, blue, and yellow terminals. Also includes an assortment of ring tongue spade splices in all three sizes (total of 100 pieces). Kit is contained in a tough plastic case with 2 security latches.
889-4305. Model PA-4305 Termination Kit ..... **EACH 61.48**

PA-1305 and PA-1605



Two tools less than half the cost of comparable factory crimp tooling. Designed to crimp most Red, Blue, and Yellow insulated terminals and splices. The PA-1305 easily handles 22 to 10 gauge connectors.
The PA-1605 is for fully insulated slide-on and vibration proof connectors. Features a built-in connector locator. Designed specifically to provide a tighter crimp for applications where harsh vibrations are a concern. Will crimp all Red (22-18 gauge) and Blue (16-14 gauge) fully insulated slide-on connectors with thinner barrels that require a more compressed crimp. Is designed to handle connectors made by: AMP, T & B, ETC, Hollingsworth, Panduit, 3M, Vaco, and Burndy.
889-1300. Model PA-1305 ..... **EACH 49.95**
889-1605. Model PA-1605 ..... **EACH 86.10**

Model PA-4317 RG58 and RG59/62AU Coax Termination Kit

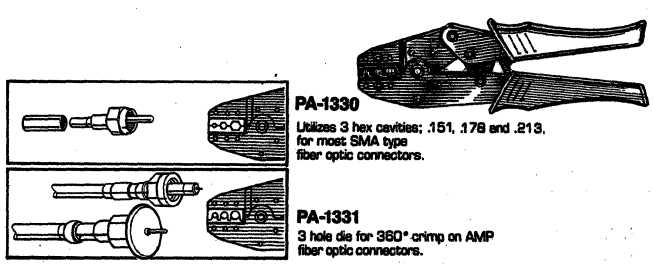


The PA-4317 kit features the PA-1317 full cycle ratcheted crimp tool for MS39012 BNC's and TNC's. The PA-1317 comes with combination dies for crimping ferrules and center pins on all MS39012 BNC or TNC connectors. The kit also includes 10 pieces each of top-quality commercial grade RG58 and RG59/62AU BNC plugs with silver-plated center pins and corrosion-resistant bodies. Other configurations of BNC accessories are available.
889-4317. Model PA-4317 Termination Kit ..... **EACH 88.59**

Econocrimp™ Fiber Optic Crimpers

- **Full Cycle Ratchet with Safety Release**
- **Sure Grip Handles**
- **Simultaneous Electrical and Mechanical Crimps**
- **Steel Body**

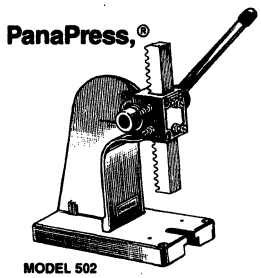
As Fiber Optic technology advances, the need for top quality crimping tools increases dramatically. To meet those increasing needs, Paladin introduces crimp tools designed to provide maximum precision, ease of operation, and value. **Exclusive features of the PA 1300 Series Econocrimp System:** Full cycle ratchet with safety release to prevent unwanted crimps; high quality electrical and mechanical crimps are made simultaneously; sure grip handles insure efficiency and operating ease; top grade steel body designed for long term use; crimps meet or exceed U.L. standards.
889-1330. Model PA-1330 ..... **EACH 49.95**
889-1331. Model PA-1331 ..... **EACH 49.95**



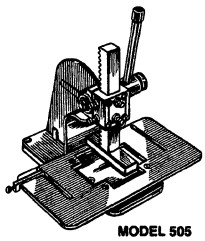
PA-1330
Utilizes 3 hex cavities; .151, .178 and .213, for most SMA type fiber optic connectors.

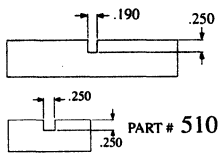
PA-1331
3 hole die for 360° crimp on AMP fiber optic connectors.

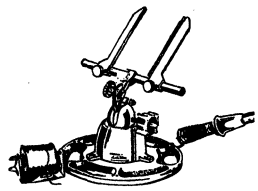
Work Centers, Presses, Vises, and Bases

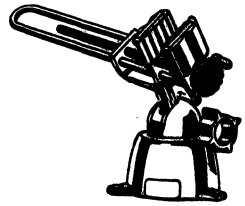


MODEL 502

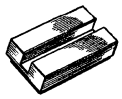

MODEL 505

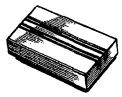



MODEL 324

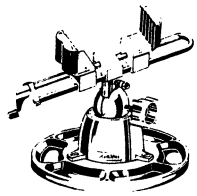

MODEL 396

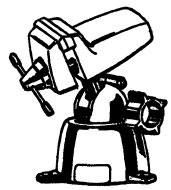
MODEL 510


MODEL 511


MODEL 512

MODEL 513


MODEL 350


MODEL 301

MODEL 381

Model 502 Panapress®

This small, less than 7″ high, arbor press has a rated capacity of 500 psi. The ram is fully reversible with 4 nylon adjusting gibs for accurate direction control. The arbor and table plate are of pressure die cast and the operating mechanism and operating lever are hardened and ground steel. The leverage ratio is 13.25:1. The throat depth is 2½″ and vertical capacity is 3½″.

890-5050. Model 502 ..... **EACH 88.99**

Model 505 IDC Bench Assembly Press

¼-ton manual press with assembly base and standard platen. Mass termination of up to 64-conductor cable in seconds without wire stripping or soldering. Full series of base plates available. For IDC connectors on flat (ribbon) cable.

890-5055 ..... **EACH 154.99**

Model 510. Base plate for installing female socket transition connectors.

890-5060 ..... **EACH 24.99**

Model 511. Base plate for installing card edge connectors.

890-5065 ..... **EACH 24.99**

Model 512. Base plate for installing all standard DIP plugs.

890-5070 ..... **EACH 24.99**

Model 513. Base plate for installing D-Sub connectors.

890-5075 ..... **EACH 24.99**

Model 324 Electronic Work Center

This handy work center is convenient yet economical. Angle of solder iron holder maintains iron at proper heat and solder holder self centers wire. Sturdy, stable, yet easily mobile, the 324 keeps everything right at hand. (Combination of Models 315, 300, 312, and 371).

890-4400 ..... **EACH 66.99**

Model 396 Wide Opening Head

Designed to hold projects in any position for assembly or repairs, the PanaVise 396 is a combination of the 366 Wide Opening Head and the 300 Standard Base. Each full turn of the insulated handle permits micro-adjustments to the exact pressure required.

890-4500 ..... **EACH 41.99**

Model 350 Multi-Purpose Work Center

This Multi-Purpose Work Center can be used to work on objects up to 9 inches in size as well as those tiny hard-to-hold objects. The Standard base tilts, turns and rotates to any work position and the tray base mount keeps small parts and tools right at hand. (Combination of Models 376, 300, and 312).

890-4410 ..... **EACH 66.94**

Model 301 Standard PanaVise

This all-purpose Standard PanaVise tilts, turns and rotates. Consisting of a Standard Base Model 300 and a 303 head, the 301 has nylon jaws with a satin finish for a firm grip. Just one convenient control knob locks work firmly in any position.

890-4451 ..... **EACH 37.99**

Model 381 Vacuum Base PanaVise

The 380 Vacuum Base is combined with the Model 303 Standard Head to create the same versatility of the Standard PanaVise with portability. Half turn of the mount lever attaches and releases powerful suction pad to allow setups in a variety of locations with a smooth non-porous surface.

890-4464 ..... **EACH 48.99**

Circuit Board Holders, Base and Base Mounts

Model 333 Rapid Assembly Circuit Board Holder

This holder features 8 position rotating adjustment and 6 lock positions in the vertical plane. Cross bars are available up to 30 inches in length to hold larger boards. Spring loaded, the 333 features tilt angle and height adjustment and quickboard rotations for easy component insertion and soldering. Includes 12″ cross bar.

890-4420 ..... **EACH 57.99**

Model 300. Standard Panavise® base.

890-4457 ..... **EACH 17.99**

Model 311. Bench clamp base mount.

890-4450 ..... **EACH 31.99**

Model 303. Standard head.

890-4460 ..... **EACH 20.99**

Model 371. Solder and iron holder.

890-4411 ..... **EACH 7.49**

Model 312. Tray base mount.

890-4458 ..... **EACH 18.99**

Model 315. Circuit board holder. Holds PC boards up to 12″ W.

890-4498 ..... **EACH 23.99**

Model 380. Vacuum base.

890-4461 ..... **EACH 28.99**

Model 305. Low-profile base.

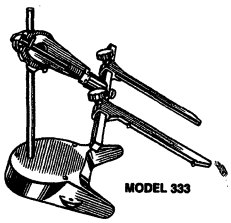
890-4515 ..... **EACH 17.99**

Model 366. Wide opening head. Opens a full 6″ with a jaw width of 1¾″.

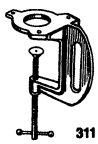
890-4505 ..... **EACH 24.99**

Model 376. Self-centering extra-wide opening head. Jaws open to 9″.

890-4510 ..... **EACH 31.99**


MODEL 333

300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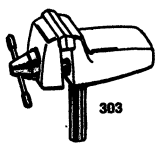
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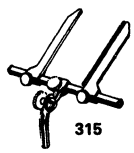
371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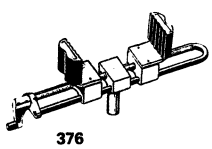
380

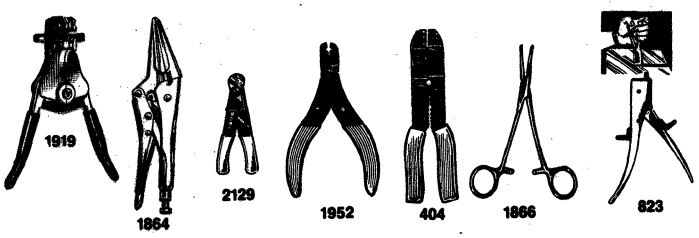
305

366


376

14

Cutting Tools and Strippers



Type 64-1919 Automatic Wire Stripper. Strips wire from #8 to #22 gauge in seconds. Removes insulation cleanly without nicking or breaking wire for smooth, professional quality work. Lightweight, yet extremely durable. 7″.
910-1919 ..... **EACH 11.95**

Type 64-1864 Locking Long Nose. A must for every tool box! Cut wire, pull cotter pins, hold small parts — unlimited uses! 7″ long.
910-2143 ..... **EACH 4.99**

Type 64-2129 Wire Stripper/Cutter. Spring-loaded tool strips #12 to #24 wires. Handy tool has easy-grip handle. Shpg. wt. 1/2 lb.
910-5931 ..... **EACH 2.79**

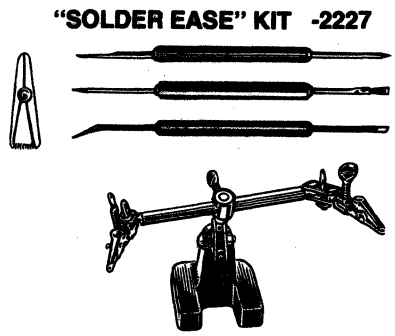
Dial Type 64-1952 Stripper/Cutter. Versatile spring-loaded stripper and cutter adjusts to any gauge wire from #12 to #24. Flush cutting action. Plastic cushioned grips.
910-5803 ..... **EACH 4.29**

Type 64-404 Crimping Tool. Crimps terminals, strips and cuts 10 to 22-gauge wire. Cushion-grip handles. 8 1/2″ long.
910-2141 ..... **EACH 5.49**

Type 64-1866. Perfect for temporary heat sink and picking up parts. Three-position lock, curved serated tip. Box joint construction. Stainless steel.
910-2144 ..... **EACH 4.95**

Type 64-823. Easy-to-use hand-held sheet metal cutter. Cuts up to 18-gauge steel, 1/16″ copper, aluminum and plastic.
910-2142 ..... **EACH 10.95**

Soldering Aids



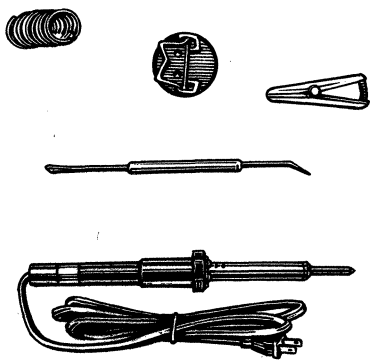
Type 64-2098 Vacuum Desoldering Tool. Aluminum. Sturdy aluminum housing with nonstick tip and side-mounted trigger button. Disassembles easily for cleaning. 7 3/4″ long.
910-2154 ..... **EACH 5.99**

Type 64-2227 "Solder Ease" Kit. Special kit containing four tools for improved soldering. Aluminum heat sink protects transistors and diodes when soldering, gives a firm grip. Fine-point probe aids soldering on printed circuits. Stainless steel hardened probe, steel brush and scraper helps keep circuit clean as you solder. Also with heat sink. Shpg. wt. 1/2 lb.
910-5937 ..... **EACH 3.99**

Type 64-2086 Vacu-Bulb. Takes up solder safely, easily with vacuum action. No spattering. Teflon tip.
910-2155 ..... **EACH 2.59**

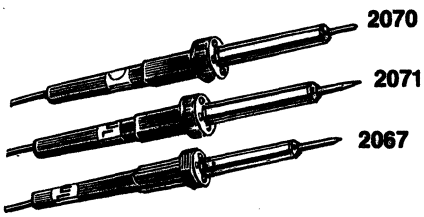
Type 64-2093 "Helping Hands". Supplies an extra pair of hands for glueing, soldering, painting. Six ball joints and two nickel-plated alligator-type clamps adjust to hold work in any position. Solid cast-iron base.
910-2156 ..... **EACH 7.99**

Beginners 5-Piece Soldering Set



Type 64-2802. Everything you need for basic soldering. Includes 30-watt U.L. listed pencil soldering iron, solderng iron stand, coil of solder, heat sink and soldering aid and instructions.
910-2157 ..... **EACH 6.95**

Soldering Irons



Type 64-2070 25-Watt Pencil Iron. Insulated. 5/32″ screw in tip. 600-640°F. With stand.
910-2147 ..... **EACH 6.29**

Replacement Tip. Type 64-2073.
910-2148 ..... **EACH .99**

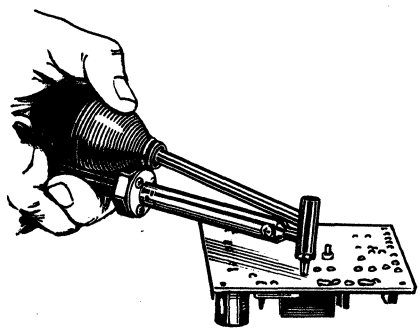
Type 64-2071 40-Watt Pencil Iron. As above, but with 1/4″ tip.
910-2149 ..... **EACH 7.29**

Replacement Tip. Type 64-2072.
910-2150 ..... **EACH 1.19**

Type 64-2067 30-Watt Pencil Iron. Lightweight 7″ long.
910-2151 ..... **EACH 4.49**

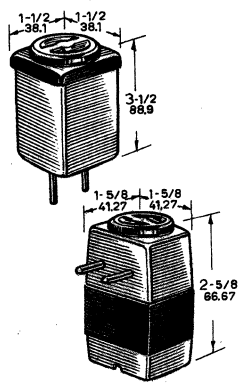
Replacement Tip. Type 64-2065.
910-2152 ..... **EACH .99**

"One-Hand" Electric Desoldering Iron



Type 64-2060. Makes repairs quickly and cleanly. The easy way to remove or replace old electronic parts from circuit boards. With handle, bulb, desoldering unit and tip, 5-foot cord. Rated 45 watts. U.L. listed.
910-2145 ..... **EACH 8.49**

Replacement Tip. Type 64-2061.
910-2146 ..... **EACH .99**

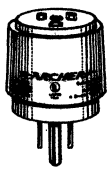


Foreign Travel Adapters

Convert 220/240 Volts to 120VAC 50/60 Hz

Converter-Adapter
Allows use of 120VAC irons, broilers, heating pads, etc. from 220/240 volts. Rated at 1000 watts. Built-in thermostat automatically prevents overheating and overloading. 3 1/2 × 1 1/2 × 1 1/2″. 3 oz.
910-5255. Type 273-1402 ..... **EACH 15.95**

Step-Down Transformer
For completely safe operation of 120VAC electric razors, radios, calculators, etc. from 220/240VAC. Also great for battery rechargers. Rated at 40 watts. Thermally protected. 1 5/8 × 2 5/8 × 1 1/4″. 9 1/2 oz.
910-5250. Type 273-1401 ..... **EACH 14.95**



Voltage Spike Protector with Status Indicator Light

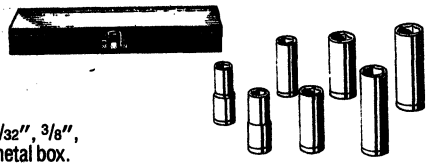
Type 61-2791. Acts as safety valve by absorbing damaging high-voltage transients without interfering with normal current flow. Easy to use, no wiring necessary, just plug it in. Built-in light indicates protection circuit is functioning properly. Rated 15 amps. U.L. listed.
910-2158 ..... **EACH 7.95**

10,000 Volt Dielectric Vinyl Electrical Tape

Type 64-2350. Protect your electrical connections. Hundreds of industrial, household, shop and auto uses. **Size:** 3/4″ × 66′.
910-5950. 1-5 ..... **EACH 1.49**
6-11 ..... **EACH 1.32**
12-Up ..... **EACH 1.29**

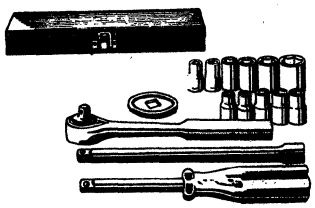
Handy 5-pack of PVC electrical tape. 5 popular colors for practically any job. Each roll 3/4″ × 12′.
910-5960. 64-2340. Pack ..... **EACH 2.19**

8 pc. 1/4" Drive Deep Socket Set



Set contains: 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2" Deep Pt. Sockets and metal box.

796-6002. Type 30008 ..... **EACH 13.96**

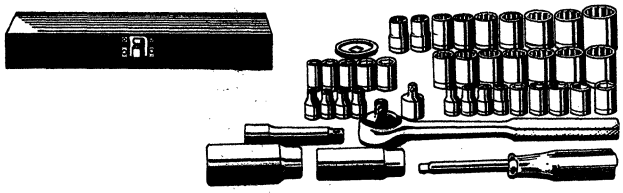


16 Pc. 1/4" Drive Socket Wrench Set

Set contains: Reversible Ratchet, Spinner Handle, 6" Extension, 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 6 Pt. Regular Sockets, 1/4", 5/16", 3/8", 8 Pt. Regular Sockets, 1/4" Spin Disc and metal box.

796-6003. Type 30016 ..... **EACH 16.40**

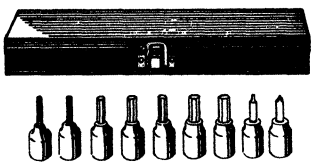
42 Pc. 1/4"—3/8" Drive Sae And Metric Socket Wrench Set



Set contains: Spinner Handle, 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2" 6 Pt. Regular Sockets, 4.5 MM, 5 MM, 6 MM, 7 MM, 8 MM, 9 MM, 10 MM, 12 MM 6 Pt. Metric Sockets, Reversible Hatchet, 3" Extension, 3/8F-1/4"M Adaptor, 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 12 Pt. Regular Sockets, 9 MM, 10 MM, 11 MM, 12 MM, 13 MM, 14 MM, 15 MM, 17 MM, 19 MM 12 Pt. Metric Sockets, 13/16", 5/8" Sparkplug Sockets, Ratchet Spin Disc and Organizer Tool Box.

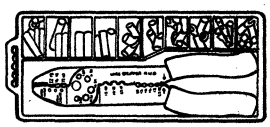
796-6004. Type 33742 ..... **EACH 39.95**

10 Pc. 3/8" Drive Hex Bit Socket Set



Set contains: Plain Screwdriver Bit Socket, #2 Phillips Bit Socket, 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8" Hex Bit Sockets and metal box.

796-6005. Type 31010 ..... **EACH 17.15**

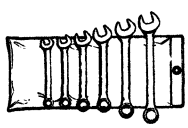


101 Pc. Crimping Tool Set

Set contains: crimping tool and 100 frequently used terminals and connectors.

796-6006. Type 157806 ..... **EACH 10.95**

6 Pc. Combination Wrench Set



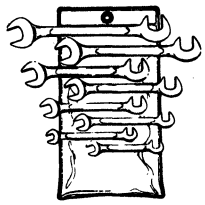
Set contains: 3/8", 7/16", 1/2", 9/16", 5/8", 3/4" Combination Wrenches with vinyl pouch.

796-6007. Type 34056 ..... **EACH 12.25**

Locking Plier

6" Long Nose Locking Plier.
796-6013. Type 58106 ..... **EACH 8.77**

8 Pc. Ignition Wrench Set



Set contains: eight drop forged ignition wrenches. Each wrench has both 15 and 60 open ends. Sizes range from 13/64" to 3/8". Vinyl roll included.

796-6008. Type 158579 ..... **EACH 10.65**

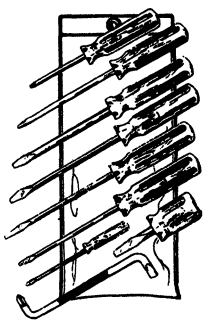
Adjustable Wrenches

4" Adjustable Wrench
796-6009. Type 56704 ..... **EACH 8.40**

6" Adjustable Wrench
796-6010. Type 56706 ..... **EACH 9.10**

8" Adjustable Wrench
796-6011. Type 56708 ..... **EACH 12.57**

9 Pc. Chrome Vanadium Screwdriver Set



Set contains: 1/8", 3" Pocket Screwdriver, 3/16" × 4" Cabinet Screwdriver, 3/16" × 6" Cabinet Screwdriver, 1/4" × 1 1/2" Stubby Screwdriver, 1/4" × 4" Square Shank Screwdriver, 1/4" × 6" Square Shank Screwdriver, 3/16" × 3" #1 Phillips Screwdriver, 1/4" × 4" #2 Phillips Screwdriver, and 1/4" × #2 Phillips Comb. Offset Screwdriver.

796-6012. Type 156259 ..... **EACH 12.48**

Chrome Vanadium Pliers

6" Slip Joint Pliers
796-6014. Type 23-5626 ..... **EACH 5.00**

8" Slip Joint Pliers
796-6015. Type 23-5628 ..... **EACH 5.73**

5" Mini Long Nose Pliers with Spring
796-6016. Type 23-5635 ..... **EACH 7.10**

6" Long Nose Pliers
796-6017. Type 23-5636 ..... **EACH 7.40**

8" Long Nose Pliers
796-6018. Type 23-5638 ..... **EACH 7.98**

4 1/2" Mini Diagonal Pliers with Spring
796-6019. Type 23-5645 ..... **EACH 6.92**

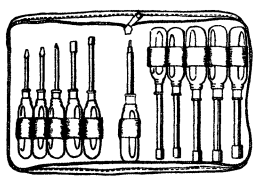
6" Diagonal Pliers
796-6020. Type 23-5646 ..... **EACH 7.85**

7" Heavy Duty Diagonal Pliers
796-6021. Type 23-5647 ..... **EACH 9.75**

6" Linemans Pliers
796-6022. Type 23-5656 ..... **EACH 6.34**

7" Linemans Pliers
796-6023. Type 23-5657 ..... **EACH 7.30**

8" Linemans Pliers
796-6024. Type 23-5658 ..... **EACH 8.44**

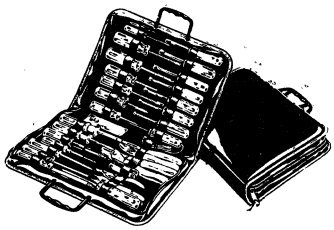


12 Pc. Nutdriver/ Screwdriver Set

Set contains: 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2" Nutdrivers, T10, T15 Reversible Torx Driver, 1/8" × 3" Screwdriver, 3/16" × 3" Screwdriver, 3/16" × 3" #1 Phillips Screwdriver with a vinyl zipper case.

796-6025. Type 23-012 ..... **EACH 25.50**

14

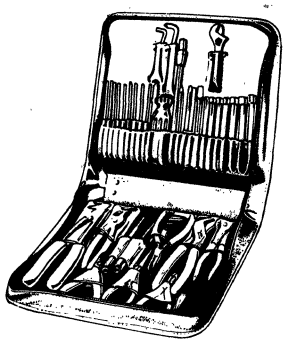


Model 70470 Tool BUX™ Super Case

The Last Word In Convenience! 29 Popular tools including screwdrivers, nut drivers, electrical tools, and specialty tools — all placed in an attractive vinyl zippered case with sturdy retractable handles for easy carrying. Each tool is held by heavy duty elastic holders making it easy to select the proper tool for the job. 25 × 15½ × 1¾". 8 lbs.

979-7047 ..... **EACH 137.99**

Super Zip Tool Kit

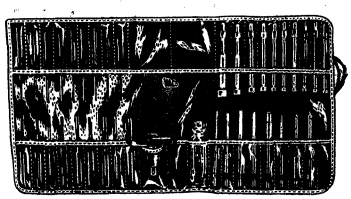


Model 70390. For professional or novice, the Super Zip Tool Kit is designed to help you 'ZIP' through any job, in shop or out. Handsome yet rugged zippered vinyl case contains a variety of 36 popular professional tools that are lightweight and versatile enough to go anywhere. Includes interchangeable 90-series handle and screwdriver, nutdriver and hexdriver blades plus pliers, electrical tools, offset and regular screwdrivers. This is the portable tool kit for the on-the-go worker.
979-5005. Model 70390 ..... **EACH 186.45**

Super Case Tool Kit

► **Supplied with a Variety of Professional Tools**
Model 70260. Super case includes 48 problem solving tools for design, research, maintenance, repair and service requirements. Case is sturdily built with rich simulated look of black top-grain leather. Partitions in bottom of case are available for additional material such as test meters, etc. Pallets are removable, heavy gauge vinyl. Complete assortment holds all tools, testers and specialty units including: 3 testers; Crimping Tool; Wire Stripper; Measuring Tape; Hex Key Wrench; 2 Offset Drivers; Tapping Tool; Spring Tool; Snap Ring Plier; 4 Screw Launchers; Magnetic Driver; 2 Wrenches; 2 Reversible Drivers; 13 Screwdrivers; 7 Hollow Shaft Nut Drivers; 7 Pliers. **Case Size:** 19 × 14½ × 6". **Weight:** 20 lbs.
979-5000. Model 70260 ..... **EACH 403.73**

38-Piece Vacombo Kit #90MP

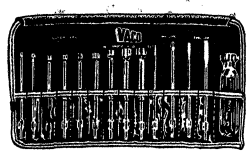


Multi-purpose kit includes 9 hex nut driver blades, 4 slotted screwdriver blades, 3 Phillips screwdriver blades, 9 bristol style fluted spline blades, magnetic nut driver blade, 5" extension blade, full size handle, reversible ratcheting T-handle, and more. Carrying pouch measures 23" long. 11¾" wide; has 4 extra pockets. **Shipping Weight:** 8 lbs. (3.63kg).
979-8000. Type 90MP .... **EACH 79.49**

8-Piece Screwdriver Set #70101

Kit includes Torque Commander handle, 3 Phillips, and 5 regular straight slot drivers (Phillips: #0, #1, #2; Slot: 3/32", 1/8", 3/16", 1/4", 5/16"). Comes in a hang-up box.
979-8010. Type 70101 ..... **EACH 12.59**

14-Piece Vacombo Kit #90000

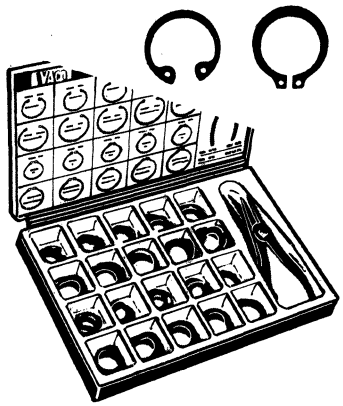


Kit includes 4 screwdriver and 9 hex nut driver blades plus full size handle. Carrying pouch measures 12¾" long, 7" wide. **Shipping Weight:** 2 lbs. (.907kg).
979-8005. Type 90000 ..... **EACH 26.46**

10-Piece Nut Driver Set #70103

Kit includes Torque Commander handle and 10 nut drivers (3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 3/8"). Comes in a hang-up box.
979-8015. Type 70103 ..... **EACH 17.29**

Combination Internal/External Snap Ring Kits



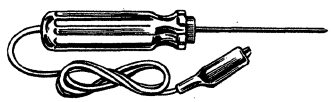
Model 1550. MetaL box assortment contains selection of internal snap rings in sizes up to 1.023" Housing diameter and external snap rings in sizes up to 0.875" Housing diameter. Snap ring pliers NO. 21 and NO. 22 also included. Hinged cover and identification label in cover. Individual compartments for each snap ring. Shpg. Wt. 8 lbs.
979-1550 ..... **EACH 35.10**

2100. Metal box assortment contains selection of internal snap rings up to 1.625" Housing diameter and external snap rings in sizes up to 1.438". Snap ring pliers NO. 23 and NO. 24 included. Hinged cover, individual compartments for each snap ring. Identification label in cover. Shpg. Wt. 10 lbs.
979-2100 ..... **EACH 45.54**

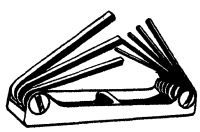
Continuity Tester

► **Extra Long 36" Lead Wire**

► **Deluxe Comfordome® Amberyl Handle**



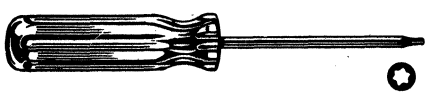
Model 70305. Checks for defective controls and switches, broken leads or lines, motors, appliances, etc. Tests for continuity of circuit with power off. Bulb in handle glows when circuit is complete. Pointed 3¾" probe. Large 4" handle with removable nylon cap holds replaceable bulb and battery. Long 36" test lead with alligator clip. Shpg. Wt. 1 lb.
979-7000 ..... **EACH 5.02**



Pocket Hex Wrench Set

Type 70581. Set includes eight of the most common hex wrench sizes. **Contains:** .050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", and 5/32" folding hex blades. **Handle Length:** 3".
979-4812 ..... **EACH 1.97**

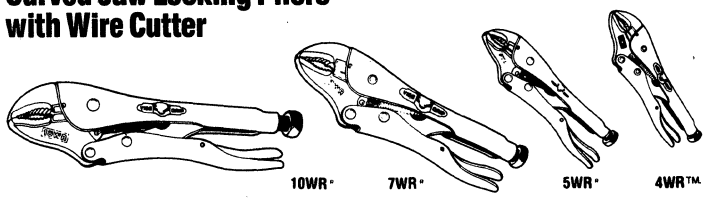
TORX® Drive System



6 point fastening system which maximizes the driving surface for longer drive life, while maximizing torque, reducing slippage and minimizing worker fatigue. Sometimes called the 'Star' fastener because of its likeness to the shape of a star, this new fastening system is now used on most late model cars as well as in late model appliances and television sets.

Stock No.	Mfr.'s Type	TORX® Size	EACH
979-0515	70515	T15	3.48
979-0520	70520	T20	3.48
979-0525	70525	T25	3.13
979-0530	70530	T30	3.48

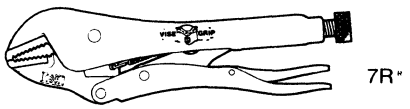
Curved Jaw Locking Pliers with Wire Cutter



Sizes: 7″, 5″ and 4″. All have curved jaws, knurled tips and wire cutters. Properly adjusted and locked to the work, VISE-GRIP tools won't slip. They lock on instantly and release quickly. They also adjust to pliers action.

Stock No.	Mfr.'s Type	Length	Jaw Adj.	Jaw Thick.	EACH
992-1000	10 WR	10″	1 7/8″	3/8″	12.70
992-7000	7 WR	7″	1 5/8″	5/16″	11.05
992-5000	5 WR	5″	1 1/4″	1/4″	10.05
992-4000	4 WR	4″	15/16″	1/4″	9.25

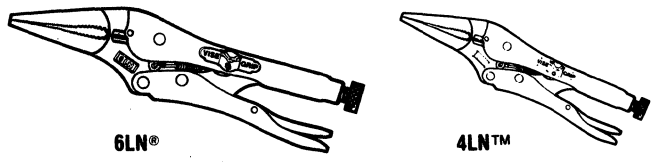
Straight Jaw Locking Pliers



Two sizes—10″ and 7″. Both are modern versions of the original VISE-GRIP locking pliers/wrench. Built rugged. VISE-GRIP tools lock instantly, release quickly and adjust to pliers action.

Stock No.	Mfr.'s Type	Length	Jaw Adj.	Jaw Thick.	EACH
992-1010	10R	10″	1 1/2″	5/8″	11.95
992-1007	7R	7″	1 1/8″	7/16″	11.10

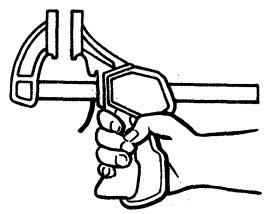
Long Nose Locking Pliers with Wire Cutter*



Long nose jaws reach into tight spots where other tools can't. Built-in wire cutter. Adjusts easily for proper locking pressure. Available in 6″ and 4″ sizes.

Stock No.	Mfr.'s Type	Length	Jaw Adj. (opens to)	Jaw Thickness	EACH
992-6000	6LN	6″	2 1/4″ at tips, 1″ at base	1/8″ at tips 5/16″ at base	11.75
992-4001	4LN	4″	1 3/4″ at tips, 3/4″ at base	1/8″ at tips, 1/4″ at base	10.70

Quick-Grip™



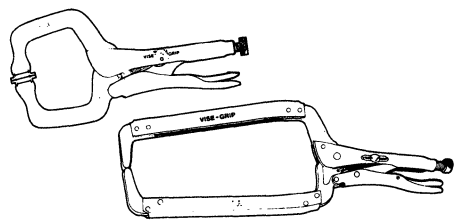
- **Handle and jaws engineered for strength and light weight.**
- **High carbon, heat treated steel bar.**
- **Soft, pliable pads protect fine finishes.**

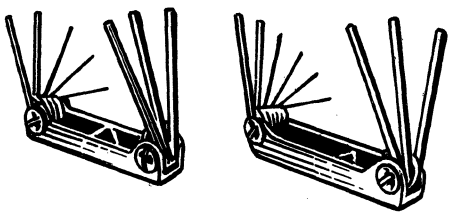
992-0506. Model 00506, 6″ length. . . . . **EACH 20.99**
992-0512. Model 00512, 12″ length. . . . . **EACH 25.20**

Locking C-Clamps

9 models—24″, 18″, 11″, 6″ and 4″. Micro-adjustment for quick pre-adjusting and repeat clamping. Locks to work with hand squeeze. Easy-release trigger. All clamps except 4″ available with regular tips or self-leveling swivel pads.

Stock No.	Swivel Pads	Stock No.	Regular Tips	Length	Jaw Adj.	Throat Height	Throat Depth	EACH
992-1024	24SP	992-2024	24R	24″	12 1/2″	4 1/2″	15 1/2″	35.50
922-1018	18SP	992-2018	18R	18″	8″	4 1/2″	9 1/2″	28.65
922-1011	11SP	992-2011	11R	11″	3 3/4″	3 3/4″	2 1/2″	20.15
922-1006	6SP	992-2006	6R	6″	2″	2 1/4″	1 3/8″	12.55
922-1004	4SP	—	—	4″	1 1/2″	1 7/8″	1″	10.95





Chesco™ Folding Hex Key Sets

From the makers of VISE-GRIP® Tools

- **Made from heat treated 8650 alloy steel**
- **Black oxide finish**
- **One-piece steel case**
- **Case doubles as proportioned handle**
- **Spring loaded to hold tool in any postion**
- **Hex size stamped on shaft**
- **Folds up like a pocket knife**

88081 8-Piece Folding Hex Key Set
Sizes: .050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″.
992-8081 . . . . . **EACH 2.90**

88091 9-Piece Folding Hex Key Set
Sizes: 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″.
992-8091 . . . . . **EACH 4.42**

88017 7-Piece Metric Folding Hex Key Set
Sizes: 1.5 mm, 2 mm, 2.5 mm, 3 mm, 4 mm, 5 mm, 6 mm.
992-8017 . . . . . **EACH 3.64**

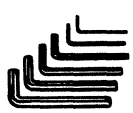
14

Short Arm Hex Key Sets

Plastic Pouches

88021 6-Piece Short Arm Hex Key Set
Sizes: .028″, .035″, .050″, 1/16″, 5/64″, 3/32″. Handy storage pouch.

992-8021 . . . . . **EACH 2.04**



Metal Storage Box

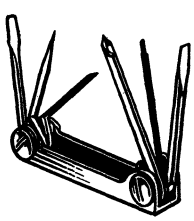
88029 15-Piece Short Arm Hex Key Set
Sizes: .028″, .035″, .050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″. Handy storage box.

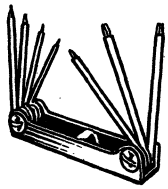
992-8029 . . . . . **EACH 13.76**

Folding Screwdriver Set

88045 6-Piece Folding Screwdriver Set
Includes: T-15 Torx® #1 Phillips, 3/16″ Awl, 1/4″ Flat Blade, 3/16″ Flat Blade, 1/8″ Flat Blade.

992-8045 . . . . . **EACH 5.36**





Torx® Drive Tool Sets

88057 7-Piece Folding Torx® Drive Tool Set
Sizes: T10, T15, T20, T25, T27, T30, T40.

992-8057 . . . . . **EACH 8.16**

Cordless Soldering Irons

Cordless convenience, lightweight and 50 W performance. Tip temperature reaches 700°F in 5 sec. Up to 125 soldered connections per battery charge. Nickel cadmium batteries feature long service life. Isolated-tip design eliminates electrical leakage and the need for grounding when soldering in delicate solid-state equipment. Designed for good "feel" and balance — only 8" long. **Weight:** 8 oz. Built-in light. Safety lock switch prevents accidental heating. Standard batteries recharge from charging stand or from 12 V automotive battery. Full line of accessories and several complete kits provide variety of selections.

The Original Iso-Tip
Recharges in 12-16 hours from complete discharge (cannot overcharge).

Model 7500 Iso-Tip Soldering Iron. With recharging stand and No. 7545 tip.
991-7570 ..... **EACH 35.65**

Model 7578 Recharging Stand.
991-7578 ..... **EACH 12.00**

"Quick Charge" Iso-Tip
Recharges in 3 to 4½ hours from complete discharge. Nickel cadmium battery can withstand high-rate charging without damage (cannot overcharge).

Model 7700 Iso-Tip Soldering Iron. With recharging stand and No. 7545, 7546 tips.
991-7700 ..... **EACH 39.95**

Model 7728 Recharging Stand.
991-7728 ..... **EACH 12.50**

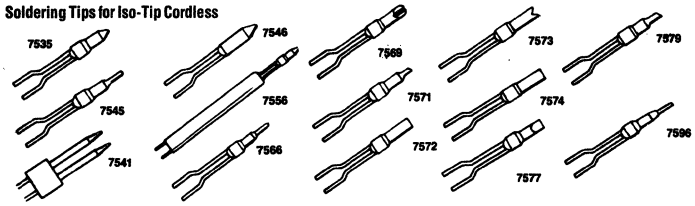
Model 0040 Replacement Battery.
991-0040 ..... **EACH 11.95**

Iso-Tip "60"
Allows 20% continuous soldering when kept in charger between uses. Recharges fully in one hour and automatically switches to energy-saving charge rate when battery is full (cannot overcharge). LED shows when battery is charged.

Model 7800 Iso-Tip Soldering Iron. With recharging stand, and No. 7577, 7545 tips.
991-7800 ..... **EACH 54.95**

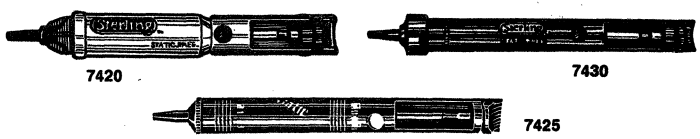
Model 7828 Recharging Stand.
991-7828 ..... **EACH 15.00**

Soldering Tips for Iso-Tip Cordless



Stock No.	Mfr.'s Type	Description	EACH
991-7535	7535	Regular Tip No. 5—5/32"	3.95
991-7545	7545	Fine Tip No. 2—1/16"	3.95
991-7541	7541	Circuit Breaker Tip	3.95
991-7546	7546	Heavy Duty Tip No. 6—3/16"	3.95
991-7556	7556	Tuner Extension Tip—1/16"	7.10
991-7566	7566	Micro Soldering Tip—1/64"	3.95
991-7569	7569	"V" Tip No. 5—5/32"	3.95
991-7571	7571	Beveled Tip No. 2—1/16"	3.95
991-7572	7572	Blunt Tip No. 5—5/32"	3.95
991-7573	7573	Tinning Tip No. 5—5/32"	3.95
991-7574	7574	Concave Cen. Tip No. 5—5/32"	3.95
991-7577	7577	Chisel Tip No. 5—5/32"	3.95
991-7579	7579	Beveled Tip No. 3—3/32"	3.95
991-7596	7596	Knife Tip—1/32"	3.95

Anti-Static and Static-Free Desoldering Tools and Tips



►**Anti-Static**

Model 7425. 8.62" precision-built desoldering tool and replacement tip. Barrel made of conductive polypropylene; tip made of conductive carbon fiber. **Outer Diameter:** .79". **Tip I.D.:** .113".
991-7425. 7425. Desoldering Tool ..... **EACH 9.95**
991-7426. 7426. Replacement Tip ..... **EACH 2.50**

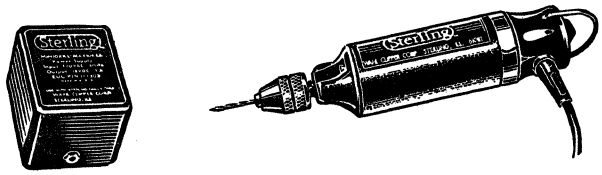
►**Static-Free**

Model 7430. 8.75" precision-built desoldering tool and replacement tip. Barrel made of nylon glass; tip made of conductive carbon fiber. **Outer diameter:** .87". **Tip I.D.:** .113".
991-7430. 7430. Desoldering Tool ..... **EACH 9.95**
991-7431. 7431. Replacement Tip ..... **EACH 2.50**

►**Static-Free**

Model 7420. 8.25" precision-built desoldering tool and replacement tip. Barrel made of nylon glass; tip made of conductive carbon fiber. **Outer Diameter:** 1.03". **Tip O.D.:** .113".
991-7420. 7420. Desoldering Tool ..... **EACH 9.95**
991-7421. 7421. Replacement Tip ..... **EACH 2.50**

Precision DC High Speed Drills



Sterling precision drills and accessories are designed to make difficult jobs simple. These drills are small, silent, lightweight, and can be comfortably held between the thumb and forefinger, for pinpoint work accuracy. Operating at high speeds, these compact drills are ideal for prototype development, revising, and repairing printed circuit boards, in addition to the precise requirements of the hobbyist for drilling, grinding, polishing, and cutting of various materials. Using the chuck stop key, (furnished) the three jaw chuck is easily adjustable to accept accessories with a shank size up to .140". For ease of operation, the constant speed drills, both minidrill and maxidrill, have an on/off switch at the top of the drill. The variable speed drills have a control knob on top of the drill which when turned counter clockwise to stop, is "off" or clockwise to stop for maximum speed. Or, it can be set anywhere in-between, for desired speed. All drills complete with 10 foot cord.

Sterling Minidrill
Sterling Model 6625 Minidrill. Constant speed 21,000 RPM complete with permanently lubricated sleeve bearing, male plug, and wall plug transformer.
991-6625 ..... **EACH 57.95**

Sterling Model 6626 Minidrill. Variable speed 0-21,000 RPM complete with permanently lubricated sleeve bearings, male plug, and wall plug transformer.
991-6626 ..... **EACH 79.95**

Sterling Maxidrill
Sterling Model 6627 Maxidrill. Constant speed 17,000 RPM complete with permanently lubricated double roller bearing mounted shaft, male plug and wall transformer.
991-6627 ..... **EACH 86.95**

Sterling Model 6628 Maxidrill. Variable speed 0-17,000 RPM complete with permanently lubricated double roller bearing mounted shaft, male plug and wall plug transformer.
991-6628 ..... **EACH 109.95**

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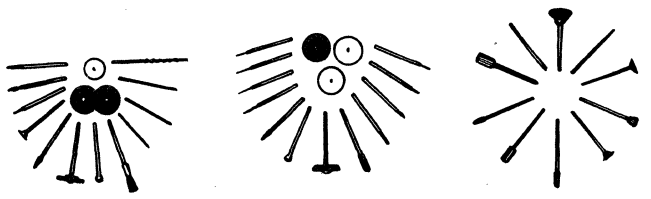
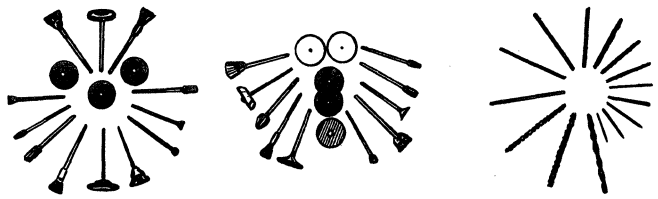
Drill Accessories

Stock No.	Mfr.'s Type	Description	EACH
991-6638 991-6637	6638 6637	Deluxe 15 Pc. All-Purpose Ass't. (drill bits, brushes, grinders, cutters, cutting wheels, saws and arbor)	17.95 21.95
991-6640	6640	Deluxe 10 Pc. High Performance Grinding Ass't. (diamond grinder, brushes, grinding wheels and stones)	18.95
991-6641	6641	Deluxe 15 Pc. Grinding Bushing and Cutting Ass't.	19.95
991-6660	6660	Steel Twist Drills (5 Pc. micro ass't. 1 each bit size 79-78-68-65-61)	9.95
991-6661	6661	Steel Twist Drills (5 Pc. fine ass't. 1 each bit size 56-54-52-50-47)	3.95
991-6662	6662	Steel Twist Drills (5 Pc. medium ass't. 1 each bit size 52-50-40-35-32)	3.95
991-6663	6663	Steel Twist Drills (5 regular ass't. 1 each bit size 61-53-47-40-32)	3.95
991-6664	6664	Steel Brush Ass't (1 each, disc, cup, straight)	4.95
991-6672	6672	Circular Saws (hardened steel 1 each ½", ⅝" dia. with arbor)	3.95
991-6674	6674	Diamond Cutting Wheel (for cutting glass, steel, etc. 1 each ⅝" dia. with arbor)	9.95
991-6685	6685	Wheel Polishers (1 each coarse, med., fine with arbor)	4.95
991-6696	6696	Cutting Wheels (4 Pc. 13/16" dia., with arbor)	3.95
991-6737	6737	Grinding Wheels (4 Pc. with arbor)	3.95
991-6639	6639	Deluxe 15 Pc. Polishing, Grinding, Cutting Assortment	17.95
991-6642	6642	Deluxe 15 Pc. Steel Drill Assortment	14.95





BNC Termination Kits

58KIT-C. RG58 BNC Kit. 20 pcs. Amphenol® No. 36775 "Quick Crimp" RG58 BNC straight plugs. **Weight:** 2.2 lbs. (1.0 kg).
984-6050. 58KIT-C ..... **EACH 187.60**

59KIT-C. RG59 BNC Kit. 20 pcs. Amphenol® No. 68175 "Quick Crimp" RG59 BNC straight plugs. **Weight:** 2.2 lbs. (1.0 kg).
984-6051. 59KIT-C ..... **EACH 187.64**

5859KIT-C. Combination RG58 and RG59 BNC Kits. 10 each Amphenol® Nos. 36775 and 68175 "Quick Crimp" BNC straight plugs. **Weight:** 2.2 lbs. (1.0 kg).
984-6052. 5859KIT-C ..... **EACH 215.78**

174KIT-C. RG174 BNC Kit. 20 pcs. Amphenol® No. 31-315 "Mil-Crimp" RG174 BNC straight plugs. **Weight:** 2.2 lbs. (1.0 kg).
984-6053. 174KIT-C ..... **EACH 206.41**

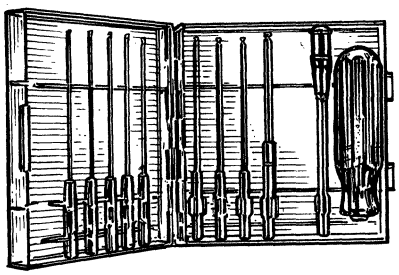
58KIT. RG58 BNC Kit without connectors. **Weight:** 1.8 lbs. (0.8 kg).
984-6054. 58KIT ..... **EACH 166.06**

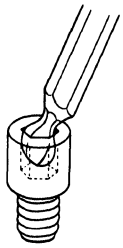
59KIT. RG59 BNC Kit without connectors. **Weight:** 1.8 lbs. (0.8 kg).
984-6055. 59KIT ..... **EACH 166.06**

5859KIT. Combination RG58 and RG59 Kits without connectors. **Weight:** 1.8 lbs. (0.8 kg).
984-6056. 5859KIT ..... **EACH 197.03**

174KIT. RG174 BNC Kit without connectors. **Weight:** 1.8 lbs. (0.8 kg).
984-6057. 174KIT ..... **EACH 166.06**

99PS-40BP Ballpoint Allen Hex Socket Type Screwdriver Set

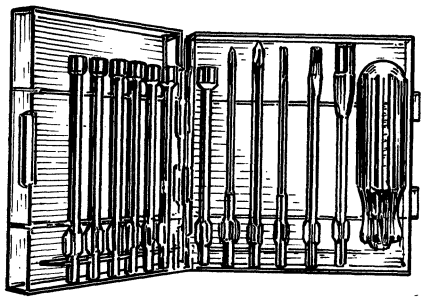




Unique "ballpoint" tip ideal for tightening and removing Allen type socket head screws in spots where you can't reach them straight-on or want an easier, quicker way to drive them home. Will engage screw head from any angle. Slip easily into sockets and hold securely without reaming, because ends are precision machined to close tolerances. 9 blades 4"/101.60mm long, 99-X5 extension, and regular 99-1 handle in stand-up, see-through plastic case.

984-6040. Type 99PS-40BP ..... **EACH 47.88**

99PS-50 Screwdriver and Nutdriver Set



Thirteen-piece set in convenient see through stand-up, plastic case. Handle and one extension 3/16-3/8 nutdrivers and #1 and #2 Philips. 3/16 and 1/4 slotted screwdrivers.

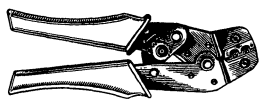
984-6041. Type 99PS-50 ..... **EACH 40.11**

Self-Adjusting Wire Stripper

A pocket-size wire stripper/cutter built for comfort. No other self-adjusting wire stripper lets the hand that positions the cable and the hand that cycles the tool work so closely together. The widest stripping range in one tool: **Strips:** AWG 28-12 (0.08-4 mm²) PVC. **Cuts:** AWG 28-10 (0.08-4 mm²) stranded wire; AWG 28-16 (0.08-1 mm²) solid wire. Body of tough fiberglass-reinforced nylon. Mechanics of high quality, corrosion-protected, special-hardened Swedish steel.

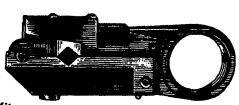
Stock No.	Mfr.'s Type	Stripping Capacity	Cutting Capacity	Overall Length In./mm	lbs./kg	EACH 1-11	EACH 12-47
984-6063	SAS-2812	AWG 28-12 (0.08-4mm²) PVC	stranded AWG 28-12 (0.08-6 mm²) solid AWG 28-16 (0.08-1 mm²)	4.9/125	0.36/0.17	51.34	46.11

Mini-Crimper

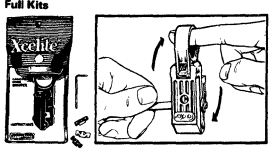


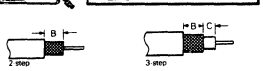
The smallest professional crimping tool of its kind. **Angled jaws** offer the greatest comfort in simultaneously locating connectors and crimping. The ratchet insures a full-cycle complete crimp every time. **Overall Length:** 7.68"/195 mm. **Handle Spread at Gripping Points:** 3.66"/93 mm.

Stock No.	Mfr.'s Type	Field of Application	lb./kg	EACH 1-11
984-6058	MIC-58	RG58 BNC/TNC connectors	0.55/0.25	110.70
984-6059	MIC-59	RG59 BNC/TNC connectors	0.55/0.25	110.70
984-6060	MIC-5859	Both RG58 and RG59 BNC/TNC connectors	0.55/0.25	110.70
984-6061	MIC-174	RG174 BNC/TNC connectors	0.55/0.25	110.70
984-6062	MIC-2214	Insulated Terminals size AWG 22-14 (.75-2.5 mm²)	0.55/0.25	76.94



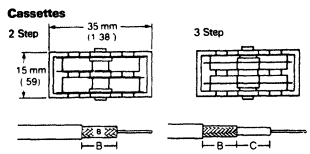
Full Kits





Coaxial Wire Stripper

The fastest accurate coax-stripping system available. Coaxial cable from .07" to .30" (1.8-7.6 mm) in thickness (RG178 up to RG6) can be stripped in seconds with the Xcelite® stripping system. 2- or 3-step strips are made by revolving the closed cassette around the cable. The cassette's precise cutting blades will remove dielectric, braid, and outside insulation simultaneously or in any combination. The Xcelite® system is availabe with different color-coded cassettes, designed to meet anyone's exact stripping specifications. Cassettes can be changed in seconds. The Xcelite® system is available in full kits for users of many different cable sizes, and in special pre-adjusted tool models, designed for users using just one or a few similar cable sizes.



Replacement Cassettes

The cassettes determine the strip dimension that your stripper will give. 3-Step cassettes are designed solely for the Xcelite® 3CSK- and 3CS-Series strippers. 2-Step cassettes will fit in either the 2CSK and 2CS models, or in the 3CSK and 3CS models. Cassettes can be interchanged in seconds in the tool body.

2-Step

Stock No.	Mfr.'s Type	Cassette Part No. & Color	Blade Spacing (B) In./mm	Blade Spacing (C) In./mm	Covers Strip Length Specs (B) In./mm	Covers Strip Length Specs (C) In./mm	EACH 1-11	EACH 12-47
984-1203	2CSK-R	2C-R Red	.24/6.0	—	7/32-1/4 (5.6-6.3)	—	48.13	43.23
984-1204	2CSK-B	2C-B Blue	.27/6.8	—	1/4-9/32 (6.3-7.1)	—	48.13	43.23
984-1208	2CSK-Y	2C-Y Yellow	.47/12.0	—	7/16-1/2 (11.1-12.7)	—	48.13	43.23
984-1207	2CSK-O	2C-O Orange	.36/9.2	—	11/32-13/32 (8.7-10.3)	—	48.13	43.23

3-Step

984-1210	3CSK-BR	3C-BR Brown	.328/8.3	.109/2.7	5/16-11/32 (7.9-8.7)	1/16-7/64 (1.6-2.8)	62.49	56.13
984-1209	3CSK-GN	3C-GN Green	.235/6.0	.235/6.0	7/32-1/4 (5.6-6.3)	13/64-1/4 (5.1-6.3)	62.49	56.13
984-1211	3CSK-WH	3C-WH White	.266/6.7	.063/1.6	1/4-17/64 (6.3-6.7)	1/16-3/32 (1.6-2.4)	62.49	56.13

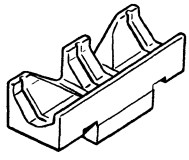
Note: 3-Step models are not recommended for cable with hollow dielectrics (RG62) or foam dielectrics. Use 2-STEP models instead. **Cable O.D. range:** .10"-.30" (2.5-7.6 mm) e.g. RG174 to Belden 8281 or RG6.

2-Step

Stock No.	Mfr.'s Type	Cassette Color	Blade Spacing (B) In./mm	Blade Spacing (C) In./mm	Covers Strip Length Specs (B) In./mm	Covers Strip Length Specs (C) In./mm	EACH 1-11	EACH 12-47
984-2202	2C-R	Red	.24/6.0	—	7/32-1/4 (5.6-6.3)	—	18.39	16.52
984-2200	2C-B	Blue	.27/6.8	—	1/4-9/32 (6.3-7.1)	—	18.39	16.52
984-2201	2C-Y	Yellow	.47/12.0	—	7/16-1/2 (11.1-12.7)	—	18.39	16.52
984-2203	2C-O	Orange	.36/9.2	—	11/32-13/32 (8.7-10.3)	—	18.39	16.52

3-Step

984-2208	3C-BR	Brown	.328/8.3	.109/2.7	5/16-11/32 (7.9-8.7)	1/16-7/64 (1.6-2.8)	21.38	19.20
984-2206	3C-GN	Green	.235/6.0	.235/6.0	7/32-1/4 (5.6-6.3)	13/64-1/4 (5.1-6.3)	21.38	19.20
984-2204	3C-WH	White	.266/6.7	.063/1.6	1/4-17/64 (6.3-6.7)	1/16-3/32 (1.6-2.4)	21.38	19.20



Replacement V-Blocks

Stock No.	Mfr.'s Type	Color	Cable O.D. In./mm	Typical RG Numbers	EACH 1-11	EACH 12-47
984-2210	V-LG	Yellow	.25-.30 (6.3-7.6)	6,Belden 8281	2.25	2.03
984-2211	V-MD	Blue	.19-.25 (4.8-6.3)	58, 59, 62	2.25	2.03
984-2212	V-SM	Red	.12-.19 (3.0-4.8)	180, 195	2.25	2.03
984-2213	V-SUB	White	.10-.12 (2.5-3.0)	174, 188, 316	3.19	2.87

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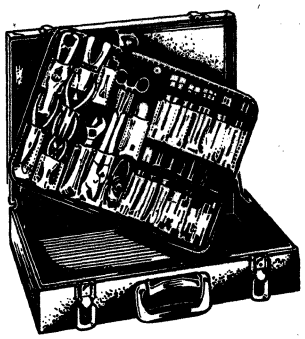


Attache Case Tool Kit

Model TC-200/ST. Quality craftmanship inside and out. Handsome, attache-styled tool case has dovetailed, solid wood-frame construction, covered with rugged black Durahyde. Removable pallet in lid outfitted with see-thru tool pockets and spacious lower section for additional tools, prints or manuals. Attractive brass-finished hardware and hinges. Inside are 10 top-quality professionally styled hand tools and 27 interchangeable Series 99 screwdriver and nutdriver blades for use with straight or Tee handles. The Attache Case is supplied with a broad selection of tools for field service work. Case is 18 1/2 × 13 1/2 × 4 3/4" with convenient carrying handle.

Kit contains: 1 Straight and 1 Tee handle; 9 Hex Socket Screw Blades; Reamer; Extension; 3 Phillips Screw Blades; 4 Slotted Screw Blades; 7 Hex Nutdriver Blades; Curved Nose Seizer; Adjustable Wrench (6"); Long Nose Plier (6 1/2"); Utility Plier (7"); Diagonal Pliers (4" and 5"); Needle Nose Plier (5 1/2"); Electronic Snips; Wire Stripper/Cutter; Electrician's Knife. Wt. 11 lbs.

984-5001. Model TC-200/ST. 1-11 ..... **EACH 333.73**
12-47 ..... **EACH 299.76** **48-Up** ..... **EACH 265.79**

Electronic Tool Kit

Model 250K. This electronic tool kit contains a variety of basic tools for anyone getting involved in kit building, radio-T.V. repair or any related project. **Kit contains:** soldering iron and 2 extra tips, soldering aid tool, 10 oz. rosin core solder, 4" long nose plier, diagonal cutter, wire stripper, 1/4" nut driver, slotted screwdriver, Phillips head screwdriver, all in a convenient storage tray. Wt. 14 1/2 lbs.

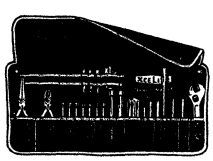
984-0250. 1-11 ..... **EACH 76.72**
12-47 ..... **EACH 68.93** **48-Up** ..... **EACH 61.10**

99MP Multi-Purpose Set

Regular handle, tee handle, 10 reg. nutdrivers 5/32-1/2"; 9 Allen screwdrivers .050 3/16"; 9 Bristol screwdrivers .048-183", 1/4, 5/16, 3/16" slotted screwdrivers; #1 Phillips 3/4-3/8" and 1/4-1/2" reamers, awl, scriber. With canvas case. Wt. 4 lbs.

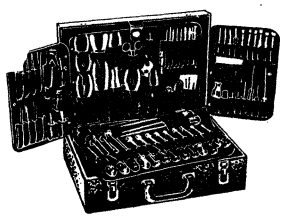
984-2001. 1-11 ..... **EACH 136.87**
12-47 ..... **EACH 122.94** **48-Up** ..... **EACH 109.01**

Model 99SM Service Master Set



6" long-nose, 5" diag. pliers; 6" adj. wrench. 9 reg. nutdrivers from 3/16-1/2"; 1/4, 5/16, 3/8" stubby nutdrivers; 3/16, 1/4" screwdrivers; #1 Phillips screwdriver, 3/4-3/8" reamer; 1/4-1/2" reamer. 8" ext. blade; reg. handle; stubby handle. Shpg. wt., 2 3/4 lbs.
984-2003. 1-11 ..... **EACH 117.99**
12-47 ..... **EACH 105.98**
48-Up ..... **EACH 93.96**

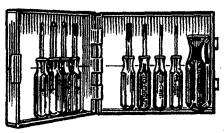
Field Engineer's Tool Set



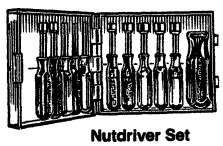
► **Supplied With A Variety of Professional Tools**

► **See-thru Pockets for Easy Identification**

Model TC-100/ST. Contains a variety of drivers plus necessary electronic speciality tools for field service work. The unique design of this sturdy, spacious tool case contains 53 individual screwdrivers, nut-drivers, pliers and wrenches, 31 Series 99 interchangeable screwdriver-nutdriver blades and handles, and two screwdriver-nutdriver sets, plus pockets for service manuals and ample room in the case bottom for additional tools, parts and test equipment. Case is of tough, chestnut-brown, leathergrain-vinyl. Top-quality, professional hand tools are mounted on removable, vinyl pallets. **Size:** 9 1/2 × 13 1/2 × 6 3/4" (495 × 343 × 171mm). Wt. 23 lbs.
984-5000. 1-11 ..... **EACH 654.81**
12-47 ..... **EACH 588.15** **48-Up** ..... **EACH 521.49**



Screwdriver Set



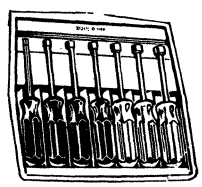
Nutdriver Set

High Torque Tool Sets

Finely crafted sets for hobbyists, professionals and do-it-yourselfers. Each set of drivers performs a multitude of jobs. Precision made, they provide that delicate touch needed for fine tuning and delicate instrumentation work. Or, you can use the high torque handle to provide power for regular jobs. **Note: Contact Allied Electronics for quantity prices.**

Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-9901	PS88	8-pc. Screwdriver Set	20.41	18.33	16.25
984-9903	PS120	10-pc. Nut Driver Set	25.77	23.15	20.52
984-9905	PS89	8-pc. Allen Type Hex Key Set	19.09	17.15	15.20
984-9910	PS130	10-pc. Combination Set	26.62	23.91	21.20

127TB Solid Shaft Nutdrivers



Lightweight solid shaft nutdrivers with molded, color-coded plastic handles. Nickel-chrome plated drivers. Seven popular sizes for most nut tightening and loosening jobs. Drop-forged and heat-treated for hardness. **Sizes:** 6, 7, 8, 9, 10, 11, and 12.

984-0201. 1-11 ..... **EACH 23.00**
12-47 ..... **EACH 22.17**
48-Up ..... **EACH 19.66**

Model 99PR Combination Kit

Work faster and more efficiently. Now you can stop using a substitute tool because the correct size isn't available. Kit contains 13 chrome-plated pieces in a convenient roll-up plastic pouch. **Includes:** 9 nutdrivers from 3/16" to 1/2" in 1/32" steps; 2 single-end screwdrivers, 3/16" and 1/4" size regular screw blades; 2 single-end Number 1 and 2 Phillips screwdrivers, plus plastic handles. Wt. 2 lbs.
984-2002. 1-11 ..... **EACH 51.34**
12-47 ..... **EACH 46.10**
48-Up ..... **EACH 40.88**

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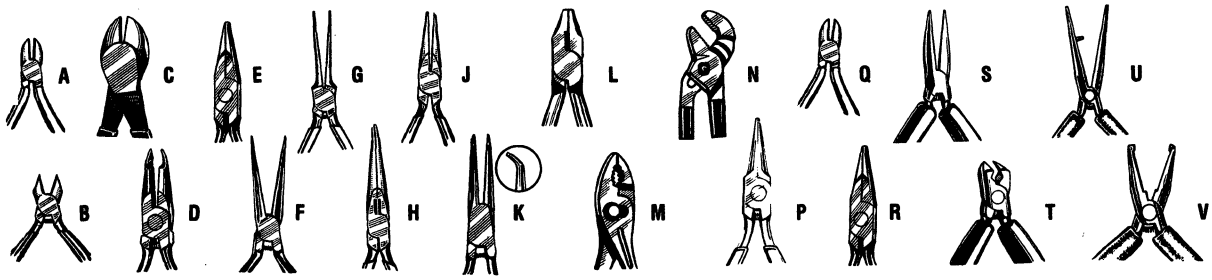
Tools



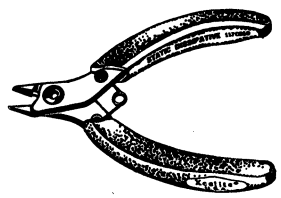
Our own quality electronics tools offer extra value! All have highly polished heads and shoulders. Accurately machined and ground for smooth action. Hammer forged from finest tool steel. Precision heat-treated cutting edges provide optimum temper, fast, easy cutting and long wear. Vinyl cushion grips isolate user from electrical shock. Bonding prevents chipping or peeling. Comfortable, nonslip grip also resists the effects of chemicals, acid and grease. These tools carry a full one year guarantee. Manufactured in the U.S.A. to Allied's own specifications.

Stock No.	Mfr.'s Type	Fig.	Description	Cross-Reference				EACH		
				Crescent	Hunter	Klein	Utica	1-11	12-47	48-Up
984-0206	76C	M	6" Chrome Plated Combination Plier for General Use	G26V	—	—	8-6C	7.13	6.41	5.68
984-0221	63CG	N	10" Utility Pliers. Forged Rib & Lock Design & Serrated Jaws. 4 positions. Max. Opening 1 1/2"	R210CV	A-31-10	D502-10	507-10C	13.08	11.75	10.41
984-0225	54CG	A	4" Midget for Close Quarter Work	942-4CV	A97G	D527-4	46-4C	13.03	11.70	10.37
984-0226	55CG	A	5" Plier for Most Cutting Needs	942-5CV	A96-G5	D202-5	41-5C	13.31	11.96	10.60
984-0228	74CG	B	4" Plier for Fast, Clean Tip Cutting. Fine Tapered Nose And Near Flush Cutting Edges*	92-4 1/2SC	A86MS	—	—	17.32	15.56	13.79
984-0229	84CG	B	4" Full Flush Cutiing Plier that Snap Cuts to the Extreme Tip*	941-4SCE	A95MS	D209-4C	47-4CSJ	18.55	16.67	14.78
984-0233	95CG	B	5" Full Cutting Diagonal Plier. Thin, Pointed Nose is Ideal for Close Burr-Free Cutting*	943-5SC	—	D209-5C	47-5CSJ	17.54	15.75	13.97
984-0234	81CG	E	5 1/2" Thin Chain Nose, Serrated Jaws w/Side Cutter*	25-4 1/2SC	A-11MS	—	622-5	15.31	13.76	12.20
984-0237	51CG	H	6" Long Nose Pliers with Side Cutter	654-6CV	A6-1G	D203-6	654-6C	13.83	12.42	11.01
984-0238	60CG	L	6" Serrated Upper and Lower Jaws with Side Cutter	50-6CV	A-60C	—	50-6C	14.45	12.98	11.50
984-0243	73CG	D	4 1/2" Thin Needle Nose Plier with Cutter at Tip. Snap Cuts Fine Wires. For Printed Circuitry and Tight Quarter Work. Cuts 45° Angle at Extreme Tip*	27-4 1/2SC	A90MS	—	—	20.77	18.66	16.55
984-0247	52CG	J	6 1/2" Long Nose Pliers Without Side Cutter	1033-6CV	H8G	D301-6	1033-6C	11.21	10.07	8.92
984-0253	56CG	G	6" Long, Slim Serrated Jaws Permit Entry In Areas Inaccessible to Regular Long-Nose Pliers	666-6CV	—	—	777-6C	14.61	13.13	11.64
984-0256	57CG	F	5 1/2" With Fine Serrated Jaws for Firm Gripping and Looping of Wire. With Spring*	665-5 1/2SC	A5MS	D328-5 1/2	775-CFS	14.45	12.91	11.50
984-0259	41CG	E	4" Midget Pliers, Serrated Jaws. Without Side Cutters	—	A-11-DG	—	22-4C	12.01	10.79	9.56
984-0261	79CG	K	5" Bent Thin Nose Plier with Fine Serrated Jaws. 60° Angle Thin Bent Nose for Thin Wire*	—	A29MS	—	25-5CHFS	19.04	17.10	15.16
984-0262	67CG	C	7" Diagonal Pliers for Heavy Duty Cutting	—	A87G	D228-8	40-7C	13.68	12.29	10.89
984-0239	162CG	R	4" Short Chain Nose Electronic Pliers	—	—	—	—	13.21	11.87	10.52
984-0227	109CG	Q	4" Diagonal Cutting Electronic Pliers	—	—	—	—	20.29	18.23	16.16
984-0231	90CG	P	4 1/2" Extra Thin Long Needle Nose Electronic Pliers	—	—	—	—	17.02	15.29	13.55
984-0291	91CG	F	Extra Thin 6" Long Needle Nose Pliers	—	—	—	—	15.61	14.03	12.44
984-0298	98CG	A	Round Nose 4" Diagonal Pliers	—	—	—	—	14.26	12.81	11.36
984-0272	72CG	S	Short Chain Nose 4 1/2" Pliers	—	—	—	—	13.84	12.44	11.03
984-0208	108CG	B	Thin Taper Nose 4 1/2" Diagonal Pliers	—	—	—	—	19.64	17.64	15.64
984-0282	82CG	H	Long Chain Nose 5 1/2" Spring Tempered Pliers	—	—	—	—	13.29	11.93	10.59
984-0211	111CG	T	30° Angled Blade Deep Throated Cutting Pliers	—	—	—	—	23.55	21.15	18.75
984-0320	88CGA	U	Very Fine Needle Nose Pliers with Jaw Alignment Pin	—	—	—	—	18.37	16.50	14.63
984-0325	118CG	V	Short Nose Transverse Tip Cutter Pliers	—	—	—	—	17.15	15.41	13.66

* Spring.

Pliers with Static Dissipative Sleeves

Stainless diagonal cutting pliers with the added advantage of static dissipative sleeves. The static-safe material, BENSAT® limits electrostatic discharge damage to sensitive components. Ideal for clean room use - BENSTAT contains no carbon elements or other agents that particulate or slough. BENSTAT qualifies as static dissipative per DOD STD 1686 and DOD handbook 263.



Stock No.	Mfr.'s Type	Description	EACH		
			1-11	12-47	48-Up
984-0330	113CGSD	4 1/2" Stainless Diagonal Cutting Pliers, Flush Cut	42.00	37.73	33.45
984-0335	115CGSD	5" Stainless Diagonal Cutting Pliers, Flush Cut	42.22	37.92	33.62
984-0340	117CGSD	4" Stainless Diagonal Cutting Pliers, Flush Cut	41.82	37.56	33.30

* BENSTAT® is a registered trademark of Bengal, Inc.

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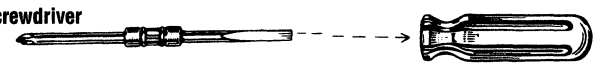
Screwdrivers

Flat-bit and Phillips head screwdrivers have tough durable blades. Shockproof amberyl handles are correctly sized to match the blade. All are made of nickel-plated chrome vanadium steel specially treated to be tough. Precision points fit screws properly for the best job.

Flat-Bit Screwdrivers

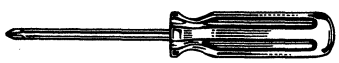
Stock No.	Mfr.'s Type	Handle D x L In.	Shaft Size D x L In.	EACH		
				1-11	12-47	48-Up
984-9801	R184	5/8 x 2 3/4	1/8 x 4	2.62	2.36	2.09
984-9802	R186	5/8 x 2 3/4	1/8 x 6	2.62	2.36	2.09
984-9803	R188	5/8 x 2 3/4	1/8 x 8	2.86	2.56	2.27
984-9804	R3164	7/8 x 3 1/2	3/16 x 4	3.81	3.44	3.05
984-9805	R3166	7/8 x 3 1/2	3/16 x 6	4.16	3.74	3.31
984-9806	R3168	1 x 3 5/8	3/16 x 8	4.49	4.04	3.58
984-9807	R144	1 x 3 5/8	1/4 x 4	4.39	3.95	3.50
984-9808	R146	1 x 3 5/8	1/4 x 6	4.73	4.25	3.76
984-9809	R148	1 x 3 5/8	1/4 x 8	5.13	4.61	4.08

Reversing Screwdriver

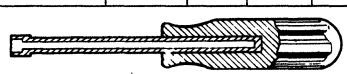


Model CR1. The Reversing Screwdriver is designed to be a versatile, precision tool. Features a 3/16" dia., regular and #1 Phillips blade. Wt. 1/2 lb.
984-9811. 1-11 .....EACH 7.25
12-47.....EACH 6.51 **48-Up**.....EACH 5.77

Phillips Screwdrivers



Stock No.	Mfr.'s Type	Handle D x L In.	Shaft Length	Point		EACH		
				No.	Size In.	1-11	12-47	48-Up
984-8830	X100	5/8 x 2 3/4	2"	0	1/8	2.39	2.15	1.90
984-8826	X101	7/8 x 3 1/2	3"	1	3/16	3.31	2.97	2.63
984-8827	X102	1 x 3 5/8	4"	2	1/4	4.43	3.98	3.52
984-8824	X103	1 1/16 x 4	6"	3	5/16	6.18	5.55	4.92
984-8825	X104	1 3/16 x 4 1/2	8"	4	3/8	8.03	7.22	6.40



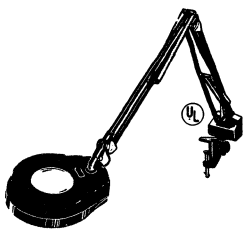
Stock No.	Mfr.'s Type	Shaft Size In.	Handle D x L In.	Hex Size In.	EACH		
					1-11	12-47	48-Up
984-7832	HS6	3	1 1/16 x 3 1/8	3/16	3.96	3.56	3.15
984-7834	HS8	3	1 1/16 x 3 1/8	1/4	3.96	3.56	3.15
984-7835	HS9	3	1 1/16 x 3 1/8	9/32	3.96	3.56	3.15
984-7836	HS10	3	1 1/16 x 3 1/8	5/16	3.96	3.56	3.15
984-7837	HS12	3 1/8	1 1/16 x 3 1/8	3/8	4.19	3.77	3.34
984-7839	HS14	2 5/8	1 1/8 x 4 1/8	7/16	5.41	4.86	4.31
984-7840	HS16	2 5/8	1 1/8 x 4 1/8	1/2	5.41	4.86	4.31
984-9841	HS18	3 1/8	1 1/8 x 4 1/8	9/16	5.41	4.86	4.31

Star

Model 336 100 Watt. Clamp-on 34″ reach. Vented shade; heat resistant handle. Full dia. "Grab-Me" switch. White, Red, Grey, or Black. Bulb not included.

Stock No.				Mfr.'s Type	EACH	
White	Red	Grey	Black		1-5	6-11
707-2000	707-2001	707-2002	707-2003	336	29.95	20.12

Magnifier Series



Models IM10A, IM10D 22 Watt Circline flourescent tube, (included). Clamp-on lamp, 42″ reach. 3 diopter lens. Convenience outlet on back of ballast. Grey, Black, White, or Chocolate. **IM10D** — drafting board clamp.

Stock No.				Mfr.'s Type	EACH	
White	Red	Grey	Black		1-5	6-11
707-1027 707-1031	707-1028 707-1032	707-1029 707-1033	707-1030 707-1034	IM10A IM10D	165.99 173.00	99.00 103.00

UNI-Lamps

Models UN10A and **UN10D** 100 Watt. Clamp-on lamp, 40″ reach. 2-conductor cord. Black or Chocolate. **Model UN10D** features adjustable drafting board clamp. Bulb not included.

Stock No.		Mfr.'s Type	EACH	
Black	Choc.		1-5	6-11
—	707-2017	UN10A	75.00	45.00
707-2018	707-2019	UN10D	83.00	49.80

The Classic Fluorescent Desk Lamp — NEW

Two 15W fluorescent tubes, flexible neck. Black w/brushed chrome and woodgrain trim (F30 Black); Chocolate w/brass and woodgrain trim (F30 Chocolate). Bulbs incl. **Height:** 12½″. **Shade width:** 19″. One 15W fluorescent tube, flexible neck. Black w/brushed chrome and woodgrain trim (F-15 Black). Bulb incl. **Replacement bulb:** TB fluorescent tube.

Stock No.	Mfr.'s Type	EACH	
		1-5	6-11
707-0030	F-30	84.00	50.40
707-0015	F-15	69.00	41.40

Dual Fluorescent

Model DF10D and **DF10K 2** 15-Watt fluorescent tubes (included). Clamp-on lamp, 40″ reach. Thermoplastic shade. Adjustable 'D' bracket. Convenience outlet on back of ballast. Black, White, or Chocolate. **Model DF10K** features weighted King table base.

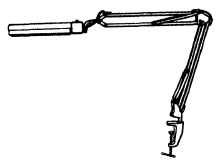
Stock No.			Mfr.'s Type	EACH	
Black	White	Choc.		1-5	6-11
707-2004 707-2007	707-2005 707-2008	707-2006 707-2009	DF10D DF10K	170.00 192.00	102.00 115.20

Combination Series

Models C10D and C10K 60 Watt incandescent and 22 Watt fluorescent (included). Clamp-on lamp, 42″ reach. Adjustable 'D' bracket. Convenience outlet on back of ballast. Black, White, or Chocolate. **Model C10K** features weighted King table base.

Stock No.			Mfr.'s Type	EACH	
Black	White	Choc.		1-5	6-11
707-2010	707-2011	—	C10D	175.00	105.00

Sylvia



Models XPL610 and XPL610Q 13 Watt mini-fluorescent tube (included). Symmetric clamp-on lamp. 34″ reach. Black or Polar White. **Model XLP610Q** features weighted Queen table base.

Stock No.		Mfr.'s Type	EACH	
Black	Polar White		1-5	6-11
707-2020	707-2021	XPL610	130.00	78.00

Duke III Desk Lamp

75W, 25″ reach, desk lamp. Vented shade with heat-resistant handle and Easy-Dial switch. Black, White. Shade dia. 6½″. Model Duke III, No. 928.

707-2032. Duke III Choc. ..... **EACH 59.95**

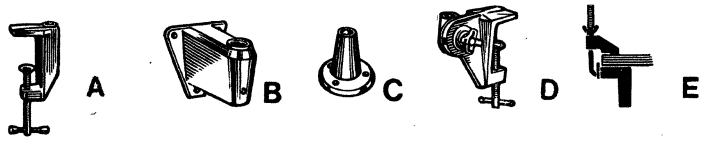
Aladdin

Model 323. 75W desk lamp with vented shade and heat resistant handle. Full dia. 'Easy-Dial' switch. Height 15″. White. Bulb not included.

707-2035 ..... **EACH 29.95**

Accessories — Brackets, Bases, and Fluorescent Tubes

Stock No.	Description	Fig.	EACH
707-2045	Standard Mounting Bracket	A	7.00
707-2046	Wall Bracket	B	7.00
707-2047	Fixed Table Bracket	C	7.00
707-2048	Drafting Table Bracket	D	15.00
707-2049	Multipurpose Bracket	E*	4.00
707-0008	T8 Fluorescent Tube	—	5.50
707-0009	T9 Circline Flo. Tube	—	12.00



* Used only with Super XL Lamps

14

Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

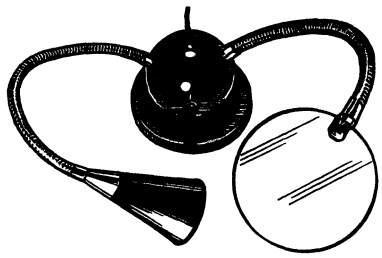
Hands Free Illuminator/Magnifier Work Station — NEW

The Roxter Work Station Illuminator/Magnifier is designed to free your hands and provide an intense concentration of pure white light under a large, distortion-free magnified work area. Two flexible "gooseneck" arms make possible the exact positioning of both the magnifier and light for critical "hands-free" detailed inspection.

Excellent close up inspection for the following applications:
- ► **Quality Control and Product Design**
- ► **Electronic Component/Circuitry Assembly**
- ► **Biomedical and Dental Laboratory Use**
- ► **Jewelry and Watch Manufacturing/Repair**
- ► **Stamp and Coin Collectors/Hobbyists**
- ► **Inspection of Miniature Parts**
- ► **Photographic Retouching/Printing Registration**
- ► **Workbench Applications**

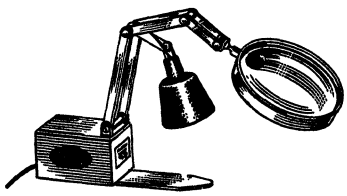
The Roxter Work Station is available in two models—Hi-Intensity Model No. 7180—500 hr. bulb included (°K). Halogen Model No. 7180H—Halogen Spot 2000 long life bulb included (2950°K).

Features/Specifications
- ► **5″ diameter rimless, high impact, precision polished acrylic lens gives a wide field 2½ power magnified work area.**
- ► **Sturdy, weighted base with table protection felt, provides a vibration free work station.**
- ► **Two chromes 12″ flexible "gooseneck" arms adjust to any angle for versatile positioning of light source and magnifier.**
- ► **On/Off switch mounted on base. 7 foot line cord plugs into 110 V AC outlet. Bulb included. Finish: Black base, chrome arms.**
- ► **Quality constructed. Made in the U.S.A.**
- ► **Better Living Through Better Lighting™**



564-7180 ..... **EACH 98.00**

Hi-Intensity Lamp 4½″ Magnifier Model 7176

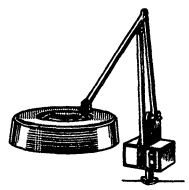


Model 7176. Illustrated above with big 4½″ (11.5 cm) diameter lens. **Power:** 2X. Equivalent to 200 watts in high range. With one #1133 6-volt bulb. For 110-120 volts. 60 Hz AC. **Shipping Weight:** 3 lbs.
564-7176 ..... **EACH 85.00**

Model 1133. Replacement Bulb.
639-1133 ..... **PK/10 6.50**

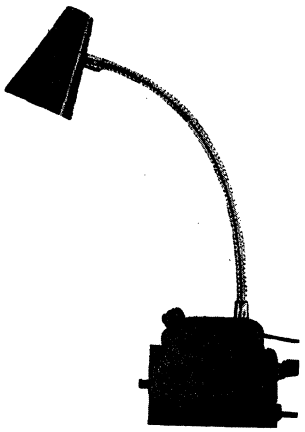
Professional Magnifier Lamp Model 7161

5″ diameter magnifier lens, optically ground. Two arm torsion suspension adjustment; concealed balancing springs. Arm extends to 35″. Equipped with clamp and 22-watt Circline fluorescent tube as standard. Automatic starter switch. **Finish:** Beige. All metal construction.



564-7161 ..... **EACH 99.50**

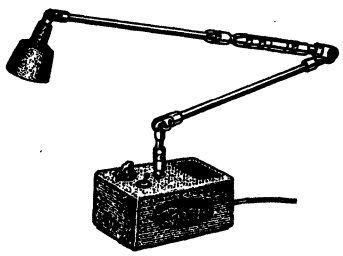
Magnetic Base Utility Lamp Model 6480



Model 6480. Magnetized base mounts directly on machines, etc. 12″ chromed gooseneck adjusts to any position. 45 footcandles at 12″ (30.5 cm). All-metal; black finish. Separate step-down transformer has on-off switch, pilot light. 10-ft. (3 cm) cord between lamp, transformer. With #93 bulb. For 115 VAC. **Shipping Weight:** 3 lbs. Illustrated above.
564-6480 ..... **EACH 73.00**

Model 93. Replacement Bulb.
749-9093 ..... **PK/10 9.44**

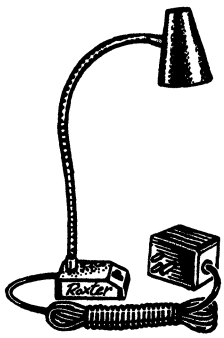
Precision Work Lamp Model 5900



Model 5900. Color temp. to 3,000° Kelvin. 5-position switch for intensities up to 7,000′ candles. Arm swivels 360°, hor. and vert. 3-wire AC outlet on base. Separate on/off toggle switch and 3-wire line cord. Metal. **Power Consumption:** 25 Watts. #1133 bulb included.
564-5900 ..... **EACH 159.00**

Model 1133. Replacement Bulb.
639-1133 ..... **PK/10 6.50**

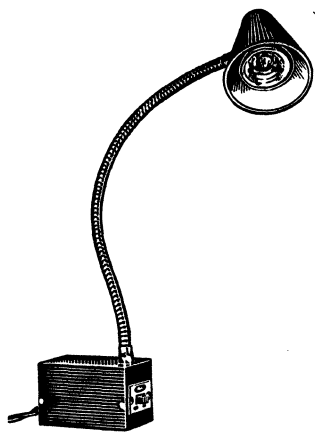
Hi-Intensity Lamp Model 6490



Model 6490. 12″ (30.5 cm) flexible arm twists, turns to virtually any position. Magnetic base; rear hook for hanging to nonmagnetic surfaces. Illumination equals 100W. End-of-cord transformer; #93 bulb. **Shipping Weight:** 2 lbs.
564-6490 ..... **EACH 72.50**

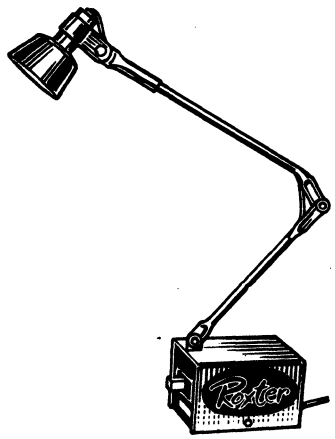
Model 93. Replacement Bulb.
749-9093 ..... **PK/10 9.44**

Miniature Halogen Model 6495



Model 6495. Designed for factory, workshop and office, this halogen lamp features a 20 watt MR-11 bulb, on-off switch, a foot long flexible gooseneck arm and magnetic base. Available in chrome/black finish. 3,000 hour Dichroic Reflector Bulb included.
564-6495 ..... **EACH 63.50**

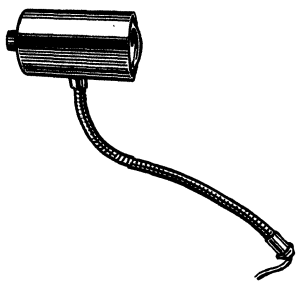
Subminiature Hi-Intensity Lamp Model 5979



Model 5979. Two #55 6 V bulbs. 105-130 VAC. **Shipping Weight:** 2 lbs.
564-5979 ..... **EACH 42.50**

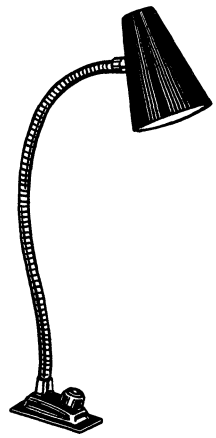
Model 55. Replacement Bulb.
749-9055 ..... **PK/10 6.83**

Standard Voltage Lamp Model 7235SV



Model 7235SV. A 2″ diameter by 3¼″ chrome shade, 10″ flexible arm and on/off switch are featured on this miniature O.E.M. lamp. Lamp fits into ⅜″ hole; operates off standard 110 volt AC lines and consumes only 25 watts of power. Powerful (2,240 ft. candles of light at 3″) and long life (1500 hrs.) GE25R14N bulb included.
564-7236 ..... **EACH 25.50**

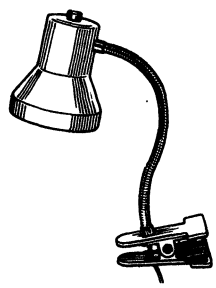
O.E.M. Lamp Model 7237-93



Model 7237-93. 12″ flexible arm lamp for permanent installation. Base is only 2⅝ × 1¼″ with on-off switch and 2 mounting holes. Lamp can be affixed directly to machines, consoles, automobiles, trailers, trucks, fleet and patrol vehicles. Comes equipped with #93 bulb for 12 volt operation. Black with chrome gooseneck. **Amps:** 1.04. **C.P.:** 15.
564-7237 ..... **EACH 25.50**

Model 93. Replacement Bulb.
749-9093 ..... **PK/10 9.44**

Hi-Intensity Lamp Model 7703



Model 7703. Features 8″ chromed, flexible arm. Twists and turns to virtually any position. Clips on up to 1½″ surface, either flat or rounded. Uses standard up to 100 W bulb (not included). **Finish:** White.
564-7703. Model 7703 ..... **EACH 28.00**

14

Switches

Alcoswitch
- DIP Switches
  - ADE, ADF, ADP 566
  - DR Series Rotary 567
- Miniature
  - MP Pushbuttons 566
  - TT Series Toggle 566
  - A Series Toggle 567
  - MT Series Toggle 567
- Pushbutton
  - TP "Tiny" Series 566
  - RM, QM, QT 565
  - 164 Series 565
- Security Keylocks
  - 164P, 164J, SWK 565
- Slide Switches
  - TSS, MSS 566

Alectron
- Thumbwheel 570
- Toggle 570
- Pushbutton 570

Arrow Hart
- Pushbutton 568
- Rocker Switches
  - 1500, 1600, 2500, 2600 568
- Toggle Switches
  - Bat Lever, Heavy Duty 569

C & K
- DIP Switches
  - BD Series 574
- Lever Handle 571
- Keylock
  - A, Y, M Series 575
- Power Switches
  - 9000, C, V Series 573
- Pushbutton
  - 8000 Series 572
  - MP Series 573
  - KS Series 576
  - TP Series 577
- Rocker Switches
  - 7000 Series 571
  - 9000, C, V Series 573
  - E Series 574
  - ET Series 576
  - T Series 577
- Rotary
  - A Series 575
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- Slide Switches
  - 1000 Series 571
  - D, S, L Series 573
  - TS Series 577
- Thumbwheels 579
- Toggle Switches
  - 9000 Series 573
  - E Series 574
  - EP, ET Series 576
  - T Series 577
  - 7000 Series 578

C & K/Unimax
- Lighted Pushbutton
  - TH Series 581
- Snap Switches
  - 2H, KS, TC, DA, AA, AT, ABB 580
  - 2LM, 2TM 581

Carlingswitch
- Pushbutton
  - P Series 583
- Rocker
  - RA, RB, LR, RS, RG, 62, TIG 584
- Toggle
  - 2, HK, HL, HM, IK, IL, IM, DA, DB, DC, P, 170 583

CRL Components
- Rotary Switches 582

Cutler-Hammer
- Pushbutton
  - SA, 8400 Series 587
  - PB, PS, PCB 588
- Rocker
  - 8100 Series 587
  - B Series 586
- Toggle Switches
  - 7300, 7400, 7500, 7600, 7700, 8000 Series 585
  - MIL-Spec Toggles 589
  - A Series 586

Grayhill
- DIP Switches
  - 74, 76, 78, 79 Series 592
- Keyboards 593
- Pushbutton Switches 591
- Rotary Switches
  - 55, 56 Series 591
  - 42D, 44D, 50, 51, 71, 19, 61 590

Hamlin
- Proximity Switches
  - 5800 Series 596
- Reed Switches 596

Hermetic Switch, Inc.
- Reed Switches 594
- Proximity Sensors
  - 1000, 5000, 6000, 8000 Series 595
- Test Coils 594

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- Pilot Lights
  - AP Series 598
- Pushbutton
  - A Series 598
- Oil-Tights
  - ABD, ABW, ASD, ASW, APD, APW, ALD, ALW 599

Interswitch
- Rotary DIPs 597
- Thumbwheels
  - H, M, U, L, P Series 597

ITW
- Limit Switches, Type 14, 11, 22, 16, 18 601
- Pushbutton
  - 01-665, 01-865, 05-1, 05-2, 50 Series 600
- Rockers
  - 161, 163, 171, 150, 16 602
- Rotary Switches
  - TO5 602
- Slides
  - 23, 124 602
  - Switch Kits 601

Linemaster
- Foot Switches
  - 632, 121, 124, WP, 491, L, 72, 74, 476, T-51, GEM, 522 603

Multi-Flex
- Switch and Panel Seals 589

NKK
- Keypad Switches
  - JF Series 609
  - JB Series 609
- Lighted Pushbutton
  - DLB, HB Series 610
  - LB Series 611
- Lighted Rocker
  - MLW Series 605
- Lighted Toggle
  - M2112, M2113 605
- Pushbutton
  - FB Series 610
  - GB Series 608
  - SB Series 610
  - MB Series 606
  - AB Series 607
- Rockers
  - SW Series 612
  - PW Series 605
  - A Series 607
- Rotary Switches
  - DR Series 609
  - HS, PS, TS Series 612
- Slides
  - AS Series 607
  - MS Series 609
  - SS Series 609
- Toggles
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  - S Series 612
  - M Series 604
  - B Series 607

Omron
- Mechanical Keyswitches 613
- Snap Action
  - A, Z, V, SS, K, D2F Series 613

Tapeswitch
- Annunciator Kit 614
- Foot Switch
  - CPV, 111 Series 614
- Ribbon Switches
  - 131, 121, 141, 102 Series 614
  - 180 Series 614
- Window Alarm
  - 151 614

Timers and Controls

Artisan
- Delay-On-Make
  - 4605 Series 615
- Interval Timer
  - 4604 Series 615
- Programmable Event Controller
  - Model 4950 615

Cramer
- Elapsed Time Indicators
  - 635G, 636X Series 616
- Reset Timers
  - 241, 402, 472 Series 616

Industrial Timer
- Cam Switch Timer
  - RG21 Series 617
- Elapsed Time Indicators
  - EF1333, EF1335, EF2733, EF2735, ED7112 617
- Time Delay
  - 90, TDAB, TDAF, H, CH, MPB, SF, CSF Series 617

Intermatic
- Seven Day Timers
  - ET715C, ET718C, T7400B, T7800B 618
- Time Switches
  - T100, T170, T1975, ET800CR, ET7400 618

Omron
- Counters
  - H7CN, H8CA Series 619
- Timers
  - H3BA, H3CA, H3BF 619

Redington
- Counters
  - 7600 Series 622
  - 9415, 100, 128, R300, 4416, 4904, 4906, T4, T5 Series 620
  - 9300, 9326, 9500, 5804, 5806, 1063, 46, 20, 29, 22 Series 621
  - Model 81 Series 623
- Hourmeters
  - 7620 Series 623
  - 7500 Series 621
- Measuring Wheels
  - 734 Series 623
- Sensors
  - Photoelectric 97, 98 Series 622
  - Proximity 96 Series 622
- Tachometers
  - 7630 Series 622
  - 82 Series 623

Stewart Warner Hobbs
- Elapsed Time Meters
  - 1000, 20000 Series 624
- Hourmeters
  - 15000, 80000 Series 624

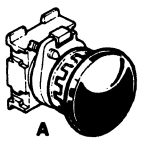
Syrelec
- Controls
  - PWRU, IRT, JR, FJR, NR, VLR 625
- Elapsed Time Counters
  - 6108 Series 626
- Up and Down Counters
  - 1000P, 11014, 10108 Series 626

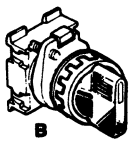
Veeder-Root
- Counters
  - 7915, 7975, 7910 628
  - 7272, 1667, 7790, 7791 627
- Elapsed Time Indicator
  - Model 7990 628
- Hourmeters
  - 7795 Series 627
- Measuring Devices
  - 7434 Series 627
- Rate Indicators and Totalizers
  - 7960, 7961, 7962 628
- Rotary Pulse Generator
  - 7138 Series 627
- Sensors
  - 77853 Motion Detector 628
  - 65 Series Proximity 628
- Tachometer
  - Model 6611 627

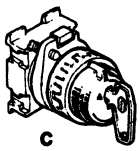
15

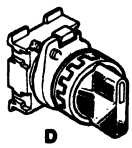
One Order to Allied Fills the Whole Bill

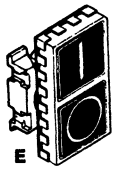
Reliant Series Industrial Controls

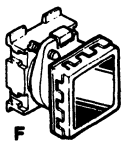


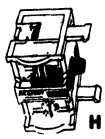




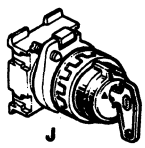








- Fits 7/8" (22 mm) Diameter Holes
- Buttons Are Full Size
- Meets NEMA 1, 12, 13
- Fully Insulated—Thermoplastic or Heavy-Duty Metal Bushings
- Finish: Matte Black Bezel
- Protection Level: 1 P 65
- Contacts: Double-Break Silver Snap-Block, 6 A @ 600 VAC
- Simple "No-Tool" Mounting
- Stackable



These controls utilize a snap-on contact block system with pushbuttons for a variety of switching configurations—momentary and maintained, lighted and unlighted, round and square keylocks and selectors. Suited for direct and pilot duty. Maximum contact rating of 6 A at 600 VAC. Contemporary front panel design. Order contact blocks separately.

Momentary 7/8" Oil-Tight Pushbuttons

Stock No.	Mfr.'s Type	Fig.	Color	Description	EACH 1-9	EACH 10-99
758-3000	RM010-0	G	Black	Round Flush Button	8.25	7.84
758-3005	RM010-2	G	Red		8.25	7.84
758-3010	RM010-5	G	Green		8.25	7.84
758-3015	RM050-2	A	Red	Mushroom, Metal Bayonet Bushing	11.40	10.83
758-3020	QT012-01*	E	Red/Grn	Dual Operator, Thermoplastic Bushing	7.31	6.94
758-3025	QM010-0	F	Black	Square Flush Button	8.85	8.41
758-3030	QM010-2	F	Red		8.85	8.41
758-3035	QM010-5	F	Green		8.85	8.41

*Not oil-tight construction.

7/8" Oil-Tight Selectors and Keylocks

758-3040	RM304-0	D	Black	2 position, maintained selector, metal bush	10.55	10.02
758-3045	RM-200	J	—	2 position, maintained keylock, metal bush	17.95	17.05
758-3050	RM-201	J	—		17.95	17.05
758-3055	RM310-0*	B	Black	3 position, maintained selector, metal bush	10.55	10.02
758-3060	RM230*	C	—	3 position, 2 cam; maintained keylock	17.95	17.05
758-3065	RM270*	C	—	3 position, 2 cam; Mom. 1 side; keylock	17.95	17.05

*60° throw between positions.

Standard Contact Blocks (Fig. H)

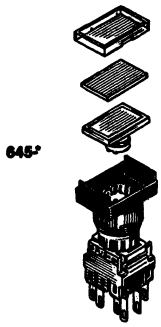
Up to 6 contact blocks may be stacked and snap-mounted in either the upper and/or lower position on the back of any Reliant 22 Series operator. Contact blocks listed below are UL Recognized (File #E-45364) and CSA Certified (LR 20785-19).

Electrical Contact Ratings

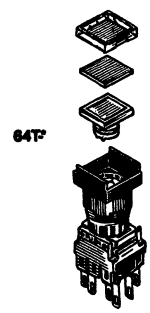
Condition	Functions	Standard Series 120 V	300 V	600 V
AC Operation				
Inductive Loads	Make	30.0 A	12.0 A	6 A
	Continuous	6.0 A	6.0 A	6 A
0.35 P.F. min.	Break	3.0 A	1.2 A	6 A
Resistive Loads 0.75 P.F. min.	Make, Continuous Carry and Break	6.0 A	6.0 A	6 A
DC Operation				
Inductive	Make	1.1 A		
Resistive	Continuous Carry	6.0 A	6.0 A	6 A
Loads	Break	1.1 A		

Stock No.	Mfr.'s Type	Contacts	Plunger Color	EACH 1-9	EACH 10-99
758-3070	V40	N.C.	Red	3.75	3.56
758-3075	V50	N.O.	Green	3.75	3.56
758-3080	VA0	N.O. Early Make	Yellow	3.75	3.56

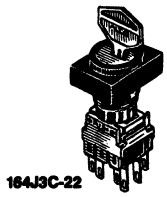
Command Series Switches



164TL-22 or 164TL5-22



164SL-22 or 164SL5-22



Pushbutton Series

Command's 164 Pushbutton Series features a detachable contact block system and improved wiring ease, and attractive front-panel appearance. Instrument grade contacts snap-acting, double-break, 5 A rated, UL and CSA approval. Contacts are for 5/8" (16 mm) diameter panel holes. Illuminated pushbuttons available in 3 shapes (round, square, rectangular) with a range of functions. All are front lampable (with T1 3/4 midget flange base lamps). Maintained models (164SL5-11, 164TL5-11) feature latching action for visible status indication. Button sets and lamps must be ordered separately. For a second 1 N.O. + N.C. set, add AGX-001 contact block.

Stock No.	Mfr.'s Type	Contacts	Description	EACH 1-9	EACH 10-99	EACH 100-499
758-2000	164EL-11	1 N.O. + 1 N.C.	Round Momentary	8.50	7.91	7.40
758-2005	164SL-11	1 N.O. + 1 N.C.	Square Momentary	8.50	7.91	7.40
758-2010	164SL5-11	1 N.O. + 1 N.C.	Square Maintained	9.70	9.02	8.44
758-2015	164TL-11	1 N.O. + 1 N.C.	Rectangular Momentary	8.50	7.91	7.40
758-2020	164TL5-11	1 N.O. + 1 N.C.	Rectangular Maintained	9.70	9.02	8.44

164 Series Pilot Lights. Same appearance as the pushbutton series. Front lampable with T1 3/4 midget flange base lamps. Can insert legends between the inner button and colored lens cap. Lamps and lens caps must be ordered separately.

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-99	EACH 100-499
758-2025	164-EZ	Round Pilot Light	3.60	3.02	2.90
758-2030	164-SZ	Square Pilot Light	3.75	3.49	3.26
758-2035	164-TZ	Rectangular Pilot Light	3.75	3.49	3.26
758-2040	AGX-001	Spare Contact Block (1 N.O. + 1 N.C.)	2.25	2.09	1.96

Lens/Button Sets

Stock No.	Mfr.'s Type	Lens Type	EACH 1-9	EACH 10-99	EACH 100-499
758-214X*	64E-	Round	.72	.65	.58
758-224X*	64S-	Square	.72	.65	.58
758-234X*	64T-	Rectangular	.72	.65	.58

*Replace "X" in Stock No. with number that correponds with desired color: 2 = Red, 4 = Yellow, 5 = Green, 9 = White.

Command Series Keylock and Selector Switches

2- and 3-position keylock and selector switches feature 90° throw, key pulls and poles, and a range of functions. Modular detachable contact blocks, rated 5 A at 250 VAC. UL, CSA Recognized. Keylocks come with 2 keys. Note key pull positions.

Stock No.	Mfr.'s Type	Contents	Description	EACH 1-9	EACH 10-99
758-2050	164P2B-11	1 N.O. + N.C.	2 position	15.75	14.65
758-2055	164P2B-22	2 N.O. + N.C.	2 position	17.85	16.60
758-2060	164P3B-22	2 N.O. + N.C.	3 position	17.85	16.60
758-2065	164J2A-11	1 N.C. + N.C.	2 position, key pull left	22.95	21.34
758-2070	164J2B-11	1 N.O. + N.C.	2 position, key pull both	22.95	21.34
758-2075	164J3C-22	2 N.O. + N.C.	3 position, key pull all	25.05	23.30

Moderate Security Keyswitches

Helps prevent unauthorized operation of equipment. Choice of maintained or momentary. Fits 3/4" diameter double-D hole to eliminate possibility of turning when mounted. Single bitted key removable in several position options. Supplied with 2 keys. **Contact Rating:** 4 amps at 125 VAC (resistance). **Life Expectancy:** 10,000 cycles at rated current. **Action:** SPST (90° throw). **Insulation:** UL Recognized nylon. **Screw Terminals:** UL Listed (File #E-46765).

Stock No.	Mfr.'s Type	Circuit	Position for Key Removal	EACH 1-499	EACH 50-99
758-0990	SWK-13-1	Off-On	1	6.98	5.93
758-0995	SWK-13-2	Off-On	1 or 2	6.98	5.93
758-1000	SWK-13-3	On-Off	1	6.98	5.93
758-1005	SWK-23-1	Off-Mom.-On	1	7.58	6.88
758-1010	SWK-23-3	On-Mom.-Off	1	7.58	6.88
758-1015	SWK-13K	Spare key for SWK-13s		1.05	.91

15

Miniature Pushbuttons

Molded-in heat sink terminals eliminate switch mechanism contamination. Gold flash contacts and terminals inhibit oxidation and extend shelf life. Diallyl phthalate cases permit these switches to withstand wide temperature ranges. Each switch has one-piece bushing to reduce the possibility of tear-off damage when mounting. All hardware is supplied unmounted. **Contact Rating:** 6 amps at 125VAC; 3 amps at 250VAC; 4 amps at 28VDC. Solid silver contacts. **Operating Force:** 2.5 to 4.4 lbs. **Plunger Travel:** .125" avg. **Insulation Resistance:** 1,000 ohms. **Dielectric Strength:** 1,500V rms at sea level. **Life Expectancy:** 50K operations. Terminal seal included at no extra charge. Order cap separately.

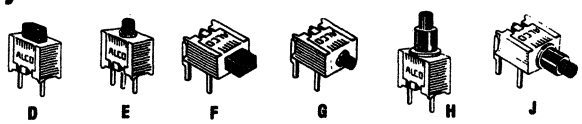
Stock No.	Mfr.'s Type	Poles	Fig.	Circuit	EACH		
					1-99	100-499	500-Up
758-0300	MPA-106F	SPDT	A	Momentary	5.29	4.33	3.81
758-0305	MPA-206R	DPDT	A	Momentary	6.82	5.58	4.91
758-0310	MPE-106F*	SPDT	B	Momentary	6.46	5.28	4.65
758-0315	MPE-206R*	DPDT	B	Momentary	7.93	6.49	5.71
758-0320	MPG-106F†	SPDT	C	Momentary	6.92	5.66	4.98
758-0325	MPG-206R†	DPDT	C	Momentary	8.38	6.85	6.03

* Splash-proof. † Mustang pushbutton — does not require cap.

Caps

Stock No.	Mfr.'s Type	Color	EACH		
			1-99	100-499	200-Up
758-0326	C-22-0	Black	0.40	0.37	0.33
758-0327	C-22-2	Red	0.40	0.37	0.33

"Tiny" Series Pushbuttons

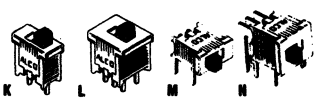


These compact pushbutton switches are used in a variety of applications such as: instrumentation, telecom systems, computers, etc. Contacts and terminals are fully gold plated for dependability in frequent switching and gold solderability. Right angle models are ideal for PC board edge mounting. Contacts and terminals are fully gold plated for dependability in frequent switching and gold solderability. Right angle models are ideal for PC board edge mounting. **Contact Rating:** 0.4VA max. at 20VDC or peak AC. **Contact Resistance:** 20 milliohms max. **Insulation Resistance:** 1,000 megohms min. at 500VDC. **Dielectric Strength:** 1,000V rms at sea level. Thermoset plastic case material. Gold over nickel barrier plating. **Plunger Travel:** Approximately .030".

Stock No.	Mfr.'s Type	Poles	Fig.	Circuit	EACH		
					1-99	100-499	500-Up
758-0400	TP11CG-PC-O	SPST	D	N.O. Momentary	3.44	2.06	1.79
758-0405	TP11FG-PC-O	SPDT	D	Momentary	4.59	2.75	2.39
758-0410	TP11CG-RA-O	SPST	F	N.O. Momentary	3.85	2.31	2.00
758-0415	TP11FG-RA-O	SPDT	F	Momentary	5.00	3.00	2.60
758-0420	TPA11CG-PC-O	SPST	E	N.O. Momentary	3.44	2.06	1.79
758-0425	TPA11FG-PC-O	SPDT	E	Momentary	4.59	2.75	2.39
758-0430	TPA11CG-RA-O	SPST	G	N.O. Momentary	3.85	2.31	2.00
758-0435	TPA11FG-RA-O	SPDT	G	Momentary	5.00	3.00	2.60
758-0440	TPB11CG-PC-O	SPST	H	N.O. Momentary	3.44	2.06	1.79
758-0445	TPB11FG-PC-O	SPDT	H	Momentary	4.59	2.75	2.39
758-0450	TPB11CG-RA-O	SPST	J	N.O. Momentary	3.66	2.56	2.20
758-0455	TPB11FG-RA-O	SPDT	J	Momentary	5.00	3.00	2.60

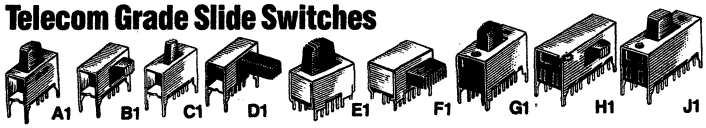
"Tiny" Series Slide Switches

This series of slide switches has a reliable contact mechanism for long dependable service. Designed especially for compact PC applications in computers, instrumentation, telephone apparatuses, etc. Terminals fall into standard PC grid patterns. Contacts and terminals are gold plated for occasional use and good solderability. **Contact Rating:** 0.4VA max. at 20VDC or peak AC. **Contact Resistance:** 20 milliohms max. **Insulation Resistance:** 1,000 megohms min. at 500VDC. **Dielectric Strength:** 1,000V rms at sea level. Thermoset plastic case material. Gold over nickel barrier plating.



Stock No.	Mfr.'s Type	Poles	Fig.	Circuit	EACH		
					1-24	25-99	100-249
758-0500	TSS11DG-PC	SPDT	K	On-None-On	2.28	1.94	1.71
758-0505	TSS21NG-PC	DPDT	L	On-None-On	4.34	3.69	3.26
758-0510	TSS11DG-RA	SPDT	M	On-None-On	2.41	2.05	1.81
758-0515	TSS21NG-RA	DPDT	N	On-None-On	5.25	4.46	3.94

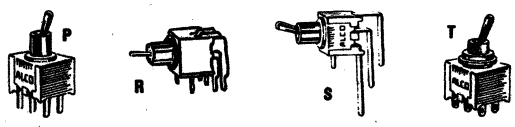
Telecom Grade Slide Switches



Designed for PC applications. These slide switches save installation time and eliminate wiring errors. Available in vertical or right angle mount with mounting tabs on the perimeter of the frames for added stability. All switches in this series feature a positive wiping action to assure low contact resistance and make-before-break action. **Contact Rating:** Silver, 300mA at 125VAC. **Contact Resistance:** 30 milliohms max. **Insulation Resistance:** 1,000 megohms min. **Dielectric Strength:** 500V rms at sea level.

Stock No.	Mfr.'s Type	Poles	Fig.	EACH		
				1-99	100-249	250-499
758-1020	MSS-1200	SPDT	A1	0.99	0.64	0.62
758-1025	MSS-1200R	SPDT	B1	1.04	0.68	0.66
758-1030	MSS-2200	SPDT	C1	1.04	0.68	0.66
758-1035	MSS-2250R	DPDT	D1	1.10	0.72	0.69
758-1040	MSS-4200	4PDT	E1	1.21	0.79	0.76
758-1045	MSS-4200R	4PDT	F1	1.48	0.96	0.93
758-1050	MSS-4300	4P3T	G1	1.65	1.07	1.04
758-1055	MSS-4300R	4P3T	H1	1.87	1.22	1.18
758-1060	MSS-6200	6PDT	J1	1.65	1.07	1.04

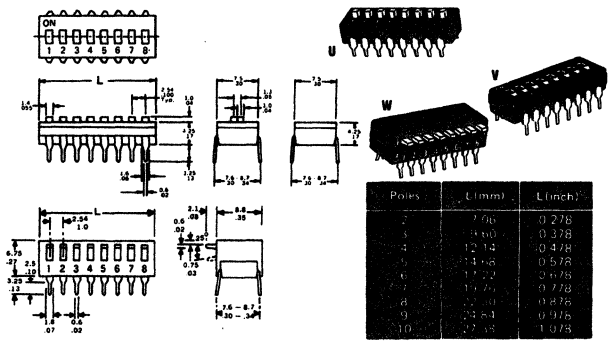
"Tiny" Series Toggle Switches



This series is ideally suited for PC applications. The 1 and 2 pole types shown have four standoffs to provide clearance for proper cleaning and to allow for maximum mounting stability. Terminals are spaced to fall into standard PC grid patterns for ease in design and automated drilling. Case material consists of high-temperature, high-impact green thermoset plastic. Contacts and terminals are fully gold plated for low current on dry circuit use and good solderability. **Contact Rating:** 0.4VA max. at 20VDC or peak AC. **Contact Resistance:** 20 milliohms max. **Insulation Resistance:** 1,000 megohms min. at 500VDC. **Dielectric Strength:** 1,000V rms at sea level. Gold over nickel barrier plating.

Stock No.	Mfr.'s Type	Poles	Fig.	Circuit	EACH		
					1-99	100-499	500-Up
758-0600	TT11DG-PC-1	SPDT	P	On-None-On	4.34	3.60	2.60
758-0605	TT11EG-PC-1	SPDT	P	On-Off-On	5.19	4.47	3.11
758-0610	TT21NG-PC-1	DPDT	P	On-None-On	6.83	5.39	4.10
758-0615	TT11DG-RA-1	SPDT	R	On-None-On	4.75	3.30	2.85
758-0620	TT11EG-RA-1	SPDT	R	On-Off-On	5.60	4.41	3.36
758-0625	TT21NG-RA-1	DPDT	R	On-None-On	7.66	5.93	4.60
758-0630	TT11DG-VRA-1	SPDT	S	On-None-On	4.75	3.30	2.85
758-0635	TT11EG-VRA-1	SPDT	S	On-Off-On	5.60	4.41	3.36
758-0640	TT21NG-VRA-1	DPDT	S	On-None-On	7.66	5.93	4.60
758-0645	TT13D-2T	SPDT	T	On-None-On	4.24	3.58	2.54
758-0650	TT23N-2T	DPDT	T	On-None-On	6.64	5.01	3.98

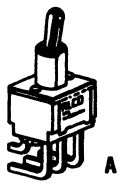
Auto-Insertable DIP Switches



Unique ceramic substrate allows soldering temperature of 245°C ± 5% for up to 30 seconds. Auto-insertable using standard insertion equipment. Gas tight contacts (280,000 PSI). Allows wave soldering and aqueous or solvent cleaning without the use of tape seals. **Base:** PBT encapsulated ceramic. **Cover and Actuation:** PBT 94V-O. Gold flash beryllium copper moving contacts. Solder coated brass fixed contact and terminal. **Operating Force:** Less than 800 grams. **Contact Rating:** .4VA at 20VDC max. **Operating Temperature:** −30° to +85°C. **Dielectric Strength:** 500VAC rms at sea level. **Life Expectancy:** 5,000 operations.

Stock No.	Mfr.'s Type	Number of Positions	Fig.	Description	EACH		
					1-99	100-499	500-999
758-0700	ADE-02	2	U	Extended Slide	1.78	1.34	1.16
758-0705	ADE-03	3	U	Extended Slide	1.89	1.42	1.23
758-0710	ADE-04	4	U	Extended Slide	2.01	1.51	1.31
758-0715	ADE-05	5	U	Extended Slide	2.16	1.62	1.40
758-0720	ADE-06	6	U	Extended Slide	2.33	1.75	1.51
758-0725	ADE-07	7	U	Extended Slide	2.47	1.85	1.61
758-0730	ADE-08	8	U	Extended Slide	2.64	1.98	1.72
758-0735	ADE-09	9	U	Extended Slide	2.83	2.12	1.84
758-0740	ADE-10	10	U	Extended Slide	2.99	2.24	1.94
758-0745	ADF-02	2	V	Flush Slide	1.78	1.34	1.16
758-0750	ADF-03	3	V	Flush Slide	1.89	1.42	1.23
758-0755	ADF-04	4	V	Flush Slide	2.01	1.51	1.31
758-0760	ADF-05	5	V	Flush Slide	2.16	1.62	1.40
758-0765	ADF-06	6	V	Flush Slide	2.33	1.75	1.51
758-0770	ADF-07	7	V	Flush Slide	2.47	1.85	1.61
758-0775	ADF-08	8	V	Flush Slide	2.64	1.98	1.72
758-0780	ADF-09	9	V	Flush Slide	2.83	2.12	1.84
758-0785	ADF-10	10	V	Flush Slide	2.99	2.24	1.94
758-0790	APD-04	4	W	Lever Down/Piano (On)	2.44	1.83	1.59
758-0795	ADP-06	6	W	Lever Down/Piano (On)	2.83	2.12	1.84
758-0800	ADP-08	8	W	Lever Down/Piano (On)	3.22	2.42	2.09
758-0805	ADP-10	10	W	Lever Down/Piano (On)	3.65	2.74	2.37
758-0810	ADPA-04	4	W	Lever Up/Piano (On)	2.44	1.83	1.59
758-0815	ADPA-06	6	W	Lever Up/Piano (On)	2.83	2.12	1.84
758-0820	ADPA-08	8	W	Lever Up/Piano (On)	3.22	2.42	2.09
758-0825	ADPA-10	10	W	Lever Up/Piano (On)	3.65	2.74	2.37

Gemini "A" Series


A

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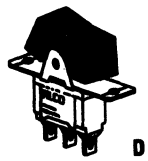
D

Machined brass, heavy nickel-plated toggle. Rigid one-piece die-cast, copper flash, heavy nickel-plated bushing and frame. DAP case for electrical performance and mechanical strength. "Captured" design eliminates possibility of displacement due to shock. Epoxy seal of terminals is standard. **Electrical Life:** 80,000 cycles SPDT, all others 40,000 cycles. **Contact Rating:** Silver 5 Amps @ 120 VAC; Gold 0.4 VA @ 20 VDC max. **Insulation Resistance:** 1,000 megohms min. at 500 VDC. **Dielectric Strength:** 1,000 V rms at sea level. **Contact Resistance:** 30 milliohms max. **Operating Temperature:** – 30°C to + 85°C.

Fig. A Right angle PC mount; short bat; unthreaded .28" long bushing; gold contacts.

Stock No.	Mfr.'s Type	Poles	Circuit	EACH		
				1-99	100-499	500-Up
758-0005	A101MD9AB	SPDT	On-On	3.39	2.27	2.03
758-0010	A103MD9AB	SPDT	On-Off-On	3.96	2.65	2.38
758-0015	A201MD9AB	DPDT	On-On	6.28	4.21	3.77
758-0020	A203MD9AB	DPDT	On-Off-On	7.25	4.86	4.35
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Fig. B Panel mount; wire lug; 1/4-40, .35" threaded bushing.

Stock No.	Mfr.'s Type	Poles	Circuit	Contacts	EACH		
					1-99	100-499	500-Up
758-0025	A101SYZQ	SPDT	On-On	Silver	2.54	1.70	1.52
758-0030	A101SYZB	SPDT	On-On	Gold	2.54	1.70	1.52
758-0035	A103SYZQ	SPDT	On-Off-On	Silver	3.11	2.08	1.87
758-0040	A201SYZQ	DPDT	On-On	Silver	4.30	2.88	2.58
758-0045	A203SYZQ	DPDT	On-Off-On	Silver	5.26	3.52	3.16

Fig. C PC mount; standard bat; unthreaded .28" long bushing.

Stock No.	Mfr.'s Type	Poles	Circuit	Contacts	EACH		
					1-99	100-499	500-Up
758-0050	A101SYCQ	SPDT	On-On	Silver	2.54	1.70	1.52
758-0055	A103SYCB	SPDT	On-Off-On	Gold	3.11	2.08	1.87
758-0060	A201SYCQ	DPDT	On-On	Silver	4.30	2.88	2.58
758-0065	A201SYCB	DPDT	On-On	Gold	4.58	3.07	2.75
758-0070	A203SYCB	DPDT	On-Off-On	Gold	5.50	3.72	3.33

Fig. D Small rocker; wire lug; silver contacts.

Stock No.	Mfr.'s Type	Poles	Circuit	EACH		
				1-99	100-499	500-Up
758-0075	A101J1ZQ0	SPDT	On-None-On	3.05	2.04	1.83
758-0080	A103J1ZQ0	SPDT	On-Off-On	3.62	2.43	2.17
758-0085	A201J1ZQ0	DPDT	On-None-On	4.18	3.22	2.89
758-0090	A203J1ZQ0	DPDT	On-Off-On	5.77	3.87	3.46
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Green Series

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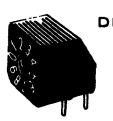
These switches are best known for their ease of mounting and actuation as well as for long term reliability. Variety and quality are designed in, not added on. The miniature "Green Series" features the following: molded-in terminals, anti-push-in toggle, hi-torque bushing, gold flash terminals, UL Listed (File No. E46765). **Contact Rating:** 6 amps at 125 VAC, 3 amps at 250 VAC, 4 amps at 28 VDC. **Contact Resistance:** Below 10 milliohms. **Insulation Resistance:** 1,000 megohms min. Solid silver contacts. Green diallyl phthalate case. ( ) denotes momentary.

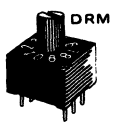
Stock No.	Mfr.'s Type	Fig.	Switch Type	Poles	Circuit	EACH		
						1-99	100-499	500-Up
758-0100	MTA-106D	E	Toggle	SPDT	On-None-On	3.60	2.94	2.79
758-0105	MTA-106E	E	Toggle	SPDT	On-Off-On	5.07	4.15	4.00
758-0110	MTA-106F	E	Toggle	SPDT	On-None-(On)	4.55	3.72	3.58
758-0115	MTA-106H	E	Toggle	SPDT	On-Off-(On)	4.69	3.84	3.64
758-0120	MTA-206N	E	Toggle	DPDT	On-None-On	4.93	4.03	3.75
758-0125	MTA-206P	E	Toggle	DPDT	On-Off-On	5.80	4.74	4.54
758-0130	MTA-306D	F	Toggle	3PDT	On-None-On	8.52	6.97	6.57
758-0135	MTA-406N	F	Toggle	4PDT	On-None-On	11.01	9.01	8.51
758-0140	MTA-106D-PC	G	PC Toggle	SPDT	On-None-On	3.68	3.01	2.85
758-0145	MTA-106E-PC	G	PC Toggle	SPDT	On-Off-On	4.39	3.59	3.39
758-0150	MTA-206N-PC	G	PC Toggle	DPDT	On-None-On	5.07	4.15	3.80
758-0155	MTE-106D	H	Splash Proof	SPDT	On-None-On	4.55	3.72	3.58

Stock No.	Mfr.'s Type	Fig.	Switch Type	Poles	Circuit	EACH		
						1-99	100-499	500-Up
758-0160	MTE-206N	H	Splash Proof	DPDT	On-None-On	5.87	4.80	4.63
758-0165	MTF-106D	J	Flat Toggle	SPDT	On-None-On	4.78	3.91	3.55
758-0170	MTF-206N	J	Flat Toggle	DPDT	On-None-On	6.09	4.98	4.70
758-0175	MTG-106D	K	Mustang	SPDT	On-None-On	5.15	4.21	3.91
758-0180	MTG-206N	K	Mustang	DPDT	On-None-On	6.54	5.35	4.95
758-0185	MTL-106D	L	Locking Toggle	DPDT	On-None-On	6.16	5.04	4.70
758-0190	MTL-206N	L	Locking Toggle	DPDT	On-None-On	7.57	6.19	5.85
758-0195	MTM-106D-PC	M	Short Toggle PC	SPDT	On-None-On	3.68	3.01	2.85
758-0200	MTM-206N-PC	M	Short Toggle PC	DPDT	On-None-On	5.07	4.15	3.80
758-0205	MTM-106D-RA	N	Right Angle PC	SPDT	On-None-On	4.55	3.72	3.58
758-0210	MTM-206N-RA	N	Right Angle PC	DPDT	On-None-On	6.76	5.53	5.20
—	—	—	—	—	—	—	—	—

DR Series, Encoded Rotary DIP Switches

DRD


DRD-RA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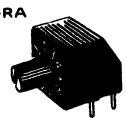
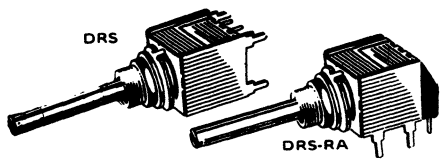
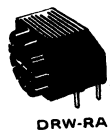

DRM-RA


DRS

DRS-RA

DRW


DRW-RA

DR Series features highest contact reliability with a pin-point high contact pressure mechanism providing longer life expectancy by penetrating oxides and sulfurized film allowing more than 10,000 rotations. Insert molded terminals and internal "O" ring allow wave soldering and immersion cleaning. **32 styles to choose from:** screwdriver, knob and shaft types are available in both upright and right angle versions. Plus your choice of 4 standard output codes.

Specifications. Contact Rating: 0.4 VA @ 20 VDC (max.). **Initial Contact Resistance:** 50 milliohms max. @ 2 VDC. **Insulation Resistance:** 1,000 milliohms min. @ 100 VDC. **Dielectric Strength:** 300 VAC 1 minute. **Operating Temperature Range:** – 10°C to + 85°C. **Life Expectancy:** 10,000 rotations.

Stock No.	Mfr.'s Type	Color Code	Circuit Description	Characters	EACH		
					1-99	100-249	250-499
758-0830	DRD-10	Red	BCD	0-9	3.15	2.52	2.21
758-0835	DRD-10C	Orange	BCD Complement	0-9	3.15	2.52	2.21
758-0840	DRD-16	Black	BC	0-9 & A-F	3.55	2.84	2.49
758-0845	DRD-16C	White	BC Complement	0-9 & A-F	3.55	2.84	2.49
758-0850	DRD-10-RA	Red	BCD	0-9	3.80	3.04	2.66
758-0855	DRD-10C-RA	Orange	BCD Complement	0-9	3.80	3.04	2.66
758-0860	DRD-16-RA	Black	BC	0-9 & A-F	4.19	3.35	2.93
758-0865	DRD-16C-RA	White	BC Complement	0-9 & A-F	4.19	3.35	2.93
758-0870	DRM-10	Red	BCD	0-9	4.00	3.20	2.80
758-0875	DRM-10C	Orange	BCD Complement	0-9	4.00	3.20	2.80
758-0880	DRM-16	Black	BC	0-9 & A-F	4.38	3.50	3.07
758-0885	DRM-16C	White	BC Complement	0-9 & A-F	4.38	3.50	3.07
758-0890	DRM-10-RA	Red	BCD	0-9	4.64	3.71	3.25
758-0895	DRM-10C-RA	Orange	BCD Complement	0-9	4.64	3.71	3.25
758-0900	DRM-16-RA	Black	BC	0-9 & A-F	5.03	4.02	3.52
758-0905	DRM-16C-RA	White	BC Complement	0-9 & A-F	5.03	4.02	3.52

Stock No.	Mfr.'s Type	Color Code	Circuit Description	Characters	EACH		
					1-99	100-249	250-499
758-0910	DRS-10	Red	BCD	0-9	5.99	4.79	4.19
758-0915	DRS-10C	Orange	BCD Complement	0-9	5.99	4.79	4.19
758-0920	DRS-16	Black	BC	0-9 & A-F	6.38	5.10	4.47
758-0925	DRS-16C	White	BC Complement	0-9 & A-F	6.38	5.10	4.47
758-0930	DRS-10-RA	Red	BCD	0-9	6.64	5.31	4.65
758-0935	DRS-10C-RA	Orange	BCD Complement	0-9	6.64	5.31	4.65
758-0940	DRS-16-RA	Black	BC	0-9 & A-F	7.01	5.61	4.91
758-0945	DRS-16C-RA	White	BC Complement	0-9 & A-F	7.01	5.61	4.91
758-0950	DRW-10	Red	BCD	0-9	3.67	2.94	2.57
758-0955	DRW-10C	Orange	BCD Complement	0-9	3.67	2.94	2.57
758-0960	DRW-16	Black	BC	0-9 & A-F	4.07	3.26	2.85
758-0965	DRW-16C	White	BC Complement	0-9 & A-F	4.07	3.26	2.85
758-0970	DRW-10-RA	Red	BCD	0-9	4.44	3.55	3.11
758-0975	DRW-10C-RA	Orange	BCD Complement	0-9	4.44	3.55	3.11
758-0980	DRW-16-RA	Black	BC	0-9 & A-F	4.84	3.87	3.39
758-0985	DRW-16C-RA	White	BC Complement	0-9 & A-F	4.84	3.87	3.39

15

Switches

General Purpose Momentary AC Switches

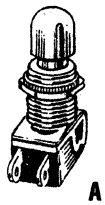
Push switches with slow-make/slow-break butt type contacts. 80511 Series rated at 3 A, 120 VAC; 1 A, 250 VAC; 1/10 HP, 120 VAC. Solder lug terminations. Bushing .562" (14.27mm) long. 80511 Series CSA Listed.

Stock No.	Mfr.'s Type	Fig.	Circuit	Action	Button Style	EACH			
						1-24	25-49	50-99	100-499
717-0421	80511E	A	SPST	On-Mom. Off	Standard	2.44	2.26	1.88	1.69
717-0420	80511	A	SPST	On-Mom. Off	Black snap-on	2.44	2.26	1.88	1.69
717-3033	80541E	A	SPST	Off-Mom-On	Black snap-on	2.71	2.50	2.08	1.88
717-0426	80541ER	A	SPST	Off-Mom. On	Red snap-on	2.71	2.50	2.08	1.88
717-3004	80541	A	SPST	On-Mom-Off	Black snap-on	2.71	2.50	2.08	1.88
717-3005	80541R	A	SPST	On-Mom-Off	Red snap-on	2.71	2.50	2.08	1.88

General Purpose Momentary AC/DC Switches

Features quick-make/quick-break contacts with wiping action. **Bushing Length:** series 80630-.437" (11.10mm). **Ratings:** Type 81084G-6 A, 125 V; 3 A, 250 V. Type 80631-12 A, 125 V; 6 A, 250 V. **Type 80630 (CSA certified):** 16 A, 125 V; 8 A, 250 V; 3/4 HP, 125-250 V. Solder lug termination except for 80630 series types which have screw terminations. *Back connected solder lug. Grooved button style types must be ordered for user-assembled snap-on buttons.

Stock No.	Mfr.'s Type	Fig.	Circuit	Action	Button Style	EACH			
						1-24	25-49	50-99	100-499
717-3008	81084G*	B	DPST	Off-Mom. On	Standard	5.88	5.43	4.53	4.07
717-3009	80631	C	SPST	Off-Mom. On	Standard	7.54	6.96	5.80	5.22
717-0450	80630	C	DPST	Off-Mom. On	Standard	7.54	6.96	5.80	5.22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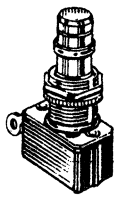
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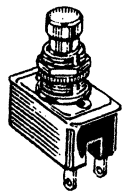

C

Arrow Hart

Arrow Hart has been a leading manufacturer of standard and custom-designed UL Listed power switches for more than fifty years. Many of our products have international approvals, reflecting our commitment to the world market.

Arrow Hart switches are specified wherever highest quality standards are a requirement. We are proud that our switches, which range from heavy duty 60-ampere power toggles to miniature pushbuttons, are represented in every major electronic and electrical industry.

The switches listed in this catalog are typical of the products currently being used by original equipment manufacturers. many are available from our authorized distributors. Special switches not shown in this catalog are available upon request. Please contact the factory for details. Arrow Hart welcomes inquiries to meet your specific requirements.

1500/2500 Series Miniature Snap-In AC Rocker Switches

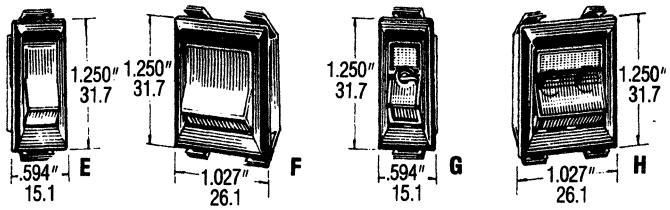
These switches come in lighted and non-lighted versions in a variety of standard or custom colors. They are UL, CSA and VDE listed.

Ideal applications include appliances, electronic instrumentation, data processing, communications, medical and office equipment and many others in both domestic and foreign markets.

Options available are legend stamping, solder lugs, independent lamp circuits, and special and matched colors.

Aesthetically pleasing yet ruggedly functional with traditional Arrow Hart quality, these switches are ideal for up-front applications where both appearance and reliability are required. The smoothly rounded bezel and gently contoured rocker have a soft matte finish that blends in with the most sophisticated product designs.

When a switch has to be more than just a switch, Arrow Hart's 1500/2500 series rocker switch offers that designer touch that will enhance any product line.



Lighted Type

Stock No.	Mfr.'s Type	Circuit	Lens Color	Action	Fig.	Amps		EACH			
						125V	250V	1-24	25-49	50-99	100-499
717-0835	1500R11E	SPST	Red	On-Off	G	15	10(4)	2.03	1.87	1.56	1.40
717-0840	1500A11E	SPST	Amber	On-Off	G	15	10(4)	2.03	1.87	1.56	1.40
717-0845	1500G11E	SPST	Green	On-Off	G	15	10(4)	1.95	1.80	1.50	1.35
717-0850	2500R11E	DPST	Red	On-Off	H	15	10(4)	2.54	2.35	1.96	1.76
717-0855	2500A11E	DPST	Amber	On-Off	H	15	10(4)	2.54	2.35	1.96	1.76
717-0860	2500G11E	DPST	Green	On-Off	H	15	10(4)	2.54	2.35	1.96	1.76

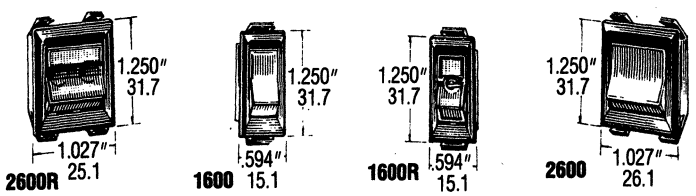
Non-Lighted Type

Stock No.	Mfr.'s Type	Circuit	Action	Fig.	Amps		EACH			
					125V	250V	1-24	25-49	50-99	100-499
717-0780	150011E	SPST	On-Off	E	15	10(4)	.85	.79	.66	.59
717-0785	150111E	SPST	Mom-On-Off	E	15	10(4)	.95	.87	.73	.66
717-0790	150211E	SPST	On-On	E	15	10(4)	1.10	1.02	.85	.76
717-0795	150311E	SPDT	On-Mom-On	E	15	10(4)	1.30	1.20	1.00	.90
717-0800	150411E	SPDT	On-Off-On	E	15	10(4)	1.15	1.06	.88	.80
717-0805	250011E	DPST	On-Off	F	15	10(4)	1.37	1.27	1.06	.95
717-0810	250111E	DPST	Mom. On-None-Off	F	15	10(4)	1.55	1.44	1.20	1.08
717-0815	250211E	DPDT	On-None-On	F	15	10(4)	1.87	1.72	1.44	1.29
717-0820	250311E	DPDT	On-None-Mom. On	F	15	10(4)	2.23	2.06	1.72	1.54

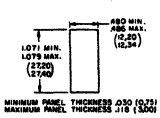
Rocker Switches With On-Off Legends

717-0825	150011E671	SPST	On-Off	E	15	10(4)	1.03	.95	.80	.72
717-0830	250011E735	DPST	On-Off	F	15	10(4)	1.60	1.47	1.23	1.10

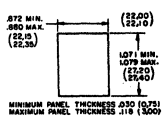
1600/2600 Series Miniature Rocker Switches



Slow-make, slow-break action. Combination quick connector/solder lug terminals. Silver inlay over copper contact material. 5000 hours minimum lamp life. **Rated Life:** 50,000 cycles minimum at rated load. All rated 16 A (resistive load) at 125 VAC/250 VAC. **Color Code:** A = Amber; R = Red; G = Green; B = Black.



Recommended panel cutout for 1500/1600 Series



Recommended panel cutout for 2500/2600 Series

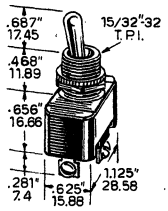
1600/2600 High Inrush "H" Series Switches

Stock No.	Lighted Type	Description	Poles	EACH			
				1-24	25-49	50-99	100-Up
717-1085	1600H-11E	Standard Gloss	1PST	1.15	1.06	.88	.80
717-1090	1600HM-11E	Matte Finish	1PST	1.15	1.06	.88	.80
717-1095	1600HR-11E	Red Pilot Light Installed	1PST	2.33	2.15	1.79	1.61
717-1501	2600H-11E	Standard Gloss Finish	2PST	1.67	1.54	1.28	1.16
717-1105	2600HM-11E	Matte Finish	2PST	1.67	1.54	1.28	1.16
717-1110	2600HR-11E	Red Pilot Light Installed	2PST	2.84	2.62	2.11	1.97

Stock No.	Lighted Type	Color	Model w/Lever Up Center Down	Poles	EACH			
					1-24	25-49	50-99	100-Up
717-1005	1600A-11E	A	On-None-Off	1PST	2.14	1.98	1.65	1.48
717-1010	1600R-11E	R	On-None-Off	1PST	2.14	1.98	1.65	1.48
717-1015	1609A-11E	A	Indicator Only	—	1.60	1.48	1.23	1.11
717-1020	1609R-11E	R	Indicator Only	—	1.60	1.48	1.23	1.11
717-1025	2600A-11E	A	On-None-Off	2PST	2.66	2.45	2.04	1.84
717-1030	2600G-11E	G	On-None-Off	2PST	2.66	2.45	2.04	1.84
717-1035	2600R-11E	R	On-None-Off	2PST	2.66	2.45	2.04	1.84
717-1040	1600-11E	B	On-None-Off	1PST	.97	.89	.74	.67
717-1045	1602-11E	B	On-None-Off	1PDT	1.22	1.12	.94	.84
717-1050	1604-11E	B	On-Off-On	1PDT	.58	.54	.45	.41
717-1055	1601-11E	B	Mom-None-Off	1PDT	1.06	.98	.82	.73
717-1060	1603-11E	B	On-None-Mom	1PDT	1.42	1.31	1.09	.98
717-1065	2600-11E	B	On-None-Off	2PST	1.49	1.37	1.14	1.03
717-1070	2602-11E	B	On-None-On	2PDT	1.98	1.83	1.52	1.37
717-1075	2604-11E	B	Of-Off-On	2PDT	2.08	1.92	1.60	1.44
717-1080	2601-11E	B	Mom-None-Off	2PST	4.08	3.77	3.14	2.83

Lighted or non-lighted versions available in standard black gloss or optional matte finish. Lever action in the Up-Center-Down operating mode is: ON-NONE-OFF. Handles high inrush currents up to 110 A Peak for 10 milliseconds @ 125 VAC, Electrical life rated at 20,000 cycles minimum. **Operating Temperature:** 0°C to + 85°C.

Bat Lever Switches



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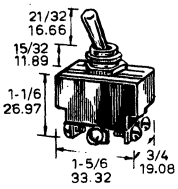

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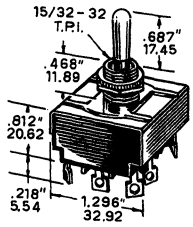

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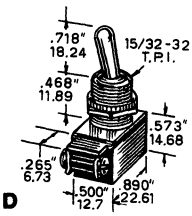


D

General Purpose AC Only Bat Lever Switches

Designed to provide high interrupting capacity in a small phenolic base. Exposed parts have a bright nickel finish. Contacts are silver plated. 3/4 HP, 15/32" slotted sleeve length. UL Recognized.

Stock No.	Mfr.'s Type	Circuit	Action	Term. Type	Fig.	Amps		EACH			
						125 VAC	250 V	1-24	25-49	50-99	100-Up
717-0520	82600	SPST	On-Off	Screw	A	15	10	**2.42**	**2.18**	**2.01**	**1.84**
717-0521	82601	SPST	On-Off	Solder Lug	A	15	10	**2.71**	**2.11**	**1.71**	**1.32**
717-0600	82601P	SPST	On-Off	.250 Quick Conn.	A	15	10	**1.90**	**1.76**	**1.47**	**1.32**
717-0528	82602	SPDT	On-Off-On	Screw	A	15	10	**3.99**	**3.11**	**2.51**	**1.91**
717-0530	82604	SPDT	On-None-On	Screw	A	15	10	**3.99**	**3.11**	**2.51**	**1.91**
717-0601	82726	SPDT	On*-Off-On*	Screw	A	15	10	**3.84**	**3.55**	**2.96**	**2.66**
717-0602	82606	DPST	On-Off	Screw	B	15	10	**3.69**	**3.41**	**2.84**	**2.56**
717-0539	82607	DPST	On-Off	Solder Lug	B	15	10	**3.44**	**3.11**	**2.87**	**2.39**
717-0540	82608	DPDT	On-Off-On	Screw	B	15	10	**4.54**	**4.19**	**3.49**	**3.14**
717-0542	82609	DPDT	On-Off-On	Solder Lug	B	15	10	**3.69**	**3.41**	**2.84**	**2.56**
717-0544	82610	DPDT	On-None-On	Screw	B	15	10	**4.53**	**4.18**	**3.49**	**3.14**
717-0546	82611	DPDT	On-None-On	Solder Lug	B	15	10	**3.69**	**3.41**	**2.84**	**2.56**
717-0603	82736	DPDT	On*-Off-On*	Screw	B	15	10	**7.24**	**6.68**	**5.57**	**5.01**
717-0604	82612	3PST	On-Off	Screw	C	16	10	**7.63**	**7.04**	**5.87**	**5.28**
717-0605	82614	3PDT	On-Off-On	Screw	C	16	10	**9.65**	**8.91**	**7.42**	**6.68**
717-0606	82616	3PDT	On-None-On	Screw	C	16	10	**11.04**	**10.19**	**8.49**	**7.64**
717-0607	82633	4PDT	On-Off-On	Screw	C	16	10	**12.06**	**11.13**	**9.28**	**8.35**
717-0608	82635	4PDT	On-None-On	Screw	C	16	10	**12.06**	**11.13**	**9.28**	**8.35**

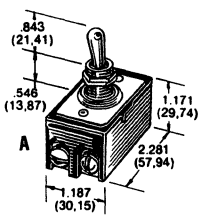
General Purpose AC/DC Bat Lever Switches

For motor, industrial, and low energy applications. UL Recognized. Molded phenolic base. Exposed parts have bright nickel finish. 15/32" slotted sleeve length.

717-0465	81015AW	SPST	Off-On	Solder Lug	A	6	3	**2.18**	**2.01**	**1.68**	**1.57**
717-0612	81051G	SPDT	On-On*	Solder Lug	D	6	1	**4.51**	**4.17**	**3.47**	**3.12**
717-0468	81024KB	DPST	Off-On	Solder Lug	D	6	3	**3.84**	**3.55**	**2.96**	**2.66**
717-0469	81027CE	DPDT	On-On	Solder Lug	D	6	3	**4.41**	**4.07**	**3.39**	**3.05**
717-0613	81056D	DPST	Off-On*	Screw	D	6	3	**6.72**	**6.21**	**5.17**	**4.66**

*Denotes momentary action.

Medium and Heavy Duty Toggle Swithes (AC/DC)



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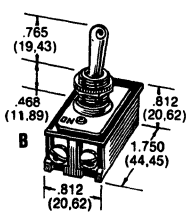

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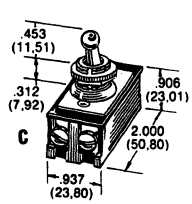

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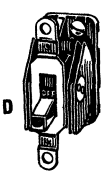
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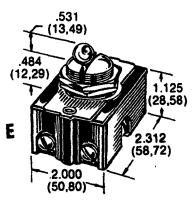

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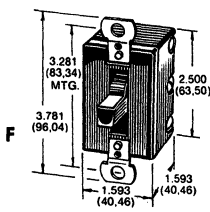

F

These switches have contacts with a quick-make/quick-break wiping action. The three-position switches offer a unique positive center stop feature, which assures that the lever cannot be thrown from one side through the center "Off" position without stopping.

Stock No.	Mfr.'s Type	Circuit	Action	Fig.	Amps		EACH			
					125 V	250 V	1-24	25-49	50-99	100-499
717-0705	80607BJ	SPST	Off-On	A	12A	6A (1 HP)	**3.93**	**3.62**	**3.02**	**2.72**
717-0710	80600BJ	DPST	Off-On	A	10A	8A (1 HP)	**3.57**	**3.30**	**2.75**	**2.47**
717-0715	80602C	DPST	Off-On	B	20A	10A (1.5 HP)	**5.84**	**5.39**	**4.49**	**4.04**
717-0720	80602CA	DPST	Off-On (Bat)	B	20A	10A (1.5 HP)	**5.84**	**5.39**	**4.49**	**4.04**
717-0725	80421	DPST	Off-On (Ball)	C	20A	20A (2 HP)	**10.72**	**8.83**	**7.36**	**6.62**
717-0730	80421U	DPST	Off-On	C	20A	20A (2 HP)	**8.67**	**8.01**	**6.67**	**6.01**
717-0735	80093	DPST	Off-On	D	30A	30A (2 HP)	**15.14**	**13.88**	**11.57**	**10.41**
717-0740	80404	3PST	Off-On	D	30A	30A (2 HP)	**36.02**	**34.85**	**29.04**	**26.13**

This design feature is a major factor in the widespread acceptance of these switches for motor reversing and speed control applications. Copper and bronze contacts are standard, as well as brass screw terminals.

Stock No.	Mfr.'s Type	Circuit	Action	Fig.	Amps		EACH			
					125 V	250 V	1-24	25-49	50-99	100-499
717-0745	80638D	DPDT	On-Off-On	E	14A	7A (3/4 HP)	**15.27**	**13.96**	**11.64**	**10.47**
717-0750	80983	3PDT	On-Off-On	E	10A	5A (1/2 HP)	**18.98**	**17.99**	**14.99**	**13.49**
717-0755	80985	4PDT	On-Off-On	E	10A	5A	**26.00**	**24.00**	**20.00**	**18.00**
717-0760	80634	DPDT	On-Off-On	F	20A	10A	**22.01**	**20.36**	**16.97**	**15.27**
717-0765	80988	DPDT	On-Off-On	F	30A	20A	**37.66**	**35.87**	**28.98**	**26.90**
717-0770	80898	3PDT	On-Off-On	F	30A	20A	**45.19**	**43.24**	**36.03**	**32.43**
717-0775	80899	4PDT	On-Off-On	F	30A	20A	**52.45**	**49.37**	**41.14**	**37.03**
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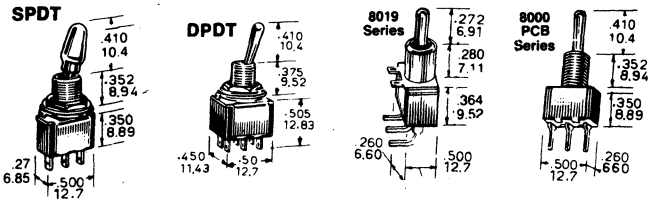
Subminiature Toggle Switches



For manual control, solid-state devices and miniature circuits. Single pole types are 1/4" thin, double poles less than 1/2" square. Single hold mounting. 1/4" threaded bushing. **Nominal rating:** 5 amps. 125 VAC or 24 VDC. **Initial contact resistance:** 5 millohms. **Insulation resistance:** 10,000 megohms. **Life under load:** 50,000 make/break cycles. Bat handles have 30° throw. Silver contact. Solder terminals. PCB Series are subminiature switches for direct insertion in PC boards. Terminals are silver plated.

SPDT-3 Terminals

Stock No.	Mfr.'s Type	Action	EACH			
			1-49	50-99	100-999	1000-Up
250-0140	8014	On-Off-On	2.04	1.88	1.63	1.30
250-0130	8013	On-None-On	1.96	1.68	1.34	1.20
250-0131	8013A	On-None-On*	2.10	1.87	1.55	1.30
250-0141	8014A	On*-Off-On*	2.04	1.88	1.63	1.30
250-0142	8014B	On-Off-On*	2.10	1.87	1.55	1.30
250-0133	8013PCB	On-None-On	1.51	1.33	1.17	.92

DPDT-6 Terminals

250-0120	8012	On-Off-On	1.98	1.82	1.67	1.45
250-0110	8011	On-None-On	2.50	2.25	2.00	1.71
250-0111	8011A	On-None-On*	1.99	1.47	1.34	1.22
250-0121	8012A	On*-Off-On*	2.45	2.05	1.80	1.50
250-0122	8012B	On-Off-On*	2.06	1.52	1.36	1.26
250-0123	8012PCB	On-Off-On	2.34	2.15	2.00	1.87

*Indicated Momentary Position

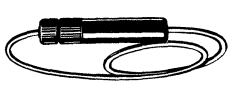
SPDT-3 Terminals

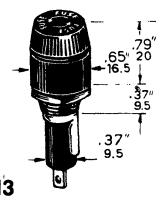
250-0190	8019	On-None-On	1.76	1.55	1.30	1.08

Color Coded Caps for 8000 Series Switches

Stock No.	Mfr.'s Type	Cap Color	PER PKG./100			
			1-49	50-99	100-999	1000-Up
250-0001	8000-01	White	1.88	1.73	1.52	1.31
250-0002	8000-02	Black	1.88	1.73	1.52	1.31
250-0003	8000-03	Red	1.88	1.73	1.52	1.31
250-0005	8000-05	Yellow	1.88	1.73	1.52	1.31
250-0006	8000-06	Green	1.88	1.73	1.52	1.31
250-0007	8000-07	Blue	1.88	1.73	1.52	1.31

Panel/Chassis Mount and Automotive Fuseholders



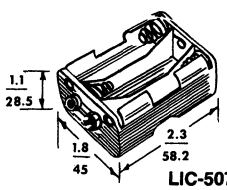


R3-13

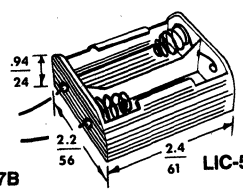
Rating: 20 Amps. Solder Terminals, except on ZC-210B (#14 gauge wire, 12" length). **Fuse Size:** 1/4" × 1 1/4" on all.

Stock No.	Mfr.'s Type	Description	EACH			
			1-99	100-499	500-999	1000-2499
253-0313	R3-13	Screw Type Cap	1.06	1.00	.94	.92
247-2102	ZC-210B	Bakelite Auto Fuseholder	.76	.61	.47	.43

Molded Plastic Battery Holders



LIC-507B



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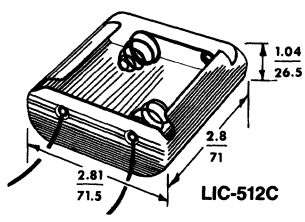

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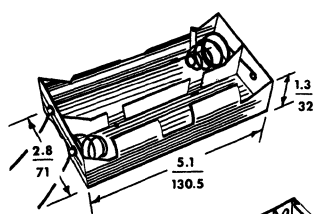

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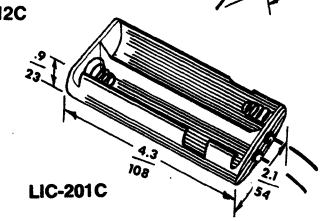
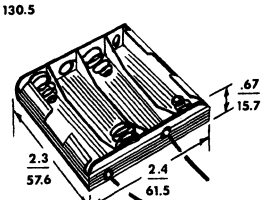


LIC-201C

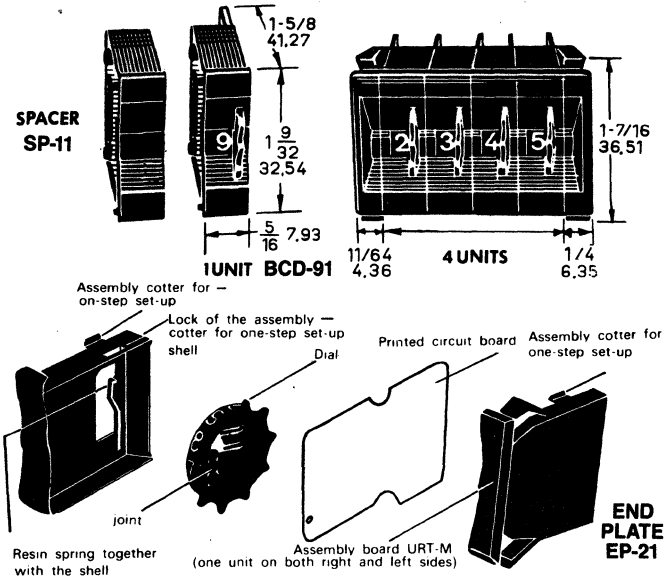


LIC-502C

Stock No.	Mfr.'s Type	Holds	Terminations	EACH			
				1-99	100-499	500-999	1000-2499
262-5223	LIC-522C	2 "C"	Leads	.76	.63	.55	.47
262-5123	LIC-512C	2 "D"	Leads	.89	.81	.74	.66
262-5143	LIC-514C	4 "D"	Leads	.88	.73	.68	.63
262-2013	LIC-201C	4 "C"	Leads	.76	.63	.55	.47
262-5023	LIC-502C	4 "AA"	Leads	.60	.53	.50	.40

Snap Assembly Thumbwheel Switches

SNAP ASSEMBLY THUMBWHEEL SWITCHES
SIMILAR TO INTERSWITCH AND INTERMARKET SERIES THUMBWHEEL PRODUCTS.



► **Similar to Interswitch and Intermarket Series Thumbwheel Products.**

All parts of the thumbwheel switches are assembled by a lock one step only without use of a screw. The resin springs are made for the joint cotter on basis of human mechanics providing soft and comfort push for assembly. Complete assembly can be achieved on lock only by pushing the spring of the shell into the cotter hole from the front. Useful as a controller of sheets for copiers, temperature and numerical quality or as a timer. End plate is fitted on both ends of the switch set. The spring made of resin together with the whole set so it easily locks the parts on the cotter hole.

Specifications: Contact Resistance: 100 milliohms max., initial; **Operating voltage:** 50 millivolts to 28 VDC or 120 VAC. **Current:** 100 milliamps (switched). 1 Amp max. (continuous). **Insulation resistance:** 1000 megohms min.; **Dielectric breakdown:** 500 VAC between common terminals and any output @ sea level; **Life:** 10^5 detent operations between any two adjacent positions @ 25°C.

Materials: Plastic-steel body and end plate. ABS plastic wheel. **Contact material:** Stator, 100 millionths inch min. hard gold over Nickel flash over 1 oz. Copper on epoxy fiberglass; Rotor,—precious metal on copper alloy.

Stock No.	Mfr.'s Type	EACH			
		1-99	100-999	1000-2499	2500-Up
250-0091	BCD-91 (713)	2.90	2.66	2.46	2.28
250-0021	EP-21 (010)	1.00	.94	.89	.85
250-0011	SP-11 (627)	.67	.61	.56	.50

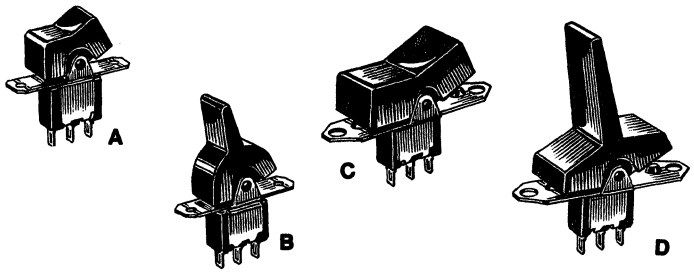
Standard color is black

Bushing-Mounted Pushbutton Butt Contact Switches

Butt contacts for simplified operation. Solder-lug standard terminal. SPST operation. Requires 1/4" diameter mounting hold. Mounting hardware included. Rated 0.5 Amp at 120VAC.

Stock No.	Mfr.'s Type	Action	Shaft Color	EACH			
				1-99	100-499	500-999	1000-2499
250-3241	R13-24A	N.O.	Red	.77	.71	.66	.61
250-3242	R13-24B	N.C.	Black	.72	.62	.55	.49

Panel-Mounted Rocker and Lever Handle Switches



Contact Rating: 5 Amps at 120 VAC or 28 VDC: 2 Amps at 250 VAC. **Operating Temp.:** – 30° to 85°C. **Rocker and lever handles:** Black Nylon. **Bushings:** brass, nickel plated. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Mounting bracket:** stainless steel. **Case:** red diallyl phthalate. **Included hardware:** nuts, screws, lockwashers, and standoffs.

Small Rocker (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0005	7101J1ZQE2	SPDT	On-None-On	4.89	3.79	3.32	2.99
676-0010	7103J1ZQE2	SPDT	On-Off-On	5.49	4.23	3.69	3.31
676-0015	7105J1ZQE2	SPDT	Mom-Off-Mom	5.49	4.23	3.69	3.31
676-0020	7108J1ZQE2	SPDT	On-None-Mom	5.49	4.23	3.69	3.31
676-0025	7201J1ZQE2	DPDT	On-None-On	6.87	5.32	4.65	4.19
676-0030	7203J1ZQE2	DPDT	On-Off-On	7.71	5.93	5.17	4.64
676-0035	7205J1ZQE2	DPDT	Mom-Off-Mom	7.71	5.93	5.17	4.64
676-0040	7208J1ZQE2	DPDT	On-None-Mom	7.92	6.08	5.30	4.75

Small Lever Handle (Fig. B)

676-0045	7101J2ZQE2	SPDT	On-None-On	4.89	3.79	3.32	2.99
676-0050	7103J2ZQE2	SPDT	On-Off-On	5.49	4.23	3.69	3.31
676-0055	7105J2ZQE2	SPDT	Mom-Off-Mom	5.49	4.23	3.69	3.31
676-0060	7108J2ZQE2	SPDT	On-None-Mom	5.49	4.23	3.69	3.31
676-0065	7201J2ZQE2	DPDT	On-None-On	6.87	5.32	4.65	4.19
676-0070	7203J2ZQE2	DPDT	On-Off-On	7.71	5.93	5.17	4.64

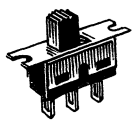
Large Rocker (Fig. C)

676-0075	7101J3ZQE2	SPDT	On-None-On	4.89	3.79	3.32	2.99
676-0080	7103J3ZQE2	SPDT	On-Off-On	5.49	4.23	3.69	3.31
676-0085	7105J3ZQE2	SPDT	Mom-Off-Mom	5.49	4.23	3.69	3.31
676-0090	7108J3ZQE2	SPDT	On-None-Mom	5.49	4.23	3.69	3.31
676-0095	7201J3ZQE2	DPDT	On-None-On	6.87	5.32	4.65	4.19
676-0100	7203J3ZQE2	DPDT	On-Off-On	7.71	5.93	5.17	4.64
676-0105	7205J3ZQE2	DPDT	Mom-Off-Mom	7.71	5.93	5.17	4.64
676-0110	7208J3ZQE2	DPDT	On-None-Mom	7.92	6.08	5.30	4.75

Large Lever Handle (Fig. D)

676-0115	7101J4ZQE2	SPDT	On-None-On	4.89	3.79	3.32	2.99
676-0120	7103J4ZQE2	SPDT	On-Off-On	5.49	4.23	3.69	3.31
676-0125	7105J4ZQE2	SPDT	Mom-Off-Mom	5.49	4.23	3.69	3.31
676-0130	7201J4ZQE2	DPDT	On-None-On	6.87	5.32	4.65	4.19
676-0135	7203J4ZQE2	DPDT	On-Off-On	7.71	5.93	5.17	4.64
676-0140	7205J4ZQE2	DPDT	Mom-Off-Mom	7.71	5.93	5.17	4.64
676-0145	7208J4ZQE2	DPDT	On-None-Mom	7.92	6.08	5.30	4.75

Panel-Mounted Slide Switches

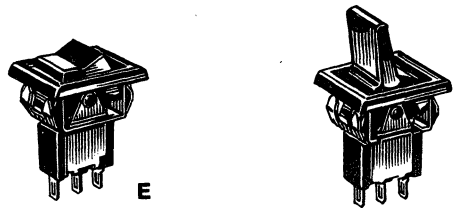


Contact Rating: 6 Amps at 120 VAC or 28 VDC: 3 Amps at 250 VAC. **Operating Temp.:** – 30° to 65°C. **Actuator:** Black Nylon. **Housing:** stainless steel. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. All models UL/CSA listed.

Solder Terminals

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0250	1101M1S3ZQE2	SPDT	On-None-On	3.24	2.45	2.11	1.87
676-0255	1103M1S3ZQE2	SPDT	On-Off-On	3.68	2.77	2.38	2.11
676-0260	1108M1S3ZQE2	SPDT	On-None-Mom	3.68	2.77	2.38	2.11
676-0265	1201M1S3ZQE2	DPDT	On-None-On	5.85	4.44	3.83	3.41
676-0270	1203M1S3ZQE2	DPDT	On-Off-On	6.66	5.03	4.33	3.84

Snap-In Rocker and Lever Handle Switches



Contact Rating: 5 Amps at 120 VAC or 28 VDC: 2 Amps at 250 VAC. **Operating Temp.:** – 30° to 85°C. **Rocker and lever handles:** Black Nylon. **Bushings:** brass, nickel plated. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Mounting bracket:** stainless steel. **Case:** red diallyl phthalate.

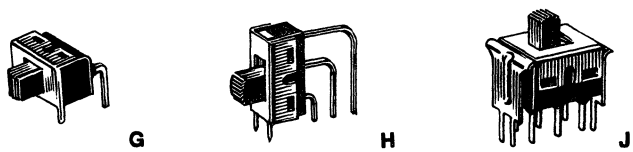
Small Rocker with Bezel (Fig. E)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0150	7101J51ZQE22	SPDT	On-None-On	4.97	3.87	3.40	3.07
676-0155	7103J51ZQE22	SPDT	On-Off-On	5.57	4.31	3.77	3.39
676-0160	7105J51ZQE22	SPDT	Mom-Off-Mom	5.57	4.31	3.77	3.39
676-0165	7107J51ZQE22	SPDT	On-Off-Mom	5.57	4.31	3.77	3.39
676-0170	7108J51ZQE22	SPDT	On-None-Mom	5.57	4.31	3.77	3.39
676-0175	7201J51ZQE22	DPDT	On-None-On	6.95	5.40	4.73	4.27
676-0180	7203J51ZQE22	DPDT	On-Off-On	7.79	6.01	5.25	4.72
676-0185	7205J51ZQE22	DPDT	Mom-Off-Mom	7.79	6.01	5.25	4.72
676-0190	7207J51ZQE22	DPDT	On-Off-Mom	8.00	6.16	5.38	4.83
676-0195	7208J51ZQE22	DPDT	On-None-Mom	8.00	6.16	5.38	4.83

Small Lever Handle with Bezel (Fig. F)

676-0200	7101J61ZQE22	SPDT	On-None-On	4.97	3.87	3.40	3.07
676-0205	7103J61ZQE22	SPDT	On-Off-On	5.57	4.31	3.77	3.39
676-0210	7105J61ZQE22	SPDT	Mom-Off-Mom	5.57	4.31	3.77	3.39
676-0215	7107J61ZQE22	SPDT	On-Off-Mom	5.57	4.31	3.77	3.39
676-0220	7108J61ZQE22	SPDT	On-None-Mom	5.57	4.31	3.77	3.39
676-0225	7201J61ZQE22	DPDT	On-None-On	6.95	5.40	4.73	4.27
676-0230	7203J61ZQE22	DPDT	On-Off-On	7.79	6.01	5.25	4.72
676-0235	7205J61ZQE22	DPDT	Mom-Off-Mom	7.79	6.01	5.25	4.72
676-0240	7207J61ZQE22	DPDT	On-Off-Mom	8.00	6.16	5.38	4.83
676-0245	7208J61ZQE22	DPDT	On-None-Mom	8.00	6.16	5.38	4.83

PC-Mounted Slide Switches



Contact Rating: 0.4 Va max. at 20 VAC or VDC max. **Operating Temp.:** – 30° to 65°C. **Actuator:** Black Nylon. **Housing:** stainless steel. **Contacts and terminals:** brass, with gold plate over nickel plate. **Switch support:** brass or steel, electrotin plated.

PC Terminals/Right Angle Mounting (Fig. G)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0275	1101M2S3ABE2	SPDT	On-None-On	3.53	2.74	2.40	2.16
676-0280	1103M2S3ABE2	SPDT	On-Off-On	3.97	3.06	2.67	2.40
676-0285	1108M2S3ABE2	SPDT	On-None-Mom	3.97	3.06	2.67	2.40
676-0290	1201M2S3ABE2	DPDT	On-None-On	6.43	5.02	4.41	3.99
676-0295	1203M2S3ABE2	DPDT	On-Off-On	7.24	5.61	4.91	4.42

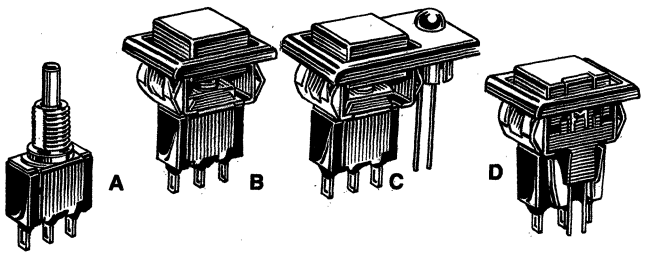
PC Terminals with Right Angle Mounting (Fig. H)

676-0300	1101M2S3AV2BE2	SPDT	On-None-On	3.53	2.74	2.40	2.16
676-0305	1103M2S3AV2BE2	SPDT	On-Off-On	3.97	3.06	2.67	2.40
676-0310	1108M2S3AV2BE2	SPDT	On-None-Mom	3.97	3.06	2.67	2.40
676-0315	1201M2S3AV2BE2	DPDT	On-None-On	6.43	5.02	4.41	3.99
676-0320	1203M2S3AV2BE2	DPDT	On-Off-On	7.24	5.61	4.91	4.42

PC Terminals/Support Bracket (Fig. J)

676-0325	1101M2S3V3BE2	SPDT	On-None-On	3.53	2.74	2.40	2.16
676-0330	1103M2S3V3BE2	SPDT	On-Off-On	3.97	3.06	2.67	2.40
676-0335	1108M2S3V3BE2	SPDT	On-None-Mom	3.97	3.06	2.67	2.40
676-0340	1201M2S3V3BE2	DPDT	On-None-On	6.43	5.02	4.41	3.99
676-0345	1203M2S3V3BE2	DPDT	On-Off-On	7.24	5.61	4.91	4.42

Panel-Mounted Switches



Bushings: brass, nickel plated. **Plungers:** glass filled Nylon. **Cap & bezel:** Black Nylon. **Case:** red diallyl phthalate. **Operating temp:** –30°C to 65°C. **Included hardware:** 2 nuts, locking ring, and lockwasher, where applicable.

8 × 25 models. Contact rating: 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

8 × 21 models. Contact rating: 1 Amp at 120 VAC or 28 VDC, or 0.4 VA max. at 20 VAC or DC max. **Common contact and terminal:** brass, with gold plate over nickel plate. **Normally open and normally closed contacts:** coin silver, with gold plate over nickel plate. **8 × 6 × models: Contact rating:** 6 Amps at 120 VAC or 28 VDC; 3 Amps at 250 VAC (816X-UL). **Center contact and terminals:** brass, silver plated. **End contacts:** silver, silver plated.

A '2' at the end of each part number indicates a black actuator; a '22' indicates a black actuator and black bezel; and a '223' indicates a black actuator, black bezel, and a red LED.

Snap-Action Momentary with Solder Terminals (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0400	8121SHZGE	SPST	On-Mom	7.15	5.31	4.52	3.97
676-0405	8125SHZBE	SPST	On-Mom	4.83	3.61	3.09	2.73
676-0410	8221SHZGE	DPDT	On-Mom	10.18	7.61	6.50	5.73
676-0415	8225SHZBE	DPDT	On-Mom	6.66	5.03	4.33	3.84
676-0420	8321SHZGE	3PDT	On-Mom	14.89	11.13	9.52	8.39
676-0425	8325SHZBE	3PDT	On-Mom	13.01	9.75	8.36	7.38
676-0430	8421SHZGE	4PDT	On-Mom	18.65	13.96	11.95	10.54
676-0435	8425SHZBE	4PDT	On-Mom	15.85	11.91	10.22	9.04

Alternate Action & Momentary With Solder Terminals (Fig. A)

676-0440	8161SHZQE2	SPDT	On-On	5.09	3.80	3.25	2.87
676-0445	8168SHZQE2	SPDT	On-Mom	5.09	3.80	3.25	2.87
676-0450	8261SHZQE2	DPDT	On-On	9.09	6.81	5.83	5.14

Snap-Action Momentary With Cap & Bezel (Fig.B)

676-0455	8121J81ZGE22	SPDT	On-Mom	7.73	5.89	5.10	4.55
676-0460	8125J81ZBE22	SPDT	On-Mom	5.41	4.19	3.67	3.31
676-0465	8221J81ZGE22	DPDT	On-Mom	10.76	8.19	7.08	6.31
676-0470	8225J81ZBE22	DPDT	On-Mom	7.24	5.61	4.91	4.42

Alternate Action & Momentary With Cap & Bezel (Fig. B)

676-0475	8161J81ZQE22	SPDT	On-On	5.67	4.38	3.83	3.45
676-0480	8168J81ZQE22	SPDT	On-Mom	5.67	4.38	3.83	3.45
676-0485	8261J81ZQE22	DPDT	On-On	9.67	7.39	6.41	5.72

Snap-Action Momentary With Cap and Bezel for LED (Fig. C)

676-0490	8121J82ZGE22	SPDT	On-Mom	7.81	5.97	5.18	4.63
676-0495	8125J82ZBE22	SPDT	On-Mom	5.49	4.27	3.75	3.39
676-0500	8221J82ZGE22	DPDT	On-Mom	10.84	8.27	7.16	6.39
676-0505	8225J82ZBE22	DPDT	On-Mom	7.32	5.69	4.99	4.50

Alternate Action & Momentary With Cap and Bezel for LED (Fig. C)

676-0510	8161J82ZQE22	SPDT	On-On	5.75	4.46	3.91	3.53
676-0515	8168J82ZQE22	SPDT	On-Mom	5.75	4.46	3.91	3.53
676-0520	8261J82ZQE22	DPDT	On-On	9.75	7.47	6.49	5.80

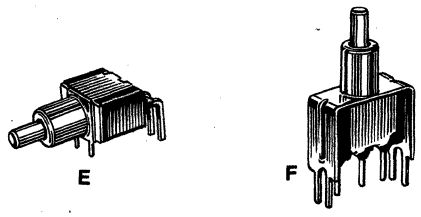
Snap-Action Momentary With Cap, Bezel, & Rect. LED (Fig. D)

676-0525	8121J85ZGE223	SPDT	On-Mom	8.53	6.69	5.90	5.35

Alternate Action & Momentary With Cap, Bezel, & Rect. LED (Fig. D)

676-0530	8161J86ZQE223	SPDT	On-On	6.47	5.18	4.63	4.25
676-0535	8168J86ZQE223	SPDT	On-Mom	6.47	5.18	4.63	4.25

PC-Mounted Switches



Bushings: brass, nickel plated. **Plungers:** glass filled Nylon. **Cap:** Black Nylon. **Case:** red diallyl phthalate. **Operating temp.:** –30°C to 65°C.

8 × 25 models. Contact rating: 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

8 × 21 models. Contact rating: 1 Amp at 120 VAC or 28 VDC, or 0.4 VA max. at 20 VAC or DC max. **Common contact and terminal:** brass, with gold plate over nickel plate. **Normally open and normally closed contacts:** coin silver, with gold plate over nickel plate.

8 × 6 × models. Contact rating: 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

Snap-Action Momentary/Right Angle Mounting (Fig. E)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0540	8125SD9ABE	SPDT	On-Mom	5.12	3.90	3.38	3.02
676-0545	8225SD9ABE	DPDT	On-Mom	7.24	5.61	4.91	4.42

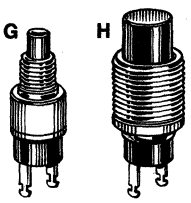
Alternate Action & Momentary/Right Angle Mounting (Fig. E)

676-0550	8161SH9ABE2	SPDT	On-On	5.38	4.09	3.54	3.16
676-0555	8168SH9ABE2	SPDT	On-Mom	5.38	4.09	3.54	3.16
676-0560	8261SH9ABE2	DPDT	On-On	9.67	7.39	6.41	5.72

Snap Action & Momentary With Support Bracket (Fig. F)

676-0565	8121SD9V30GE	SPDT	On-On	7.44	5.60	4.81	4.26
676-0570	8125SD9V30BE	SPDT	On-Mom	5.12	3.90	3.38	3.02

Subminiature Pushbutton Switches



Bushing: brass, nickel plated. **Plunger:** Black phenolic or glass filled polyester. **Case:** black diallyl phthalate. **Operating temp:** –30°C to 65°C. **Included hardware:** nut and lockwasher. **Contacts:** coin silver, silver plated. **Terminals:** brass, silver plated.

853 × models. Contact rating: 1 Amp at 120 VAC or 28 VDC (UL).

855 × models. Contact rating: 3 Amps at 120 VAC or 28 VDC (UL).

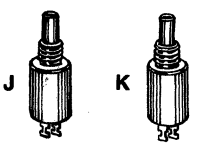
1/4"—40 Threaded Bushing With Solder Terminals (Fig. G)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0580	8531MZQE2	SPST	Off-Mom	3.06	2.31	2.00	1.77
676-0585	8532MZQE2	SPST	Off-Mom	3.06	2.31	2.00	1.77
676-0590	8533MZQE2	SPST	On-Mom	3.42	2.58	2.22	1.97
676-0595	8534MZQE2	SPST	On-Mom	3.42	2.58	2.22	1.97
676-0600	8551MZQE2	SPST	Off-Mom	3.06	2.31	2.00	1.77
676-0605	8552MZQE2	SPST	Off-Mom	3.06	2.31	2.00	1.77

15/32"—32 Threaded Bushing With PC Terminals (Fig. H)

676-0610	8531TZQE2	SPST	Off-Mom	3.53	2.78	2.47	2.24
676-0615	8532TZQE2	SPST	Off-Mom	3.53	2.78	2.47	2.24
676-0620	8533TZQE2	SPST	On-Mom	3.89	3.05	2.69	2.44
676-0625	8534TZQE2	SPST	On-Mom	3.89	3.05	2.69	2.44
676-0630	8551TZQE2	SPST	Off-Mom	3.53	2.78	2.47	2.24
676-0635	8552TZQE2	SPST	Off-Mom	3.53	2.78	2.47	2.24

Microminiature Pushbutton Switches



Bushing: brass, nickel plated. **Plunger:** Black Nylon or glass filled polyester. **Case:** black diallyl phthalate. **Operating temp.:** –30°C to 65°C. **Included hardware:** nut. **Contacts:** coin silver, silver plated.

8631, 8632 models. Contact rating: 500 mA at 120 VAC or 28 VDC; 250 mA at 250 VAC (UL). **Terminals:** brass, silver plated.

8633 models. Contact rating: 250 mA at 120 VAC or 28 VDC; 125 mA at 250 VAC. **Terminals:** Coin silver.

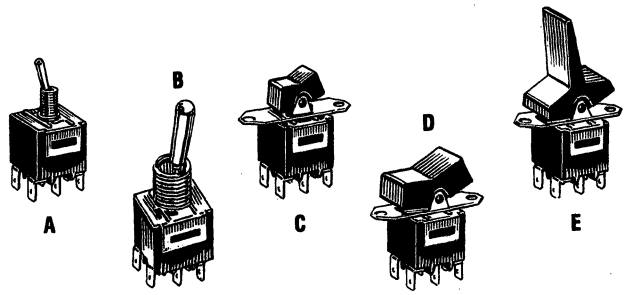
Solder Terminals (Fig. J)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-0640	8631ZQ2	SPST	Off-Mom	4.52	3.38	2.90	2.56
676-0645	8632ZQ2	SPST	Off-Mom	4.52	3.38	2.90	2.56
676-0650	8633ZQ2	SPST	On-Mom	4.70	3.52	3.01	2.66

PC Terminals (Fig. K)

676-0655	8631CQ	SPST	Off-Mom	4.60	3.46	2.98	2.64
676-0660	8632CQ	SPST	Off-Mom	4.60	3.46	2.98	2.64

9000 Series Power Switches (10 Amps)



Contact rating: 10 Amps at 125 VAC. **Operating Temp:** –30°C to 85°C. **Toggles:** brass, chrome plated. **Bushing:** brass, nickel plated. **Rockers and lever handles:** Black nylon. **Terminals:** brass, electrotin plated. **End Contacts:** silver cadmium oxide. **Center contacts:** brass, silver plated. **Agency listings:** UL, CSA, VDE, SEV, and SEMKO. **Included hardware:** nut, locking ring, and lockwasher.

DPDT Toggle, Rocker, and Lever Handle Switches

Stock No.	Mfr.'s Type	Fig.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-0700	9221-SH3Z4Q	A	On-None-On	20.70	15.15	12.77	11.10
676-0705	9221-TZ4Q	B	On-None-On	21.90	16.35	13.97	12.30
676-0710	9221-J1Z4Q2	C	On-None-On	21.20	15.65	13.27	11.60
676-0715	9221-J3Z4Q2	D	On-None-On	21.20	15.65	13.27	11.60
676-0720	9221-J4Z4Q2	E	On-None-On	21.20	15.65	13.27	11.60

C Series Power Rocker Switches

Housing and actuator: Nylon, black. **Movable contact:** copper, silver plated. **Contacts and Terminals:** copper, silver plated (15 Amp models, copper). **Electrical life:** 10,000 make-and-break cycles at full load. **Dielectric strength:** 2,500 V rms min. at sea level.

Stock No.	Mfr.'s Type*	Desc.	Fig.	EACH			
				1-24	25-99	100-499	500-999
677-0730	C122-J12S205QF, 15, 10 Amp-UL, CSA, VDE, SEV, SEMKO	SPDT	F	2.24	1.64	1.38	1.22
677-0735	C221-J12S205QA, 15, 10 Amp-UL, CSA	DPDT	G	4.54	3.32	2.80	2.54
677-0740	C222-J12S205QA, 10, 15 Amp-UL, CSA	DPST	G	4.31	3.15	2.66	2.36
677-0745	C222-J12S205PQF, 15, 10 Amp-UL, CSA, VDE, SEV, SEMKO	DPST	G	5.12	3.96	3.47	3.07

*Rating at 125, 250 VAC

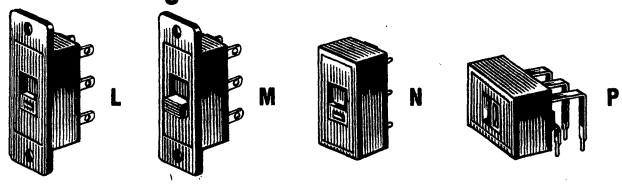
D Series Miniature Power Rocker Switches

Housing and actuator: Nylon, black. **Contacts and terminals:** copper, silver plated. **Movable contacts:** coin silver, silver plated. **Electrical life:** 10,000 make-and-break cycles at full load. **Dielectric strength:** 1000V rms min. at sea level.

Stock No.	Mfr.'s Type	Desc.	Fig.	Actuator Marking	EACH			
					1-24	25-99	100-499	500-999
677-0775	D501J12S205QA*	SPDT	J	230/115	2.27	1.66	1.40	1.22
677-0780	D501J12S205QF†	SPDT	J	None	2.56	1.87	1.58	1.37
677-0785	D601J12S205QA*	DPDT	K	230/115	3.71	2.71	2.29	1.99
677-0790	D601J12S205QF†	DPDT	K	230/115	3.99	2.92	2.46	2.14

*10.5 Amps-UL/CSA †10(6), 5(3) Amps-UL/CSA/VDE

Power and Voltage-Select Slide Switches

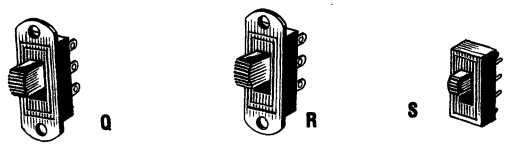


UL/CSA Rating: 10.1 Amps at 125 VAC; 5 Amps at 250 VAC. **VDE Rating:** 2 (0.5)/250 VAC T85. **Housing and top plate:** Nylon, black. **Actuator:** glass filled polyester. **Contacts and terminals:** copper, silver plated. **Insulation resistance:** 10^9 Ohms min. **Electrical life:** 10,000 make-and-break cycles.

Stock No.	Mfr.'s Type*	Desc.	Fig.	EACH			
				1-24	25-99	100-499	500-999
677-0755	V802-12SS05Q	SPDT	L	3.11	2.30	1.95	1.73
677-0760	V802-01SS05Q	SPDT	M	3.03	2.22	1.87	1.68
677-0765	V802-12MS02Q	DPDT	N	3.11	2.30	1.95	1.73
677-0770	V802-12MA08Q	DPST	P	3.45	2.64	2.29	2.09

*Rating at 125, 250 VAC

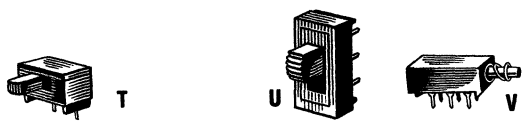
S Series Slide Switches



Contact rating: 6 Amps at 125 VAC; 6 Amps at 250 VAC; 1 Amp at 125 VDC (UL/CSA). **Housing, top plate, and actuator:** Nylon, black. **Contacts and terminals:** copper, silver plated. **Insulation resistance:** 10^9 Ohms min. **Electrical life:** 10,000 make-and-break cycles at full load.

Stock No.	Mfr.'s Type	Desc.	Fig.	EACH			
				1-24	25-99	100-499	500-999
677-0795	S102-031SS03Q	SPDT	Q	1.07	.78	.66	.58
677-0800	S202-031SS03Q	DPDT	R	1.38	1.01	.85	.74
677-0805	S202-031MS02Q	DPDT	S	1.38	1.01	.85	.74

L Series Miniature Slide Switches



Contact rating: 4 Amps at 125 VAC; 2 Amps at 250 VAC; 0.5 Amp at 125 VDC (UL/CSA). **Housing, top plate, and actuator:** Nylon, black. **Contacts and terminals:** copper, silver plated. **Insulation resistance:** 10^9 Ohms min. **Electrical life:** 10,000 make-and-break cycles at full load.

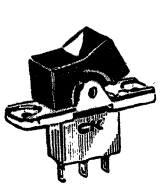
Stock No.	Mfr.'s Type	Desc.	Fig.	EACH			
				1-24	25-99	100-499	500-999
677-0810	L102-021ML04Q	SPDT	T	1.20	.88	.74	.65
677-0815	L202-011MS02Q	DPDT	U	1.57	1.11	.93	.82
677-0820	L212-132MV02Q	DPDT-Mom.	V	1.97	1.49	1.28	1.10

MP Series Mechanical Pushbutton Switches

Contact rating: 0.4 VA max. at 20 VAC or DC max. **Switching function:** SPDT momentary. **Case:** glass filled Nylon. **Cap:** polycarbonate-ABS blend. **Contacts and terminals:** brass, with gold plate over nickel plate. **Operating temp.:** –30°C to 65°C. **Operating force:** 250 grams typ. **Electrical life:** 1,000,000 actuations min.

Stock No.	Mfr.'s Type	Cap Width	Fig.	Cap Color	LED Color(s)	EACH		
						1-24	25-99	100-499
677-0825	MP01-R01CBE	.486	W	White	None	2.60	1.96	1.69
677-0830	MP01-R02CBE	.486	W	Black	None	2.57	1.87	1.60
677-0835	MP01-R113CBE	.486	X	White	Red	3.01	2.37	2.10
677-0840	MP01-R123CBE	.486	X	Black	Red	2.92	2.28	2.01
677-0845	MP01-R2133CBE	.486	Y	White	Red, Red	3.38	2.74	2.47
677-0850	MP01-R2233CBE	.486	Y	Black	Red, Red	3.29	2.65	2.38
677-0855	MP01-R2236CBE	.486	Y	Black	Red, Green	3.47	2.83	2.56
677-0860	MP01-S01CBE	.679	W	White	None	2.64	2.00	1.73
677-0865	MP01-S02CBE	.679	W	Black	None	2.55	1.91	1.64
677-0870	MP01-S113CBE	.679	X	White	Red	3.02	2.38	2.11
677-0875	MP01-S123CBE	.679	X	Black	Red	2.93	2.29	2.02
677-0880	MP01-S2133CBE	.679	Y	White	Red, Red	3.39	2.75	2.48
677-0885	MP01-S2233CBE	.679	Y	Black	Red, Red	3.31	2.67	2.40
677-0890	MP01-S2236CBE	.679	Y	Black	Red, Green	3.39	2.75	2.48

Panel-Mtd. Sealed Rocker and Lever Handle Switches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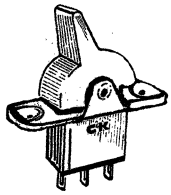

B

Contact rating: 7.5 Amps at 125 VAC; 3 Amps at 250 VAC (UL/CSA). **Operating temp.:** –30°C to 85°C. **Case and bushing:** glass filled Nylon. **Actuator:** Nylon, black with internal O-ring seal. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Terminal seal:** epoxy. **Included hardware:** nuts, screws, lockwashers, and standoffs.

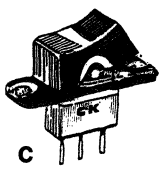
Rocker (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1000	E101J1ZQE2	SPDT	On-None-On	5.04	3.90	3.41	3.07
676-1005	E103J1ZQE2	SPDT	On-Off-On	6.01	4.61	4.01	3.59
676-1010	E105J1ZQE2	SPDT	Mom-Off-Mom	6.01	4.61	4.01	3.59
676-1015	E201J1ZQE2	DPDT	On-None-On	7.50	5.78	5.04	4.52
676-1020	E203J1ZQE2	DPDT	On-Off-On	8.49	6.50	5.65	5.06
676-1025	E205J1ZQE2	DPDT	Mom-Off-Mom	8.49	6.50	5.65	5.06
676-1030	E211J1ZQE2	DPDT	On-On-On	9.51	7.25	6.28	5.60

Lever Handle (Fig. B)

676-1035	E101J2ZQE2	SPDT	On-None-On	5.04	3.90	3.41	3.07
676-1040	E103J2ZQE2	SPDT	On-Off-On	6.01	4.61	4.01	3.59
676-1045	E105J2ZQE2	SPDT	Mom-Off-Mom	6.01	4.61	4.01	3.59
676-1050	E201J2ZQE2	DPDT	On-None-On	7.50	5.78	5.04	4.52
676-1055	E203J2ZQE2	DPDT	On-Off-On	8.49	6.50	5.65	5.06
676-1060	E205J2ZQE2	DPDT	Mom-Off-Mom	8.49	6.50	5.65	5.06
676-1065	E211J2ZQE2	DPDT	On-On-On	9.51	7.25	6.28	5.60

PC-Mtd. Sealed Rocker Switches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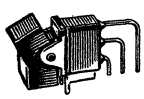
D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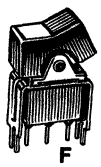

F

Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** –30°C to 85°C. **Case and bushing:** glass filled Nylon. **Actuator:** Nylon, black with internal O-ring seal. **Contacts and terminals:** brass, with gold plate over nickel plate.

PC Terminals (Fig. C)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1070	E101J1CBE2	SPDT	On-None-On	5.12	3.98	3.49	3.15
676-1075	E103J1CBE2	SPDT	On-Off-On	6.09	4.69	4.09	3.67
676-1080	E105J1CBE2	SPDT	Mom-Off-Mom	6.09	4.69	4.09	3.67
676-1085	E201J1CBE2	DPDT	On-None-On	7.66	5.94	5.20	4.68
676-1090	E203J1CBE2	DPDT	On-Off-On	8.65	6.66	5.81	5.22
676-1100	E205J1CBE2	DPDT	Mom-Off-Mom	8.65	6.66	5.81	5.22
676-1105	E211J1CBE2	DPDT	On-On-On	9.67	7.41	6.44	5.76

PC Terminals/Right Angle Mounting (Fig. D)

676-1110	E101J1ABE2	SPDT	On-None-On	5.33	4.19	3.70	3.36
676-1115	E103J1ABE2	SPDT	On-Off-On	6.30	4.90	4.30	3.88
676-1120	E105J1ABE2	SPDT	Mom-Off-Mom	6.30	4.90	4.30	3.88
676-1125	E201J1ABE2	DPDT	On-None-On	8.08	6.36	5.62	5.10
676-1130	E203J1ABE2	DPDT	On-Off-On	9.07	7.08	6.23	5.64
676-1135	E205J1ABE2	DPDT	Mom-Off-Mom	9.07	7.08	6.23	5.64
676-1140	E211J1ABE2	DPDT	On-On-On	10.09	7.83	6.86	6.18

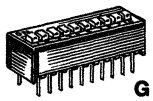
PC Terminals/Right Angle Mounting (Fig. E)

676-1145	E101J1AV2BE2	SPDT	On-None-On	5.33	4.19	3.70	3.36
676-1150	E103J1AV2BE2	SPDT	On-Off-On	6.30	4.90	4.30	3.88
676-1155	E105J1AV2BE2	SPDT	Mom-Off-Mom	6.30	4.90	4.30	3.88
676-1160	E201J1AV2BE2	DPDT	On-None-On	8.08	6.36	5.62	5.10
676-1165	E203J1AV2BE2	DPDT	On-Off-On	9.07	7.08	6.23	5.64
676-1170	E205J1AV2BE2	DPDT	Mom-Off-Mom	9.07	7.08	6.23	5.64
676-1175	E211J1AV2BE2	DPDT	On-On-On	10.09	7.83	6.86	6.18

PC Terminals/Support Bracket (Fig. F)

676-1180	E101J1V3BE2	SPDT	On-None-On	5.33	4.19	3.70	3.36
676-1185	E103J1V3BE2	SPDT	On-Off-On	6.30	4.90	4.30	3.88
676-1190	E105J1V3BE2	SPDT	Mom-Off-Mom	6.30	4.90	4.30	3.88
676-1195	E201J1V3BE2	DPDT	On-None-On	8.08	6.36	5.62	5.10
676-1200	E203J1V3BE2	DPDT	On-Off-On	9.07	7.08	6.23	5.64
676-1205	E205J1V3BE2	DPDT	Mom-Off-Mom	9.07	7.08	6.23	5.64

Washable Slide DIP Switches


G

H

Contact rating: carry—100 mA max. at 50 VAC, switch-100 mA max. at 5 VDC or 25 mA max. at 25 VDC. **Operating temp.:** –40°C to 85°C. **Case and cover:** glass filled polyester, red. **Actuator:** glass filled Nylon, white. **Contacts:** gold over nickel over phosphor bronze. **Terminals:** solder clad over phosphor bronze.

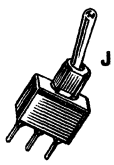
Vertical Mtd. DIP Switches (Fig. G)

Stock No.	Mfr.'s Type	Number of Positions	EACH			
			1-24	25-99	100-499	500-999
676-1210	BD01	1	1.51	1.18	1.09	1.04
676-1215	BD02	2	1.54	1.30	1.13	1.06
676-1220	BD03	3	1.57	1.32	1.15	1.07
676-1225	BD04	4	1.68	1.41	1.21	1.15
676-1230	BD05	5	1.70	1.43	1.25	1.17
676-1235	BD06	6	1.80	1.50	1.30	1.21
676-1240	BD07	7	1.87	1.58	1.37	1.29
676-1245	BD08	8	1.93	1.63	1.40	1.32
676-1250	BD09	9	1.98	1.67	1.45	1.37
676-1255	BD10	10	2.11	1.76	1.53	1.43
676-1260	BD12	12	2.18	1.89	1.65	1.56

Right Angle Mounted DIP Switches (Fig. H)

676-1265	BD04 AV	4	2.26	1.99	1.79	1.73
676-1270	BD08 AV	8	2.51	2.21	1.98	1.90

PC-Mtd. Sealed Toggle Switches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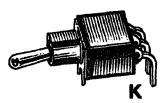
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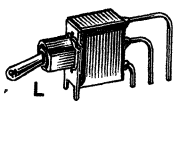
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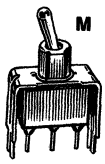

M

Contact rating: 0.4 VA max. at 20 VAC or VDC. **Operating temp.:** –30°C to 85°C. **Case and bushing:** glass filled Nylon. **Toggle:** brass, chrome plated with internal O-ring seal. **Contacts and terminals:** brass with gold plate over nickel plate.

PC Terminals (Fig. J)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-1275	E101SD1CBE	SPDT	On-None-On	4.62	3.48	2.99	2.65
676-1280	E103SD1CBE	SPDT	On-Off-On	5.59	4.19	3.59	3.17
676-1285	E105SD1CBE	SPDT	Mom-Off-Mom	5.59	4.19	3.59	3.17
676-1290	E107SD1CBE	SPDT	On-Off-Mom	5.59	4.19	3.59	3.17
676-1295	E108SD1CBE	SPDT	On-None-Mom	5.59	4.19	3.59	3.17
676-1300	E201SD1CBE	DPDT	On-None-On	7.16	5.44	4.70	4.18
676-1305	E203SD1CBE	DPDT	On-Off-On	8.15	6.16	5.31	4.72
676-1310	E205SD1CBE	DPDT	Mom-Off-Mom	8.15	6.16	5.31	4.72
676-1315	E207SD1CBE	DPDT	On-Off-Mom	8.15	6.16	5.31	4.72
676-1320	E208SD1CBE	DPDT	On-None-Mom	8.15	6.16	5.31	4.72
676-1325	E211SD1CBE	DPDT	On-On-On	9.17	6.91	5.94	5.26
676-1330	E215SD1CBE	DPDT	Mom-On-Mom	10.01	7.52	6.46	5.71

PC Terminals/Right Angle Mounting (Fig. K)

676-1335	E101MD1ABE	SPDT	On-None-On	4.83	3.69	3.20	2.86
676-1340	E103MD1ABE	SPDT	On-Off-On	5.80	4.40	3.80	3.38
676-1345	E105MD1ABE	SPDT	Mom-Off-Mom	5.80	4.40	3.80	3.38
676-1350	E201MD1ABE	DPDT	On-None-On	7.58	5.86	5.12	4.60
676-1355	E203MD1ABE	DPDT	On-Off-On	8.57	6.58	5.73	5.14
676-1360	E205MD1ABE	DPDT	Mom-Off-Mom	8.57	6.58	5.73	5.14
676-1365	E211MD1ABE	DPDT	On-On-On	9.59	7.33	6.36	5.68

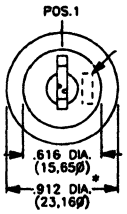
PC Terminals/Right Angle Mounting (Fig. L)

676-1370	E101MD1AV2BE	SPDT	On-None-On	4.83	3.69	3.20	2.86
676-1375	E103MD1AV2BE	SPDT	On-Off-On	5.80	4.40	3.80	3.38
676-1380	E105MD1AV2BE	SPDT	Mom-Off-Mom	5.80	4.40	3.80	3.38
676-1385	E201MD1AV2BE	DPDT	On-None-On	7.58	5.86	5.12	4.60
676-1390	E203MD1AV2BE	DPDT	On-Off-On	8.57	6.58	5.73	5.14
676-1395	E205MD1AV2BE	DPDT	Mom-Off-Mom	8.57	6.58	5.73	5.14
676-1400	E211MD1AV2BE	DPDT	On-On-On	9.59	7.33	6.36	5.68

PC Terminals/Support Bracket (Fig. M)

676-1405	E101MD1V30BE	SPDT	On-None-On	4.83	3.69	3.20	2.86
676-1410	E103MD1V30BE	SPDT	On-Off-On	5.80	4.40	3.80	3.38
676-1415	E105MD1V30BE	SPDT	Mom-Off-Mom	5.80	4.40	3.80	3.38
676-1420	E201MD1V30BE	DPDT	On-None-On	7.58	5.86	5.12	4.60
676-1425	E203MD1V30BE	DPDT	On-Off-On	8.57	6.58	5.73	5.14
676-1430	E205MD1V30BE	DPDT	Mom-Off-Mom	8.57	6.58	5.73	5.14
676-1435	E211MD1V30BE	DPDT	On-On-On	9.59	7.33	6.36	5.68

A Series Switchlocks



Contact rating: switch—350 mA at 110 VAC or DC; 150 MA at 250 VAC or DC, carry—5 Amps continuous. **Electrical life:** 15,000 make-and-break cycles at full load. **Insulation resistance:** 10^9 Ohms min. **Dielectric strength:** 1,000 V rms min. at sea level. **Lock:** zinc alloy, stainless facing, four tumbler mechanism. **Switch housing and top plate:** glass filled Nylon. **Movable contact:** copper alloy, silver plated. **Stationary contacts and terminals:** brass, silver plated. **Included hardware:** dress nut and hex nut. Two nickel keys supplied.

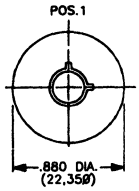
Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH 1-24	EACH 25-99	EACH 100-499
677-1500	A114132N2NZNQ	SP	5	1	13.90	10.14	8.55
677-1505	A1141U2N2NZNQ	SP	5	1,2	14.05	10.29	8.70
677-1510	A115132N2NZNQ	SP	1	1	14.17	10.33	8.71
677-1515	A1151U2N2NZNQ	SP	1	1,3	14.32	10.48	8.86
677-1520	A214132N2NZNQ	DP	5	1	15.21	11.10	9.35
677-1525	A2141U2N2NZNQ	DP	5	1,2	15.36	11.25	9.50
677-1530	A215132N2NZNQ	DP	1	1	15.48	11.29	9.52
677-1535	A2151U2N2NZNQ	DP	1	1,3	15.63	11.44	9.66
677-1540	A314132N2NZNQ	3P	5	1	16.52	12.05	10.16
677-1545	A3141U2N2NZNQ	3P	5	1,2	16.67	12.20	10.31
677-1550	A315132N2NZNQ	3P	1	1	16.79	12.24	10.32
677-1555	A3151U2N2NZNQ	3P	1	1,3	16.94	12.39	10.47
677-1560	A420192N2NZNQ	4P	6	1	15.86	11.57	9.76

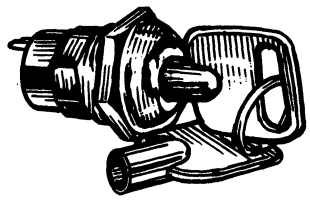
Y Series Switchlocks

Contact rating: 4 Amps at 125 VAC or 28 VDC; 2 Amps at 250 VAC (UL/CSA). **Electrical life:** 10,000 make-and-break cycles at full load. **Insulation resistance:** 10^9 ohms min. **Dielectric strength:** 1,000 V rms min. at sea level. **Lock:** zinc alloy, stainless steel facing, four tumbler mechanism. **Switch housing and top plate:** glass filled polyester. **Contacts and terminals:** copper, silver plated. **Included hardware:** nut. Two nickel keys supplied.

Four Tumbler With Positive Detent

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH 1-24	EACH 25-99	EACH 100-499
677-1700	Y100AA2C203NQ	SP	2	1,2,3	8.79	6.71	5.82
677-1705	Y100AB2C203NQ	SP	3	1,2,3,4	8.79	6.71	5.82
677-1710	Y101132C203NQ	SP	5	1	7.66	5.69	4.85
677-1720	Y1011U2C203NQ	SP	5	1,2	7.81	5.84	5.00
677-1725	Y200AA2C203NQ	DP	2	1,2,3	10.13	7.69	6.66
677-1730	Y200AB2C203NQ	DP	3	1,2,3,4	10.13	7.69	6.66
677-1735	Y201132C203NQ	DP	5	1	9.00	6.67	5.69
677-1745	Y2011U2C203NQ	DP	5	1,2	9.29	6.96	5.98





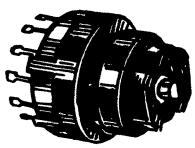
Four Tumbler Anti-Static with Positive Detent

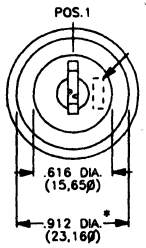
Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH 1-24	EACH 25-99	EACH 100-499
677-1750	Y101132R203NQ	SP	5	1	9.81	7.84	7.00
677-1760	Y1011U2R203NQ	SP	5	1,2	9.96	7.99	7.15
677-1765	Y201132R203NQ	DP	5	1	11.51	9.18	8.20
677-1775	Y2011U2R203NQ	DP	5	1,2	11.80	9.47	8.49

Four Tumbler Momentary

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH 1-24	EACH 25-99	EACH 100-499
677-1800	Y108122A203NQ	SP	4	1	9.24	6.83	5.79
677-1805	Y108AH2A203NQ	SP	7	1	10.63	7.84	6.65
677-1810	Y208122A203NQ	DP	4	1	10.76	7.94	6.73
677-1815	Y208AH2A203NQ	DP	7	1	11.99	8.84	7.49

Y Series Tubular Switchlocks





Contact Rating: 4 Amps at 125 VAC or 28 VDC, 2 Amps at 250 VAC. **Electrical Life:** 10,000 make-and-break cycles at full load. **Insulation Resistance:** 10 milliohms min. **Dielectric Strength:** 1,000 V rms min. at sea level. Polished nickel facing on the 6 tumbler tubular locks. Switch housing and top plate glass filled polyester. Silver-plated copper terminals and contacts. Hardware and two keys included. UL/CSA.

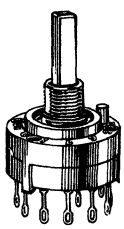
Six Tumbler Tubular with Solder Lug

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH 1-24	EACH 25-99	EACH 100-499
677-1820	Y101132V403NQ	SP	5	1	9.91	7.66	6.69
677-1825	Y1011U2V403NQ	SP	5	1,2	9.91	7.66	6.69
677-1830	Y201132V403NQ	DP	5	1	11.43	8.77	7.63
677-1835	Y2011U2V403NQ	DP	5	1,2	11.43	8.77	7.63

Six Tumbler Tubular Anti-Static with Solder Lug

Stock No.	Mfr.'s Type	No. Poles	Ref. No.	Key Pull Position	EACH 1-24	EACH 25-99	EACH 100-499
677-1840	Y101132W403NQ	SP	5	1	11.32	9.07	8.10
677-1845	Y1011U2W403NQ	SP	5	1,2	11.32	9.07	8.10
677-1850	Y201132W403NQ	DP	5	1	12.84	10.18	9.04
677-1855	Y2011U2W403NQ	DP	5	1,2	12.84	10.18	9.04

A Series Rotary Switches



D

E

Contact rating: switch—350 mA at 110 VAC or DC; 150 mA at 250 VAC or DC, carry—5 Amps continuous. **Electrical life:** 15,000 make-and-break cycles at full load. **Insulation resistance:** 10^9 Ohms min. **Dielectric strength:** 1,000 V rms min. at sea level. **Housing, top plate, and bushing:** glass filled Nylon. **Movable contact:** copper alloy, silver plated. **Stationary contacts and terminals:** brass, silver plated. **Included hardware:** nut, lockwasher, and stop ring.

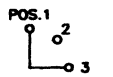
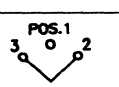
Solder Terminals (Fig. D)

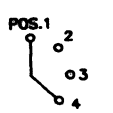
Stock No.	Mfr.'s Type	No. Poles	Number of Positions	EACH 1-24	EACH 25-99	EACH 100-499
677-1600	A11215RNZQ	SP	12	3.65	2.67	2.25
677-1605	A20615RNZQ	DP	6	4.07	2.98	2.51
677-1610	A30415RNZQ	3P	4	4.33	3.17	2.67
677-1615	A40315RNZQ	4P	3	4.96	3.63	3.06

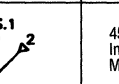
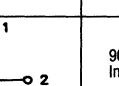
PC Terminals (Fig. E)

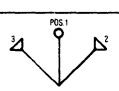
Stock No.	Mfr.'s Type	No. Poles	Number of Positions	EACH 1-24	EACH 25-99	EACH 100-499
677-1620	A11215RNCQ	SP	12	3.65	2.67	2.25
677-1625	A20615RNCQ	DP	6	4.07	2.98	2.51
677-1630	A30415RNCQ	3P	4	4.33	3.17	2.67
677-1635	A40315RNCQ	4P	3	4.96	3.63	3.06

Reference Chart

Ref. No.	Lock Config. (Viewed from key end.)	Indexing
1		45° Indexing
2		45° Indexing

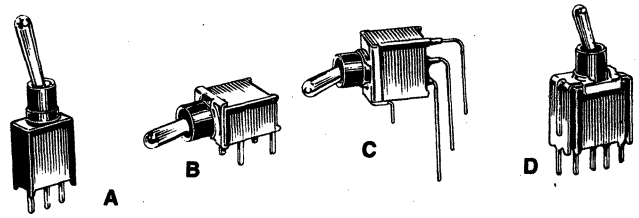
Ref. No.	Lock Config. (Viewed from key end.)	Indexing
3		45° Indexing

Ref. No.	Lock Config. (Viewed from key end.)	Indexing
4		45° Indexing Mom.
5		90° Indexing

Ref. No.	Lock Config. (Viewed from key end.)	Indexing
6		45° Indexing
7		45° Indexing

15

Sealed Tiny Toggle Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** – 30°C to 85°C. **Toggle:** brass, chrome plated, with internal O-ring seal. **Case and bushing:** glass filled Nylon. **Contacts and terminals:** brass, with gold plate over nickel plate. **Terminal seal:** epoxy.

PC Terminals (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1800	ET01SD1CBE	SPDT	On-None-On	5.12	3.85	3.30	2.92
676-1805	ET03SD1CBE	SPDT	On-Off-On	5.80	4.34	3.72	3.28
676-1810	ET08SD1CBE	SPDT	On-None-Mom	5.80	4.34	3.72	3.28

PC Terminal/Right Angle Mounting (Fig. B)

676-1815	ET01MD1ABE	SPDT	On-None-On	5.33	4.06	3.51	3.13
676-1820	ET03MD1ABE	SPDT	On-Off-On	6.01	4.55	3.93	3.49
676-1825	ET08MD1ABE	SPDT	On-None-Mom	6.01	4.55	3.93	3.49

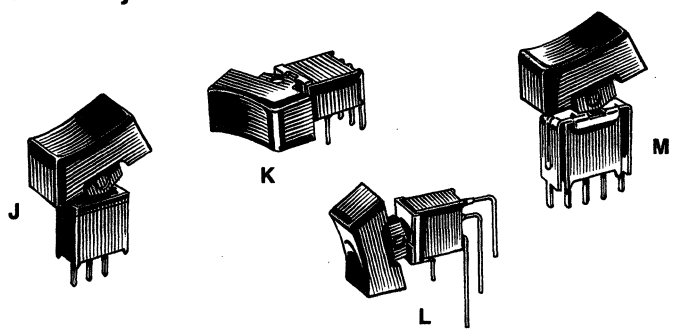
PC Terminals/Right Angle Mounting (Fig. C)

676-1830	ET01MD1AVBE	SPDT	On-None-On	5.33	4.06	3.51	3.13
676-1835	ET03MD1AVBE	SPDT	On-Off-On	6.01	4.55	3.93	3.49
676-1840	ET08MD1AVBE	SPDT	On-None-Mom	6.01	4.55	3.93	3.49

PC Terminals With Support Bracket (Fig. D)

676-1845	ET01MD1V3BE	SPDT	On-None-On	5.33	4.06	3.51	3.13
676-1850	ET03MD1V3BE	SPDT	On-Off-On	6.01	4.55	3.93	3.49
676-1855	ET08MD1V3BE	SPDT	On-None-Mom	6.01	4.55	3.93	3.49

Sealed Tiny Rocker Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** – 30°C to 85°C. **Rocker:** Nylon, black with internal O-ring seal standard. **Case and bushing:** glass filled Nylon. **Contacts and terminals:** brass, with gold plate over nickel plate. **Terminal seal:** epoxy.

PC Terminals (Fig. J)

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1860	ET01J1CBE2	SPDT	On-None-On	5.62	4.35	3.80	3.42
676-1865	ET03J1CBE2	SPDT	On-Off-On	6.30	4.84	4.22	3.78
676-1870	ET08J1CBE2	SPDT	On-None-Mom	6.30	4.84	4.22	3.78

PC Terminals/Right Angle Mounting (Fig. K)

676-1875	ET01J6ABE2	SPDT	On-None-On	5.83	4.56	4.01	3.63
676-1880	ET03J6ABE2	SPDT	On-Off-On	6.51	5.05	4.43	3.99
676-1885	ET08J6ABE2	SPDT	On-None-Mom	6.51	5.05	4.43	3.99

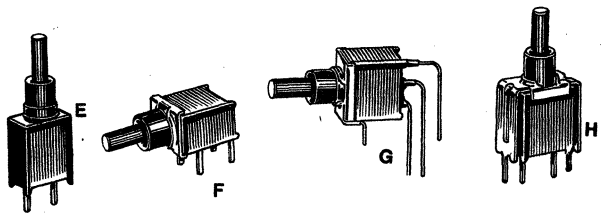
PC Terminals/Right Angle Mounting (Fig. L)

676-1890	ET01J1AVBE2	SPDT	On-None-On	5.83	4.56	4.01	3.63
676-1895	ET03J1AVBE2	SPDT	On-Off-On	6.51	5.05	4.43	3.99
676-1900	ET08J1AVBE2	SPDT	On-None-Mom	6.51	5.05	4.43	3.99

PC Terminals With Support Bracket (Fig. M)

676-1905	ET01J1V3BE2	SPDT	On-None-On	5.83	4.56	4.01	3.63
676-1910	ET03J1V3BE2	SPDT	On-Off-On	6.51	5.05	4.43	3.99
676-1915	ET08J1V3BE2	SPDT	On-None-Mom	6.51	5.05	4.43	3.99

Sealed Tiny Pushbutton Switches



Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** – 30°C to 65°C. **Case and bushing:** glass filled Nylon. **Plunger:** Thermoplastic polyester, black, with internal O-ring seal. **Contacts and terminals:** brass, with gold plate over nickel plate. **Terminal seal:** epoxy.

PC Terminals (Fig. E)

Stock No.	Mfr.'s Type	Desc.	Switch Function Open-Closed	EACH			
				1-24	25-99	100-499	500-999
676-1920	EP11D1CBE	SPST	Off-Mom	3.84	2.89	2.50	2.22
676-1925	EP12D1CBE	SPDT	On-Mom	5.15	3.87	3.32	2.93

PC Terminals/Right Angle Mounting (Fig. F)

676-1930	EP11D1ABE	SPST	Off-Mom	4.03	3.10	2.71	2.43
676-1935	EP12D1ABE	SPDT	On-Mom	5.36	4.08	3.53	3.14

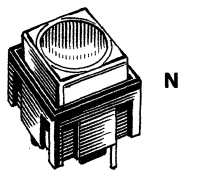
PC Terminals/Right Angle Mounting (Fig. G)

676-1940	EP11D1AVBE	SPST	Off-Mom	4.03	3.10	2.71	2.43
676-1945	EP12D1AVBE	SPDT	On-Mom	5.36	4.08	3.53	3.14

PC Terminals/Support Bracket (Fig. H)

676-1950	EP11D1V3BE	SPST	Off-Mom	4.03	3.10	2.71	2.43
676-1955	EP12D1V3BE	SPDT	On-Mom	5.36	4.08	3.51	3.14

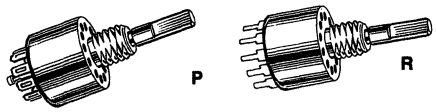
Pushbutton Key Switches



Contact rating: 25 mA max. at 50 VAC or DC max. **Operating temp:** – 30°C to 65°C. **Case:** glass filled Nylon. **Actuator:** Black ABS or polycarbonate-ABS blend, matte finish. **Movable contact:** beryllium copper, silver plated. **Stationary contacts and terminals:** brass, silver plated.

Stock No.	Mfr.'s Type	Desc.	Switch Action	EACH			
				1-24	25-99	100-499	500-999
676-1960	KS11R22CQ	SPST	Off-Mom	.84	.63	.50	.49
676-1965	KS11R22CQ	SPST	Off-Mom	.89	.69	.60	.52
676-1970	KS12R22CQ	SPDT	On-Mom	.84	.63	.50	.49
676-1975	KS12R22CQ	SPDT	On-Mom	.89	.69	.60	.52

Half-Inch Rotary Switches



Contact rating: Switch-250 mA max. at 125 VAC or 28 VDC. Carry-6 Amps continuous, non-shorting contacts. **Electrical life:** 10,000 make-and-break cycles at 150 mA, 125 VAC or 28 VDC. **Insulation resistance:** 10^{10} Ohms min. **Dielectric strength:** 600 V rms min. at sea level. **Housing and bushing:** zinc alloy, bright zinc plated with clear chromate finish. **Actuator:** zinc alloy, nickel plated. **Base:** diallyl phthalate, with insert molded terminals. **Contacts and terminals:** brass, silver plated. **Indexing:** MA00, MB00, models – 36°. MC00, MD00 models – 30°. All models have full 360° rotation with no stops. Stop pins are supplied for user-selectable stops. **Included hardware:** nut and lockwasher.

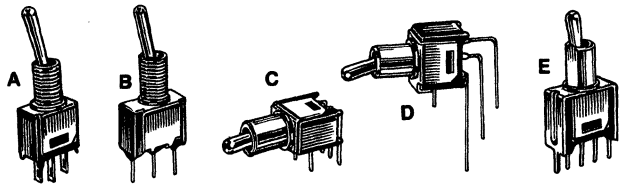
Solder Terminals (Fig. P)

Stock No.	Mfr.'s Type	Desc.	Number of Positions	EACH			
				1-24	25-99	100-499	500-999
676-1980	MA00L1NZQ	SP	10	9.97	7.30	6.15	5.35
676-1985	MC00L1NZQ	SP	12	10.21	7.47	6.30	5.47
676-1990	MB00L1NZQ	DP	5	11.07	8.10	6.83	5.94
676-1995	MD00L1NZQ	DP	6	11.41	8.35	7.04	6.12

PC Terminals (Fig. R)

676-2000	MA00L1NCQ	SP	10	10.22	7.55	6.40	5.60
676-2005	MC00L1NCQ	SP	12	10.46	7.72	6.55	5.72
676-2010	MB00L1NCQ	DP	5	11.32	8.35	7.08	6.19
676-2015	MD00L1NCQ	DP	6	11.66	8.60	7.29	6.37

Tiny Toggle Switches



Toggles: brass, chrome plated. **Bushings:** brass, nickel plated. **Included hardware:** nut, locking ring, and lockwasher.

Switches not right angle mounted or with support bracket: Contact rating 3 Amps at 120 VAC or 28 VDC (UL) for all models with On-None-On switch function, all others 2 Amps at 120 VAC or 28 VDC. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated.

Switches with right angle mounting or support bracket: Contact rating: 0.4 VA max. at 20 VAC or DC max. **Contacts & terminals:** brass, with gold plate over nickel plate.

Solder Terminals (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2400	T101SHZQE	SPDT	On-None-On	4.54	3.40	2.91	2.57
676-2405	T103SHZQE	SPDT	On-Off-On	5.51	4.11	3.51	3.09
676-2410	T108SHZQE	SPDT	On-None-Mom	5.51	4.11	3.51	3.09
676-2415	T201SHZQE	DPDT	On-None-On	7.00	5.28	4.54	4.02
676-2420	T203SHZQE	DPDT	On-Off-On	7.99	6.00	5.15	4.56
676-2425	T208SHZQE	DPDT	On-None-Mom	7.99	6.00	5.15	4.56
676-2430	T211SHZQE	DPDT	On-On-On	9.01	6.75	5.78	5.10

PC Terminals (Fig. B)

676-2435	T101SHCQE	SPDT	On-None-On	4.62	3.48	2.99	2.65
676-2440	T103SHCQE	SPDT	On-Off-On	5.59	4.19	3.59	3.17
676-2445	T201SHCQE	DPDT	On-None-On	7.16	5.44	4.70	4.18
676-2450	T203SHCQE	DPDT	On-Off-On	9.15	6.16	5.31	4.72

PC Terminals/Right Angle Mounting (Fig. C)

676-2455	T101MH9ABE	SPDT	On-None-On	4.83	3.69	3.20	2.86
676-2460	T103MH9ABE	SPDT	On-Off-On	5.80	4.40	3.80	3.38
676-2465	T201MH9ABE	DPDT	On-None-On	7.58	5.86	5.12	4.60

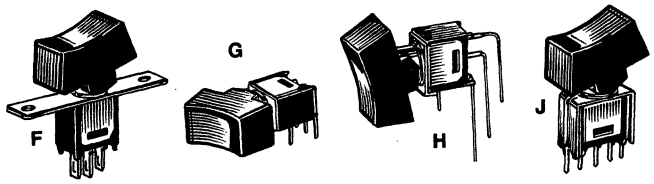
PC Terminals/Right Angle Mounting (Fig. D)

676-2470	T101MH9AVBE	SPDT	On-None-On	4.83	3.69	3.20	2.86
676-2475	T103MH9AVBE	SPDT	On-Off-On	5.80	4.40	3.80	3.38
676-2480	T108MH9AVBE	SPDT	On-None-Mom	5.80	4.40	3.80	3.38
676-2485	T201MH9AVBE	DPDT	On-None-On	7.58	5.86	5.12	4.60
676-2490	T203MH9AVBE	DPDT	On-Off-On	8.57	6.58	5.73	5.14
676-2500	T208MH9AVBE	DPDT	On-None-Mom	8.57	6.58	5.73	5.14
676-2505	T211MH9AVBE	DPDT	On-On-On	9.59	7.33	6.36	5.68

PC Terminal With Support Bracket (Fig. E)

676-2510	T101MH9V3BE	SPDT	On-None-On	4.83	3.69	3.20	2.86
676-2515	T103MH9V3BE	SPDT	On-Off-On	5.80	4.40	3.80	3.38
676-2520	T201MH9V3BE	DPDT	On-None-On	7.58	5.86	5.12	4.60

Tiny Rocker Switches



Actuator: Nylon, black. **Bushings:** brass, nickel plated. **Included hardware:** nuts, screws, lockwashers, and standoffs.

Switches with solder terminals: Contact rating: 3 Amps at 120 VAC or 28 VDC (UL) for all models with On-None-On switch function, all others 2 Amps at 120 VAC or 28 VDC. **End contacts:** coil silver silver plated. **Center contact and terminals:** brass, silver plated.

Switches with PC terminals: Contact rating: 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

Solder Terminals (Fig. F)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2525	T101J1ZQE2	SPDT	On-None-On	5.04	3.90	3.41	3.07
676-2530	T103J1ZQE2	SPDT	On-Off-On	6.01	4.61	4.01	3.59
676-2535	T108J1ZQE2	SPDT	On-None-Mom	6.01	4.61	4.01	3.59
676-2540	T201J1ZQE2	DPDT	On-None-On	7.50	5.78	5.04	4.52
676-2545	T203J1ZQE2	DPDT	On-Off-On	8.49	6.50	5.65	5.06
676-2550	T208J1ZQE2	DPDT	On-None-Mom	8.49	6.50	5.65	5.06

PC Terminals/Right Angle Mounting (Fig. G)

676-2555	T101J6ABE2	SPDT	On-None-On	5.33	4.19	3.70	3.36
676-2560	T103J6ABE2	SPDT	On-Off-On	6.30	4.90	4.30	3.88
676-2565	T108J6ABE2	SPDT	On-None-Mom	6.30	4.90	4.30	3.88
676-2570	T201J1ABE2	DPDT	On-None-On	8.08	6.36	5.62	5.10
676-2575	T203J1ABE2	DPDT	On-Off-On	9.07	7.08	6.23	5.64
676-2580	T208J1ABE2	DPDT	On-None-Mom	9.07	7.08	6.23	5.64

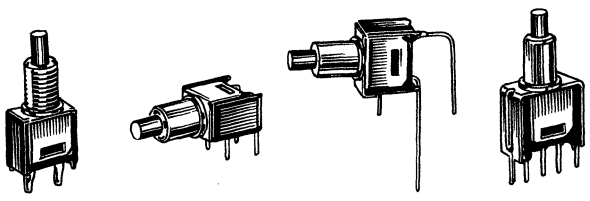
PC Terminals/Right Angle Mounting (Fig. H)

676-2585	T101J1AVBE2	SPDT	On-None-On	5.33	4.19	3.70	3.36
676-2590	T103J1AVBE2	SPDT	On-Off-On	6.30	4.90	4.30	3.88
676-2595	T108J1AVBE2	SPDT	On-None-Mom	6.30	4.90	4.30	3.88
676-2600	T201J1AVBE2	DPDT	On-None-On	8.08	6.36	5.62	5.10
676-2605	T203J1AVBE2	DPDT	On-Off-On	9.07	7.08	6.23	5.64
676-2610	T208J1AVBE2	DPDT	On-None-Mom	9.07	7.08	6.23	5.64

PC Terminals With Support Bracket (Fig. J)

676-2615	T101J1V3BE2	SPDT	On-None-On	5.33	4.19	3.70	3.36
676-2620	T103J1V3BE2	SPDT	On-Off-On	6.30	4.90	4.30	3.88
676-2625	T108J1V3BE2	SPDT	On-None-Mom	6.30	4.90	4.30	3.88
676-2630	T201J1V3BE2	DPDT	On-None-On	8.08	6.36	5.62	5.10
676-2635	T203J1V3BE2	DPDT	On-Off-On	9.07	7.08	6.23	5.64
676-2640	T208J1V3BE2	DPDT	On-None-Mom	9.07	7.08	6.23	5.64

Tiny Pushbutton Switches



Plunger: thermoplastic polyester. **Bushings:** brass, nickel plated. **Included hardware:** nut, locking ring, and lockwasher.

Switches with solder terminals: Contact rating: 1 Amp at 120 VAC or 28 VDC (SP models UL listed). **Contacts:** coin silver, silver plated. **Terminals:** Brass, silver plated. **Switches with PC terminals: Contact rating:** 0.4 VA max. at 20 VAC or DC max. **Contacts and terminals:** brass, with gold plate over nickel plate.

Solder Terminals (Fig. L)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2645	TP11SHZQE	SPST	Off-Mom	3.53	2.66	2.29	2.03
676-2650	TP12SHZQE	SPDT	On-Mom	4.83	3.61	3.09	2.73
676-2655	TP21SHZQE	DPST	Off-Mom	7.26	5.47	4.71	4.16

PC Terminals/Right Angle Mounting (Fig. M)

676-2660	TP11SH9ABE	SPST	Off-Mom	3.82	2.95	2.58	2.32
676-2665	TP12SH9ABE	SPDT	On-Mom	5.12	3.90	3.38	3.02
676-2670	TP21SH9ABE	DPST	Off-Mom	7.84	6.05	5.28	4.74

PC Terminals/Right Angle Mounting (Fig. N)

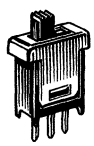
676-2675	TP12SH9AVBE	SPDT	On-Mom	5.12	3.90	3.38	3.02
676-2680	TP21SH9AVBE	DPST	Off-Mom	7.84	6.05	5.28	4.74

PC Terminals with Support Bracket (Fig. P)

676-2685	TP12SH9V3BE	SPDT	On-Mom	5.12	3.90	3.38	3.02
676-2690	TP21SH9V3BE	DPST	Off-Mom	7.84	6.05	5.28	4.74

Tiny Slide Switches

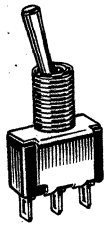
Contact rating: 0.4 VA max. at 20 VAC or DC max. **Operating temp.:** – 30°C to 85°C. **Actuator:** Nylon, black. **End contacts:** coin silver, silver plated. **Center contact and terminals:** brass, with gold plate over nickel plate.



PC Terminals

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-2695	TS01CBE	SPDT	On-None-On	3.45	2.62	2.27	2.02
676-2697	TS03CBE	SPDT	On-Off-On	3.89	2.95	2.54	2.26

Panel-Mounted Toggle Switches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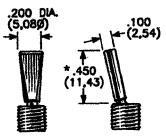

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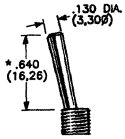

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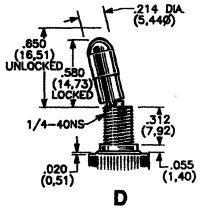

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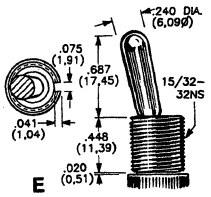


E

F

Contact rating: 5 Amps at 120 VAC or 28 VDC. 2 Amps at 250 VAC. **Operating temp.:** –30°C to 85°C. **Toggles:** brass, chrome plate. **Bushings:** brass, nickel plated. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated. **Case:** red diallyl phthalate. **Included hardware:** 2 nuts, locking ring, and lockwasher.

Round Toggle (Fig. A)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3000	7101SYZQE	SPDT	On-None-On	4.39	3.29	2.82	2.49
676-3005	7103SYZQE	SPDT	On-Off-On	4.99	3.73	3.19	2.81
676-3010	7105SYZQE	SPDT	Mom-Off-Mom	4.99	3.73	3.19	2.81
676-3015	7107SYZQE	SPDT	On-Off-Mom	4.99	3.73	3.19	2.81
676-3020	7108SYZQE	SPDT	On-None-Mom	4.99	3.73	3.19	2.81
676-3025	7201SYZQE	DPDT	On-None-On	6.37	4.82	4.15	3.69
676-3030	7203SYZQE	DPDT	On-Off-On	7.21	5.43	4.67	4.14
676-3035	7205SYZQE	DPDT	Mom-Off-Mom	7.21	5.43	4.67	4.14
676-3040	7207SYZQE	DPDT	On-Off-Mom	7.42	5.58	4.80	4.25
676-3045	7208SYZQE	DPDT	On-None-Mom	7.42	5.58	4.80	4.25
676-3050	7211SYZQE	DPDT	On-On-On	7.81	5.87	5.04	4.46
676-3055	7213SYZQE	DPDT	On-On-Mom	8.44*	6.33	5.43	4.79
676-3060	7215SYZQE	DPDT	Mom-On-Mom	8.44	6.33	5.43	4.79
676-3065	7301SYZQE	3PDT	On-None-On	10.55	7.96	6.84	6.06
676-3070	7303SYZQE	3PDT	On-Off-On	11.21	8.43	7.25	6.41
676-3075	7305SYZQE	3PDT	Mom-Off-Mom	14.08	10.53	9.02	7.95
676-3080	7401SYZQE	4PDT	On-None-On	14.63	11.02	9.47	8.36
676-3085	7403SYZQE	4PDT	On-Off-On	15.54	11.68	10.03	8.87
676-3090	7405SYZQE	4PDT	Mom-Off-Mom	16.95	12.72	10.90	9.63
676-3095	7408SYZQE	4PDT	On-None-Mom	16.95	12.72	10.90	9.63
676-3100	7411SYZQE	4PDT	On-On-On	17.97	13.46	11.53	10.18
676-3105	7413SYZQE	4PDT	On-On-Mom	17.97	13.46	11.53	10.18
676-3110	7415SYZQE	4PDT	Mom-On-Mom	17.97	13.46	11.53	10.18

Flatted Toggle (Fig. B)

676-3115	7101P3YZQE	SPDT	On-None-On	5.12	4.02	3.55	3.22
676-3120	7103P3YZQE	SPDT	On-Off-On	5.72	4.46	3.92	3.54
676-3125	7105P3YZQE	SPDT	Mom-Off-Mom	5.72	4.46	3.92	3.54
676-3130	7107P3YZQE	SPDT	On-Off-Mom	5.72	4.46	3.92	3.54
676-3135	7108P3YZQE	SPDT	On-None-Mom	5.72	4.46	3.92	3.54
676-3140	7201P3YZQE	DPDT	On-None-On	7.10	5.55	4.88	4.42
676-3145	7203P3YZQE	DPDT	On-Off-On	7.94	6.16	5.40	4.87
676-3150	7205P3YZQE	DPDT	Mom-Off-Mom	7.94	6.16	5.40	4.87
676-3155	7207P3YZQE	DPDT	On-Off-Mom	8.15	6.31	5.53	4.98
676-3160	7208P3YZQE	DPDT	On-None-Mom	8.15	6.31	5.53	4.98

Long Round Toggle (Fig. C)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3165	7101L1YZQE	SPDT	On-None-On	4.39	3.29	2.82	2.49
676-3170	7103L1YZQE	SPDT	On-Off-On	4.99	3.73	3.19	2.81
676-3175	7201L1YZQE	DPDT	On-None-On	6.37	4.82	4.15	3.69
676-3180	7203L1YZQE	DPDT	On-Off-On	7.21	5.43	4.67	4.14
676-3185	7301L1YZQE	3PDT	On-None-On	10.55	7.96	6.84	6.06
676-3190	7401L1YZQE	4PDT	On-None-On	14.63	11.02	9.47	3.38

Locking Toggle (Fig. D)

676-3195	7101KZQE	SPDT	On-None-On	6.04	4.94	4.47	4.14
676-3200	7103KZQE	SPDT	On-Off-On	6.64	5.38	4.84	4.46
676-3205	7105KZQE	SPDT	Mom-Off-Mom	6.64	5.38	4.84	4.46
676-3210	7107KZQE	SPDT	On-Off-Mom	6.64	5.38	4.84	4.46
676-3215	7108KZQE	SPDT	On-None-Mom	6.64	5.38	4.84	4.46
676-3220	7201KZQE	DPDT	On-None-On	8.02	6.47	5.80	5.34
676-3225	7203KZQE	DPDT	On-Off-On	8.86	7.08	6.32	5.79
676-3230	7301KZQE	3PDT	On-None-On	12.20	9.61	8.49	7.71
676-3235	7303KZQE	3PDT	On-Off-On	12.86	10.08	8.90	8.06

Large Round Toggle (Fig. E)

676-3240	7101TZQE	SPDT	On-None-On	5.59	4.49	4.02	3.69
676-3245	7103TZQE	SPDT	On-Off-On	6.19	4.93	4.39	4.01
676-3250	7105TZQE	SPDT	Mom-Off-Mom	6.19	4.93	4.39	4.01
676-3255	7108TZQE	SPDT	On-None-Mom	6.19	4.93	4.39	4.01
676-3260	7201TZQE	DPDT	On-None-On	7.57	6.02	5.35	4.89
676-3265	7203TZQE	DPDT	On-Off-On	8.41	6.63	5.87	5.34
676-3270	7301TZQE	3PDT	On-None-On	11.75	9.16	8.04	7.26
676-3275	7303TZQE	3PDT	On-Off-On	12.41	9.63	8.45	7.61
676-3280	7401TZQE	4PDT	On-None-On	15.83	12.22	10.67	9.58
676-3285	7403TZQE	4PDT	On-Off-On	16.74	12.88	11.23	10.07

Splash Proof Toggle (Fig. F)

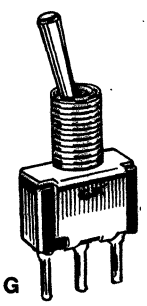
676-3290	7101SCWZQE	SPDT	On-None-On	4.89	3.79	3.32	2.99
676-3295	7103SCWZQE	SPDT	On-Off-On	5.49	4.23	3.69	3.31
676-3300	7105SCWZQE	SPDT	Mom-Off-Mom	5.49	4.23	3.69	3.31
676-3305	7108SCWZQE	SPDT	On-None-Mom	5.49	4.23	3.69	3.31
676-3310	7201SCWZQE	DPDT	On-None-On	6.87	5.32	4.65	4.19
676-3315	7203SCWZQE	DPDT	On-Off-On	7.71	5.93	5.17	4.64
676-3320	7301SCWZQE	3PDT	On-None-On	11.05	8.46	7.34	6.56
676-3325	7401SCWZQE	4PDT	On-None-On	15.13	11.52	9.97	8.88

PC-Mounted Toggle Switches

Operating temp.: –30°C to 85°C. **Toggle:** brass, chrome plated. **Bushing:** brass, nickel plated. **Case:** red diallyl phthalate.

Models not right angle mounted. Contact rating: 5 Amps at 120 VAC or 28 VDC; 2 Amps at 250 VAC. **End contact:** coin silver, silver plated. **Center contact and terminals:** brass, silver plated.

Right angle mounted models. Contact rating: 0.4 VA max. at 20 VAC or VDC max. **Contacts and terminals:** brass, with gold plate over nickel plate.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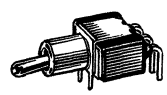
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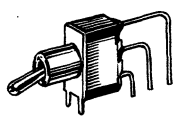
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PC Terminals (Fig. G)

Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3400	7101SYCQE	SPDT	On-None-On	4.47	3.37	2.90	2.57
676-3405	7103SYCQE	SPDT	On-Off-On	5.07	3.81	3.27	2.89
676-3410	7105SYCQE	SPDT	Mom-Off-Mom	5.07	3.81	3.27	2.89
676-3415	7107SYCQE	SPDT	On-Off-Mom	5.07	3.81	3.27	2.89
676-3420	7108SYCQE	SPDT	On-None-Mom	5.07	3.81	3.27	2.89
676-3425	7201SYCQE	DPDT	On-None-On	6.53	4.98	4.31	3.85
676-3430	7203SYCQE	DPDT	On-Off-On	7.37	5.59	4.83	4.30
676-3435	7205SYCQE	DPDT	Mom-Off-Mom	7.37	5.59	4.83	4.30
676-3440	7207SYCQE	DPDT	On-Off-Mom	7.58	5.74	4.96	4.41
676-3445	7208SYCQE	DPDT	On-None-Mom	7.58	5.74	4.96	4.41

PC Terminals Right Angle Mtg. (Fig. H)

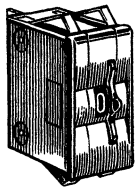
Stock No.	Mfr.'s Type	Desc.	Switch Function	EACH			
				1-24	25-99	100-499	500-999
676-3450	7101MD9ABE	SPDT	On-None-On	4.68	3.58	3.11	2.78
676-3455	7103MD9ABE	SPDT	On-Off-On	5.28	4.02	3.48	3.10
676-3460	7105MD9ABE	SPDT	Mom-Off-Mom	5.28	4.02	3.48	3.10
676-3465	7107MD9ABE	SPDT	On-Off-Mom	5.28	4.02	3.48	3.10
676-3470	7108MD9ABE	SPDT	On-None-Mom	5.28	4.02	3.48	3.10
676-3475	7201MD9ABE	DPDT	On-None-On	6.95	5.40	4.73	4.27
676-3480	7203MD9ABE	DPDT	On-Off-On	7.79	6.01	5.25	4.72

PC Terminals Right Angle Mtg. (Fig. J)

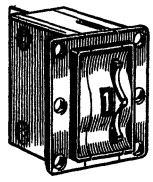
676-3485	7101MD9AV2BE	SPDT	On-None-On	4.68	3.58	3.11	2.78
676-3490	7103MD9AV2BE	SPDT	On-Off-On	5.28	4.02	3.48	3.10
676-3495	7107MD9AV2BE	SPDT	On-Off-Mom	5.28	4.02	3.48	3.10
676-3500	7201MD9AV2BE	DPDT	On-None-On	6.95	5.40	4.73	4.27
676-3505	7205MD9AV2BE	DPDT	Mom-Off-Mom	7.79	6.01	5.25	4.72
676-3510	7207MD9AV2BE	DPDT	On-Off-Mom	8.00	6.16	5.38	4.83
676-3515	7208MD9AV2BE	DPDT	On-None-Mom	8.00	6.16	5.38	4.83

Switches

Multisection switches can be made by ordering number of sections desired and accessories such as end plates and blank sections. **Description: Thumbwheel:** matte black with unsealed switch contacts. **Operating Voltage:** 50 mV to 28 VDC or 120 VAC. **Operating temperature:** – 10°C to 65°C. **Body and Wheel:** ABS plastic. **Rotor contacts:** precious metal on copper alloy. **Stator contacts:** hard gold over nickel over 2 oz. copper on epoxy fiberglass. **Contact rating:** 1 Amp continuous carry, 100 mA max. switched current. **Insulation resistance:** 10^9 ohms min. **Dielectric strength:** 500 V RMS min. at sea level between common terminal and any output.



Front Mounting



Rear Mounting

C & K Model No. (Individual Sections)

Front Mount	Rear Mount	Front Mount with Diode Provision	Rear Mount with Diode Provision	Description
301109000 301309M00	301119000 301319M00	301109100 —	301119100 —	Decimal; 1 pole 10 pos. Decimal; 2 pole 10 pos. (Special board: request terminal location, mechanical and electrical details.)
— 301609400	— 30169400	301409100 —	301419100 —	Resistor decade; 1-2-2-2-2 code Decimal; 1 pole 11 pos.
302109000 302209000	302119000 302219000	302109100 302209100	302119100 302219100	BCD 1-2-4-8; 10 pos. Octal 1-2-4; 8 pos. (Stopped between 0-7 incl.)
302309000 302409000	302319000 302419000	302309100 302409100	302319100 302419100	Complement of BCD 1-2-4-8; 10 pos. Complement of Octal 1-2-4; 8 pos. (Stopped between 0-7 incl.)
302809700 303509000	302819700 303519000	— 303509100	— 303519100	Complement of 9's Complement; 10 pos. BCD 1-2-4-8 with separate common to Not True Bits; 10 pos.
304109000 304209000	304119000 304219000	304109100 304209100	304119100 304219100	BCD 1-2-4-8 with Complement, one common; 10 pos. Octal 1-2-4 with Complement, one common; 8 pos. (Stopped between 0-7 incl.)
306109000 307109000	306119000 307119000	306109100 307109100	306119100 307119100	SPDT repeating: 10 pos. Plus (+) and Minus (–) alternating. Binary Coded Hexadecimal; 16 pos.

Stock No.	Mfr.'s Type	EACH			
		1-49	50-99	100-499	500-999
676-2100	301109000	**5.34**	**5.07**	**4.80**	**4.53**
676-2105	301119000	**5.34**	**5.07**	**4.80**	**4.53**
676-2110	301109100	**6.36**	**6.04**	**5.72**	**5.40**
676-2115	301119100	**6.36**	**6.04**	**5.72**	**5.40**
676-2120	301309M00	**8.00**	**7.60**	**7.20**	**6.80**
676-2125	301319M00	**8.00**	**7.60**	**7.20**	**6.80**
676-2130	301409100	**6.36**	**6.04**	**5.72**	**5.40**
676-2135	301419100	**6.36**	**6.04**	**5.72**	**5.40**
676-2140	301609400	**5.34**	**5.07**	**4.80**	**4.53**
676-2145	301619400	**5.34**	**5.07**	**4.80**	**4.53**
676-2150	302109000	**5.34**	**5.07**	**4.80**	**4.53**
676-2155	302119000	**5.34**	**5.07**	**4.80**	**4.53**
676-2160	302109100	**6.36**	**6.04**	**5.72**	**5.40**
676-2165	302119100	**6.36**	**6.04**	**5.72**	**5.40**
676-2170	302209000	**5.89**	**5.59**	**5.30**	**5.00**
676-2175	302219000	**5.89**	**5.59**	**5.30**	**5.00**
676-2180	302209100	**6.91**	**6.56**	**6.21**	**5.87**
676-2185	302219100	**6.91**	**6.56**	**6.21**	**5.87**
676-2190	302309000	**5.34**	**5.07**	**4.80**	**4.53**
676-2195	302319000	**5.34**	**5.07**	**4.80**	**4.53**
676-2200	302409000	**5.89**	**5.59**	**5.30**	**5.00**
676-2205	302419000	**5.89**	**5.59**	**5.30**	**5.00**

Stock No.	Mfr.'s Type	EACH			
		1-49	50-99	100-499	500-999
676-2210	302809700	**5.34**	**5.07**	**4.80**	**4.53**
676-2215	302819700	**5.34**	**5.07**	**4.80**	**4.53**
676-2220	303509000	**10.69**	**10.15**	**9.62**	**9.08**
676-2225	303519000	**10.69**	**10.15**	**9.62**	**9.08**
676-2230	303509100	**11.71**	**11.12**	**10.53**	**9.95**
676-2235	303519100	**11.71**	**11.12**	**10.53**	**9.95**
676-2240	304109000	**8.00**	**7.60**	**7.20**	**6.80**
676-2245	304119000	**8.00**	**7.60**	**7.20**	**6.80**
676-2250	304109100	**9.02**	**8.56**	**8.11**	**7.66**
676-2255	304119100	**9.02**	**8.56**	**8.11**	**7.66**
676-2260	304209000	**8.55**	**8.12**	**7.69**	**7.26**
676-2265	304219000	**8.55**	**8.12**	**7.69**	**7.26**
676-2270	304209100	**9.57**	**9.09**	**8.61**	**8.13**
676-2275	304219100	**9.57**	**9.09**	**8.61**	**8.13**
676-2280	306109000	**5.34**	**5.07**	**4.80**	**4.53**
676-2285	306119000	**5.34**	**5.07**	**4.80**	**4.53**
676-2290	306109100	**6.36**	**6.04**	**5.72**	**5.40**
676-2295	306119100	**6.36**	**6.04**	**5.72**	**5.40**
676-2300	307109000	**10.69**	**10.15**	**9.62**	**9.08**
676-2305	307119000	**10.69**	**10.15**	**9.62**	**9.08**
676-2310	307109100	**11.71**	**11.12**	**10.53**	**9.95**
676-2315	307119100	**11.71**	**11.12**	**10.53**	**9.95**

Hardware for Field Assembly

Screws for Field Assembly

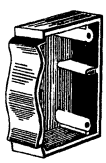
Stock No.	Mfr.'s Type	Number of Sections		EACH
		Front Mtg.	Rear Mtg.	
676-2320	4127-01	3-4	3	**0.21**
676-2325	4127-02	5-7	4-6	**0.21**
676-2330	4127-03	8-10	7-9	**0.21**
676-2335	4127-04	11-13	10-12	**0.21**
676-2340	4127-05	14-16	13-15	**0.21**
676-2345	4029	Stop Pins	Stop Pins	**0.03**

Accessories

Stock No.	Mfr.'s Type	Description	EACH
676-2350	4008	Rear mtg. blank section (plain) (PR)	**0.80**
676-2355	4004	Rear mtg. end plate (PR)	**0.80**
676-2360	4135	Front mtg. blank section (plain) (PR)	**0.80**
676-2365	4134	Front mtg. end plate (PR)	**0.80**
676-2370	4061	Nut driver	**4.66**
676-2375	4035	Nut (2 Required Per Assembly)	**0.03**
676-2380	4046	Connector	**3.66**

4035

4127-XX



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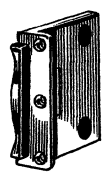

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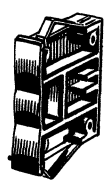

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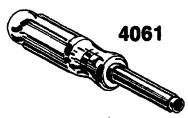

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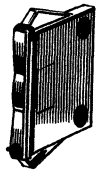
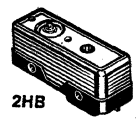


4134

Basic Precision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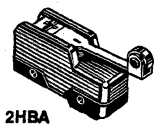
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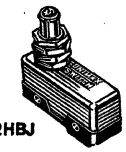
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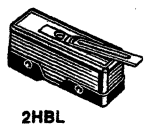
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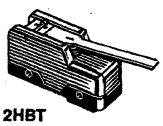
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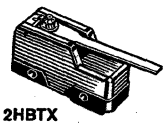
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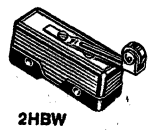
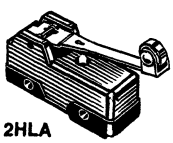

2HBW

Basic precision switch, is used in applications requiring minimum pretravel and overtravel, with moderate operating force. 20 Amps at 125, 250, 480 VAC; 1/2 Amp 125 VDC, 1/4 Amp 250 VDC; UL and CSA. Last digit in Mfr.'s Type indicates termination:—1 solder terminals;—5 screw terminals.

Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F. Oz.	P.T. In.	O.T. In.	EACH			
		Micro	Omron					1-9	10-19	20-49	50-99
756-0005	2HB-1	B-R	Z-15G-K	Pin Plunger	9-13	.020	.005	9.62	4.38	4.16	3.38
756-0010	2HB-5	B-R-A2	Z-15G-B7-K	Pin Plunger	9-13	.020	.005	10.26	4.99	4.43	3.88
756-0015	2HBA-1	BZ-2RW82	Z-15GW2-K	Hinged Roller Lever	1-3.5	.094-.312	.156	16.10	7.83	6.96	6.09
756-0020	2HBA-5	BZ-2RW82-A2	Z-15GW2-B7-K	Hinged Roller Lever	1-3.5	.094-.312	.156	16.30	7.93	7.04	6.17
756-0025	2HBJ-5	BZ-2RQ1-A2	Z-15CQ-B7-K	Large Plunger	9-13	.020	.220	22.14	10.76	9.57	8.37
756-0030	2HBL-1	BZ-2RL	Z-15GL-K	Leaf Spring	5	.156	.062	10.26	4.99	4.43	3.88
756-0035	2HBL-5	B-2RL-A2	Z-15GL-B7-K	Leaf Spring	5	.156	.062	11.98	5.82	5.17	4.53
756-0040	2HBT-1	BZ-2RW80	Z-15GW-K	Long Hinged Lever	1-2.5	.125-.375	.188	12.74	6.19	5.51	4.82
756-0045	2HBT-5	BZ-2RW80-A2	Z-15GWB7-K	Long Hinged Lever	1-2.5	.125-.375	.188	12.96	6.30	5.59	4.90
756-0050	2HBTX-1	—	—	Adj. Hinged Lever	2	.050-.187	.093	15.76	7.66	6.30	5.96
756-0055	2HBTX-5	—	—	Adj. Hinged Lever	2	.050-.187	.093	16.30	7.93	7.04	6.17
756-0066	2HBW-5	BZ-2RLA-A2	Z-15GL2-B7-K	Leaf Spring Roller	5	.156	.062	14.26	6.93	6.16	5.39

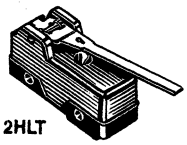
Heavy Duty

2HL


2HLA

2HLJ

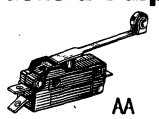
2HLL


2HLT

Precision switch, used for control of heavy duty electric circuits, including motor loads up to 2 HP at 250 VAC. 1 HP. 125 VAC, 2 HP. 250 VAC. 20 Amps at 125, 250, 480 VAC; 10 Amps 125 VAC, lamp load, inrush current 75 Amps at 480 VAC. UL and CSA. Last digit in Mfr.'s Type indicates termination:—1 solder terminals,—5 screw terminals.

Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F. Oz.	P.T. In.	O.T. In.	EACH			
		Micro	Omron					1-9	10-19	20-49	50-99
756-0665	2HL-5	BA-2R-A2	A-20G-B7-K	Pin Plunger	14-22	.050	.010	10.80	5.25	4.67	4.08
756-0070	2HLA-5	BA-2RV2-A2	A-20GV2-B7-K	Hinged Roller Lever	2.5	.470	.062	16.64	8.09	7.19	6.29
756-0075	2HLJ-5	BA-2RQ1-A2	A-20G0-B7-K	Large Plunger	14-22	.050	.219	22.46	10.92	9.70	8.49
756-0080	2HLL-5	BA-2RL-A2	A-20GL-B7-K	Leaf Spring	9	.340	.060	12.52	6.08	5.41	4.73
756-0085	2HLT-5	BA-2RV-A2	A-20GV-B7-K	Long Hinged Lever	2.5	.590	.078	13.28	6.46	5.73	5.02

General Purpose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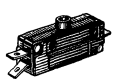
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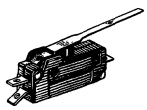
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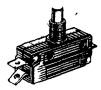
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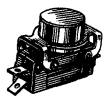
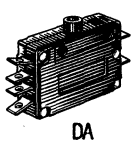


ABB

General Purpose Switch is designed for applications that require fully enclosed high-performance low cost, snap acting switches with quick connect terminals. It is used where moderate pretravel and overtravel are required. 15 Amp, 125, 250 VAC; 3/4 HP. 125 VAC; 1 1/2 HP. 250 VAC; UL and CSA.

Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F Oz.	P.T In.	O.T. In.	EACH		
		McGill	Cherry					1-9	10-49	50-99
756-2005	AA	2604-1150	E13-00K	Hinged Roller Lever	4	.250	.187	5.72	3.09	2.26
756-2010	A	2601-1150	E13-00E	Plastic Button	12	.281	.062	3.34	1.80	1.32
756-2015	AT	2603-1150	E13-00H	Hinged Lever	4	.250	.187	4.64	2.51	1.83
756-2020	AJ	2609-1150	E13-00M	Threaded Bushing	20	.050	.187	4.76	2.57	1.88
756-2025	ABB	2602-1150	—	Large Red Button	20	.050	.050	7.24	3.91	2.85
756-2030	ABB1	2610-1150	—	Large Black Button	20	.050	.050	7.24	3.91	2.85

General Purpose Double Pole Double Throw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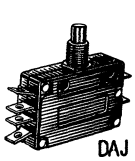
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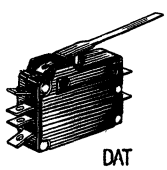
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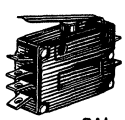

DAL

Same electrical rating as A Series, but double pole double throw.

Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F Oz.	P.T In.	O.T. In.	EACH		
		McGill	Cherry					1-9	10-49	50-99
756-2035	DA	—	E19-00A	Plastic Button	30	.050	.050	7.34	3.96	2.89
756-2040	DAJ	—	E19-00M	Threaded Bushing	30	.050	.187	9.72	5.25	3.83
756-2045	DAT	—	E19-00H	Hinged Lever	6	.250	.187	8.54	4.61	3.37
756-2050	DAL	—	—	Integral Leaf	18	.281	.062	8.54	4.61	3.37

Metal Enclosed Switches

KSB-T

KSBP-T

KSJ-T

KSR-T

KSJP-T

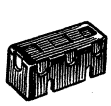
KSB15-T

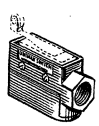
Snap-acting switches enclosed in metal housings that protect the basic switch against mechanical damage and offer methods of sealing to protect against moisture, dust, oil and corrosive or expolosive atmospheres. Meets NEMA specifications 1, 2, 5, 12 and 13.

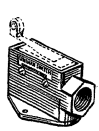
Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F Oz.	P.T In.	O.T. In.	EACH		
		Micro	McGill					1-9	10-49	20-49
756-0105	KSB-T	BZE-2RN	1502-0100	Sealed Plunger	9-24	.078	.219	40.72	19.79	17.59
756-0110	KSBP-T	BZE6-2RN2	1502-0700	Roller Lever	10-20	.188	.219	59.94	29.13	25.90
756-0115	KSJ-T	BZE6-2RQ	1502-0150	Plain Plunger	9-13	.020	.219	31.22	15.17	13.49
756-0120	KSR-T	BZE-2RQ8	1502-0350	Roller Plunger	9-13	.020	.140	53.24	25.88	23.00
756-0125	KSJP-T	BZE6-2RQ2	1502-0750	Roller Lever	10-18	.188	.160	53.24	25.88	23.00
756-0130	KSB15-T	BZE6-2RN18	1502-0500	Semi-Rigid Rod	*	*	*	65.24	31.71	28.19

*Operates under direct pressure on rod end or by 15° max. lateral movement.

Terminal and Switch Enclosures


TC-1


TC-2

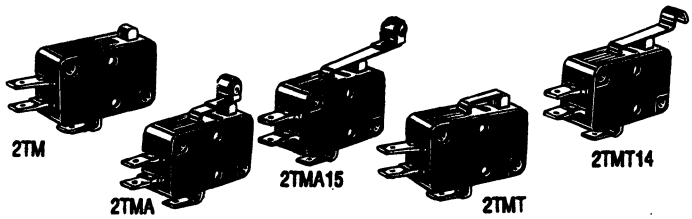

TC-3

Terminal and switch enclosures, used to install HB and HL type switches with electric conduit, electrical tubing, or armored cable. The switch is inserted through the open top of the enclosure where it is secured by two screws that are supplied with the unit. The lower section is removable for easy access to terminals. TC-1, a molded phenolic cover for terminals only, has knock-outs for convenient positioning of wire.

Stock No.	Mfr.'s Type	Similar To		Actuator Type	EACH		
		Micro	Omron		1-9	10-19	20-49
756-0090	TC-1	5PA-1	APA	Terminal cover only	1.18	.57	.51
756-0095	TC-2	3PA-1	AP22-S	Enclosure Through Bolt Mount	19.88	9.67	8.59
756-0100	TC-3	3PA-2	AP32-S	Enclosure Flange Mount	19.88	9.67	8.59

15

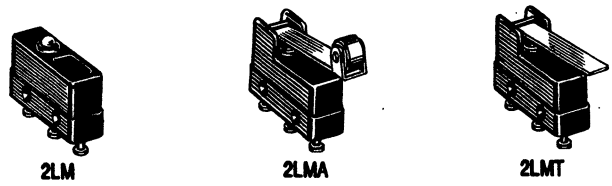
Miniature Snap-Switches—Heavy Duty



The 2TM Series miniature switches are for control of heavy duty electrical circuits up to 10A, 250 VAC. Available with .187 quick-connect terminals.

Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F. Grams	P.T.	O.T.	EACH		
		Micro	Cherry					1-9	10-49	50-99
756-2215	2TM-4	V3-1101-D8	E33-00A	Basic Pin Type	150	.056	.040	4.10	2.21	1.62
756-2220	2TMA-4	V3L-139-D8	E33-00K	Short Roller Lever	180	.070	.040	5.40	2.92	2.13
756-2225	2TMA15-4	V3L-1101-D8	E33-50K	Std. Roller Lever	80	.125	.065	5.40	2.92	2.13
756-2230	2TMT-4	V3L-101-D8	E33-00H	Short Lever	150	.080	.040	4.54	2.45	1.79
756-2235	2TMT14-4	V3L-121-D8	—	Simulated Roller	90	.140	.062	4.54	2.51	1.83

Subminiature Snap Switches

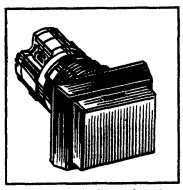


The 2LM Series of SPDT snap acting switches affords long life and reliable switching in a compact subminiature package. Rated at 5A, 125/250 VAC, these switches have single turret terminals.

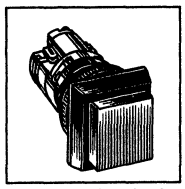
Stock No.	Mfr.'s Type	Similar To		Actuator Type	O.F. Oz.	P.T.	O.T.	EACH		
		Micro	Omron					1-9	10-49	50-99
756-2240	2LM-C	11SM1-T	S-5G-A2	Basic Pin Type	3-5	.030	.005	5.50	2.68	2.38
756-2245	2LMA-C	311SM6-T	S-5HW-1A29K	Roller Lever	1.4	.085	.018	7.46	3.63	3.22
756-2250	2LMT-C	311SM1-T	S-5HW-1A29K	Rigid Lever	1.8	.125	.020	6.48	3.15	2.80

Lighted Pushbutton Switches

Tapered Bezel


TH01-121/261/262

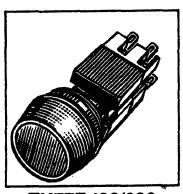
TAPERED BEZEL PUSHBUTTON SWITCHES

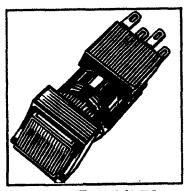

TH01-151/281/282

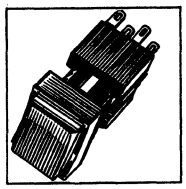
TH01 Series consists of styles with either square or rectangular lens incorporated within an attractive tapered bezel. Switches are rated at 5A, 250 VAC. Lens caps must be ordered separately. This product conveniently allows for lamp replacement from the front panel. Replace "X" in stock number which corresponds with the lens color desired. 1-White, 2-Red, 3-Green, 4-Yellow.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-249
756-1000	TH01-151	Square 1 pole momentary	9.36	8.42	7.95
756-1005	TH01-281	Square 2 pole alternate	10.97	9.88	9.33
756-1010	TH01-282	Square 2 pole alternate	15.43	13.89	13.12
756-1015	TH01-121	Rectangular 1 pole momentary	9.36	8.42	7.95
756-1020	TH01-261	Rectangular 1 pole alternate	10.97	9.88	9.33
756-1025	TH01-262	Rectangular 2 pole alternate	15.43	13.89	13.12
756-103X	TH01-901	Lens cap rectangular translucent	.88	.79	.74
756-104X	TH01-951	Lens cap square translucent	.88	.79	.74

Basic Operator


TH77F-130/230


TH36F-150/250

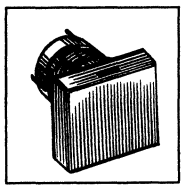

TH36F-120/220

The TH25 Series is a lighted pushbutton available in either square, rectangular or round actuator; rated at 5A, 250 VAC. Terminals are .110″ x .020″ quick connect. Each element must be ordered separately. One pushbutton switch is made up of one basic operator, one switch element, one lens cap and one lamp.

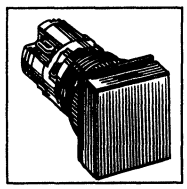
Stock No.	Mfr.'s Type	Bezel Type	Description	EACH		
				1-24	25-99	100-249
756-1070	TH36F-150	Square straight	Momentary	4.18	3.76	3.55
756-1075	TH36F-250	Square straight	Alternate action	4.85	4.36	4.12
756-1080	TH36F-120	Rectangular straight	Momentary	4.18	3.76	3.55
756-1085	TH36F-220	Rectangular straight	Alternate action	4.85	4.36	4.12
756-109X*	TH77F-130	Round sealed tapered	Momentary	13.54	12.18	11.51
756-110X*	TH77F-230	Round sealed tapered	Alternate action	14.21	12.79	12.07

Replace "X" in stock number with the number which corresponds with the lens color desired. (1-White; 2-Red; 3-Green; 4-Yellow; 5-Blue; 6-Orange; 8-Black)

Covered Bezel


TH42-121/221

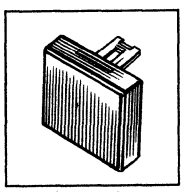
COVERED BEZEL PUSHBUTTON SWITCHES

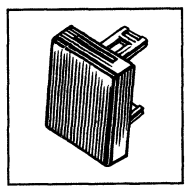

TH42-151/251

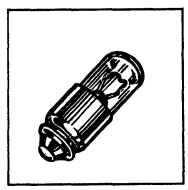
TH42 Series features an extra large lens extending over the bezel and covering the complete panel surface of the switch. The other TH Series features are found in this product.

Stock No.	Mfr.'s Type	Description	EACH		
			1-24	25-99	100-249
756-1040	TH42-121	Rectangular 1 pole momentary	9.36	8.42	7.95
756-1045	TH42-221	Rectangular 1 pole alternate	10.97	9.88	9.33
756-1050	TH42-151	Square 1 pole momentary	9.36	8.42	7.95
756-1055	TH42-251	Square 1 pole alternate	10.97	9.88	9.33
756-1060	TH42-901	Lens cap rectangular translucent	.88	.79	.74
756-1065	TH42-951	Lens cap square translucent	.88	.79	.74

Components


TH31-951/953


TH31-901/903


TH31-963

756-1100. TH25F-911. One pair N.O. and N.C. Contacts. **1-24**.....**EACH 5.73**
25-99 .....**EACH 5.15**
100-299 .....**EACH 4.87**

Lens Caps

Specify color. Replace "X" in stock number with number which corresponds with the lens color desired. (1-White; 2-Red; 3-Green; 4-Yellow; 5-Blue; 7-Clear; 8-Black).

756-111X. TH31-901. Rectangular translucent †.....**EACH .88**
756-112X. TH31-903. Rectangular transparent *.....**EACH .88**
756-113X. TH31-951. Square translucent †.....**EACH .88**
756-114X. TH31-953. Square transparent ‡.....**EACH .88**

†Not available in Clear; ‡Not available in White or Black; *Not available in Black.

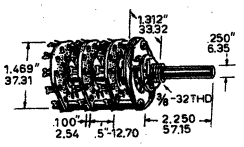
Lamp

Replace "X" in stock number with the number which corresponds with the voltage desired. (2-6.3 V; 4-14 V; 6-28 V).

756-115X. TH31-963. Specify Voltage: 6.3, 14, or 28 Volts. .....**EACH 1.35**

15

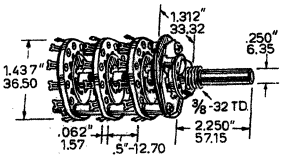
PA-2000 Series Miniature Ceramic Switches



Feature maximum voltage flash-over points, high-Q, low-loss ceramic bodies; minimum intercircuit capacity; insulated front-back clips. Positive 30° indexing; adjustable stop or continuous rotation. All rated 1.5A @ 28VDC, 500 mA @ 115VAC. Hardware incl. **Wt.:** 3 oz./section.

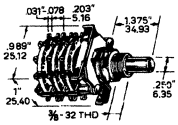
Non-Shorting		Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-2001	PA-2001	747-2000	PA-2000	1	2-12	1	12.74	11.65	10.85	8.54
747-2003	PA-2003	747-2002	PA-2002	2	2-6	1	12.94	11.86	11.05	8.69
747-2005	PA-2005	747-2004	PA-2004	3	2-12	2	19.49	17.85	16.63	13.08
747-2009	PA-2009	—	—	4	2-12	3	26.54	24.31	22.65	17.81
747-2011	PA-2011	747-2010	PA-2010	4	2-6	2	20.08	18.38	17.13	13.47
747-2013	PA-2013	—	—	4	2-12	4	33.74	30.89	28.78	22.65
747-2019	PA-2019	—	—	6	2	1	13.81	12.66	11.77	9.27
747-2021	PA-2021	—	—	6	2-5	2	21.12	19.34	18.03	14.16
747-2023	PA-2023	—	—	6	2-6	3	27.60	25.30	23.57	18.54
747-2025	PA-2025	—	—	6	2-12	6	47.40	43.41	40.46	31.81
747-2027	PA-2027	—	—	8	2-6	4	34.10	31.22	29.10	22.87
747-2031	PA-2031	—	—	10	2-3	2	22.59	20.69	19.28	15.17
747-2037	PA-2037	—	—	12	2-6	6	40.93	45.73	42.61	33.50
747-2041	PA-2041	—	—	18	2	3	30.52	27.95	26.03	20.48

PA-1000 Miniature Phenolic Switches



30° indexing; adjustable stop. 1.5A @ 28VDC; 500mA @ 115VAC. Index assemblies and hardware identical to PA-2000 Series. Phenolic insulated. Hardware incl. **Shpg. wt.:** 3 oz.

Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-1001	PA-1001	1	2-11	1	8.43	7.73	7.20	5.67
747-1003	PA-1003	2	2-5	1	8.53	7.81	7.27	5.71
747-1005	PA-1005	2	2-11	2	11.44	10.47	9.76	7.67
747-1007	PA-1007	3	2-3	1	8.53	7.81	7.27	5.71
747-1009	PA-1009	3	2-11	3	14.34	13.13	12.23	9.64
747-1013	PA-1013	4	2-5	2	11.48	10.53	9.80	7.71
747-1015	PA-1015	4	2-11	4	17.19	15.75	14.66	12.05
747-1017	PA-1017	5	2-11	5	20.36	18.64	17.37	13.65
747-1019	PA-1019	6	2-3	2	12.05	10.56	9.86	7.75
747-1021	PA-1021	6	2-5	3	14.48	13.25	12.36	9.71



PSA Series Subminiature Rotary Switches

Positive 30° indexing, adjustable stops. Dual ball side thrust indexing. Sections .203" thick, spaced .031". **Rated:** 0.55A @ 28VDC; make and break, 170mA @ 115VAC. **Capacity:** 7 amps.

Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-0201	PSA-201	1	2-12	1	11.63	10.67	9.94	7.81
747-0203	PSA-203	2	2-6	1	12.24	11.22	10.44	8.22
747-0207	PSA-207	3	2-5	1	13.38	12.26	11.46	8.91
747-0211	PSA-211	4	2-6	2	17.14	15.70	14.69	11.42
747-0221	PSA-221	6	2-5	2	19.40	17.76	16.61	12.90

PA-200 Ceramic Secions

Excellent quality ceramic sections for use in assembly of special switches for commercial and industrial applications. Designed for use with index assemblies PA-300 and PA-302 at right. **Shpg. wt.:** 2 oz.

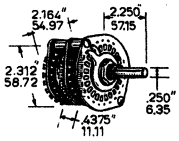
Shorting		Non-Shorting		Total Poles	No. of Pos.	EACH			
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type			1-24	25-49	50-99	100-Up
747-0100	PA-0	747-0101	PA-1	1	2-12	8.89	6.36	5.91	5.17
—	—	747-0103	PA-3	2	2-6	7.17	6.63	6.16	5.38
—	—	747-0105	PA-5	3	2-5	7.67	7.08	6.57	5.75

PA-300 Series Shaft/Index Assemblies

Hardware for assembling miniature switches. Each contains a 30° PA index assembly, adjustable stop plate, assorted spacers, tie bolts, nuts, fiber spacer washers, lock washers, instructions, 3 oz.

Stock No.	Mfr.'s Type	Shaft Length	Sections	EACH			
				1-24	25-49	50-99	100-Up
747-0300	PA-300	2"	1-3	5.14	4.75	4.42	3.86
747-0302	PA-302	6"	7-9	9.93	9.16	8.52	7.44

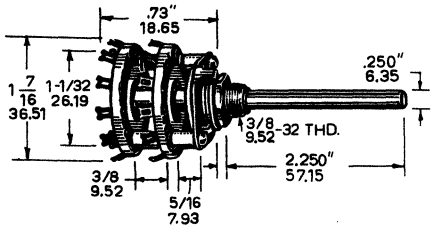
PA-3000 and PA-4000 Series Switches



17- and 23-position switches using hill-and-dale index mechanism. **Breakdown:** 1000VAC rms. Sections are 25/16" high, 1/16" thick, **PA-3000 Series:** 2.25 @ 28VDC, 1.0A @ 115VAC; 20° indexing; 211/64" wide. **PA-4000:** 1.5A @ 28VDC, 0.230A @ 115VAC; 15° indexing; 131/32" wide. **Wt.:** 4 oz.

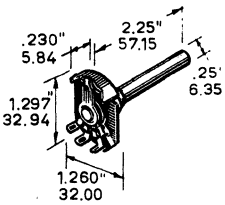
Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-3001	PA-3001	1	2-17	1	13.22	12.10	11.29	8.89
747-3003	PA-3003	2	2-17	2	20.36	18.64	17.77	13.65
747-3007	PA-3007	4	2-17	4	31.14	28.50	26.57	20.90
747-4001	PA-4001	1	2-23	1	12.74	11.67	10.88	8.55
747-4003	PA-4003	2	2-23	2	19.06	17.46	16.26	12.80
747-4007	PA-4007	4	2-23	4	30.09	27.55	25.67	20.19

PA-6000 Series



Miniature ceramic rotary switches, 1.312" dia. Positive 30° indexing. **Adjust stop:** 1.0A @ 115VAC 2.6A @ 28VDC. Lockwasher, nut incl. **Wt.:** 4 oz.

Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-6002	PA-6002	2-5	1	2	18.07	16.60	15.60	15.06

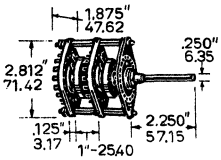


General-Purpose Rotary Switches

Small step-type switches rated 1.5 amps at 28VDC, 230mA at 115VAC. **Shaft:** 1/4" (6.35 mm) diameter × 21/4" (57.15 mm) long FMS. Non-shorting contacts, except *shorting. Mfr.'s Type 1472 is for use in FM-AM phonos. **Wt.:** 5 oz. (141.7 gm).

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-Up
747-1461	1461*	SP 3-pos. sel.	7.31	6.70	6.24	4.92
747-1472	1472	DP 3-position	8.22	7.54	7.01	5.52

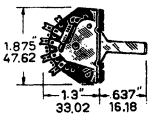
JV-9000 Heavy-Duty Rotary Power Switches



Silicone-treated ceramic switches for transmitters, industrial and commercial controls, and test gear. Rated 9A at 115VAC (resistive). **Breakdown:** 3000V rms. 20° positive indexing; adjustable stop. All metal parts except clips, contacts and index spring are cadmium plated. Coin silver contacts. Non-shorting. **Bushing:** 3/8" × 32 thread, 3/8" long. **Flatted shaft:** 1/4" × 21/4" from mounting surface. 1/8" thick ceramic sections. 1" between sections. **Wafer size:** 2 × 213/16". **Av. wt.:** 4 oz.

Stock No.	Mfr.'s Type	Total Poles	No. of Pos.	No. of Sec.	EACH			
					1-24	25-49	50-99	100-Up
747-9001	JV-9001	1	2-17	1	47.94	44.06	41.35	32.96
747-9033	JV-9033	2	2-8	1	53.31	48.98	45.99	36.71
747-9005	JV-9005	2	2-17	2	82.20	75.51	70.90	56.69
747-9003	JV-9003	3	2-5	1	54.41	49.99	46.94	37.48
747-9007	JV-9007	6	2-5	2	94.13	86.49	81.19	65.08

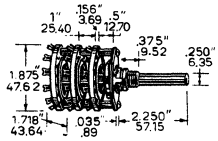
Lever-Action Phenolic Switches



Nylon rotor silver-plated brass clips, contacts, 30° indexing. **Breakdown:** 1000VAC rms. Contacts rated 1.5A @ 28VDC; 230mA @ 115VAC rms. 2 6-32 tapped holes on 15/8" ctrs. Phenolic insul. *positive; ‡pos., spring return. 3 positions.

Non-Shorting		Total Poles	EACH			
Stock No.	Mfr.'s Type		1-24	25-49	50-99	100-Up
747-1454	1454	2*	7.40	6.77	6.31	4.97
747-1467	1467	2‡	7.55	6.90	6.44	5.07

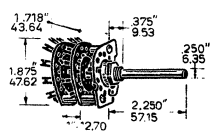
Series 2500 Ceramic Rotary Switches



Silicone-treated for band charge and tap-switch use. **Breakdown:** 1500V rms. All rated 2.25A @ 28VDC; 1.0A @ 115VAC, make and break, resistive. **Front plate:** 123/32 × 17/8" dia. 1/2" from plate and between sections for 1- and 2- sections switches. 1" spacing for others. **Bushing:** 3/8" dia. × 3/8" long. **Shaft:** 1/4" dia. × 21/4" long. Positive 30° indexing; 2 adj. stops. Mtg. nut, lockwasher, 3 oz. per section.

Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-2501	2501	1	2-6	1	12.84	11.76	10.96	8.63
747-2503	2503	1	2-11	1	13.55	12.40	11.57	9.10
747-2511	2511	2	2-6	2	19.73	18.06	16.84	13.23
747-2513	2513	2	2-11	2	21.12	19.34	18.03	14.16
747-2515	2515	4	2-5	2	20.80	19.04	17.70	13.96
747-2525	2525	6	2-5	3	28.71	26.27	24.48	19.26

Series 1400 Phenolic Rotary Switches

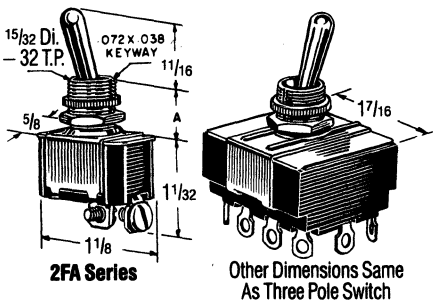


Ideal for band changes and general tap switch use where miniaturization not necessary. Index assemblies and hardware, same as Series 2500. Positive 30° indexing. Rated 2.25A @ 28VDC, 1.0A @ 115VAC, make and break resistive. Nut washer incl. **Wt.:** 3 oz./sect.

Non-Shorting		Total Poles	No. of Pos.	No. of Sec.	EACH			
Stock No.	Mfr.'s Type				1-24	25-49	50-99	100-Up
747-1401	1401	1	2-6	1	8.78	8.04	7.56	5.89
747-1403	1403	1	2-11	1	9.78	8.96	8.35	6.57
747-1411	1411	2	2-6	2	11.71	10.71	9.99	7.85
747-1413	1413	2	2-11	2	13.06	11.96	11.15	8.77

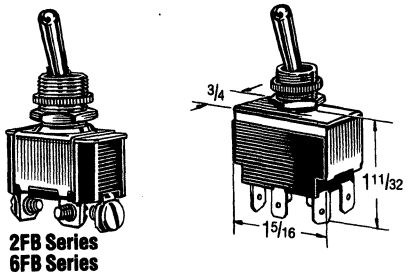
Heavy Duty AC Rated Toggle Switches

General Purpose switches rated at 15 AMP, 125 VAC and 28 VDC and 10 AMPs at 250 VAC. UL listed and CSA certified in single, double, three and four pole configurations. All are rated 3/4 H.P.—15/32" bushing—11/16" Toggle.

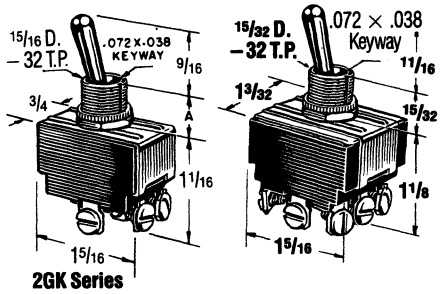


2FA Series

Other Dimensions Same As Three Pole Switch



2FB Series
6FB Series



2GK Series

Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0048	2FA53-73	S.P.S.T. ON-NONE-OFF	Solder	2.92	2.34	1.90	1.46
683-0049	2FA53-73-TABS	S.P.S.T. ON-NONE-OFF	Spade	2.92	2.34	1.90	1.46
683-0050	2FA54-73	S.P.S.T. ON-NONE-OFF	Screw	3.35	2.68	2.18	1.67
683-0051	2FB53-73	S.P.D.T. ON-NONE-ON	Solder	3.59	2.87	2.33	1.80
683-0052	2FB53-73-TABS	S.P.D.T. ON-NONE-ON	Spade	3.59	2.87	2.33	1.80
683-0053	2FB54-73	S.P.D.T. ON-NONE-ON	Screw	4.24	3.39	2.76	2.12
683-0054	2FC53-73	S.P.D.T. ON-OFF-ON	Solder	3.59	2.87	2.33	1.80
683-0055	2FC53-73-TABS	S.P.D.T. ON-OFF-ON	Spade	3.59	2.87	2.33	1.80
683-0056	2FC54-73	S.P.D.T. ON-OFF-ON	Screw	4.24	3.39	2.76	2.12
683-0057	6FC54-73*	S.P.D.T. ON-OFF-ON	Screw	6.00	4.80	3.90	3.00
683-0058	2GK50-73	D.P.S.T. ON-NONE-OFF	Solder	4.63	3.70	3.01	2.32
683-0059	2GK51-73	D.P.S.T. ON-NONE-OFF	Spade	4.63	3.70	3.01	2.32
683-0060	2GK54-73	D.P.S.T. ON-NONE-OFF	Screw	5.48	4.38	3.56	2.74
683-0061	2GL50-73	D.P.D.T. ON-NONE-ON	Solder	5.54	4.44	3.60	2.77
683-0062	2GL51-73	D.P.D.T. ON-NONE-ON	Spade	5.54	4.44	3.60	2.77
683-0063	2GL54-73	D.P.D.T. ON-NONE-ON	Screw	6.80	5.44	4.42	3.40
683-0064	2GM50-73	D.P.D.T. ON-OFF-ON	Solder	5.54	4.44	3.60	2.77
683-0065	2GM51-73	D.P.D.T. ON-OFF-ON	Spade	5.54	4.44	3.60	2.77
683-0066	2GM54-73	D.P.D.T. ON-OFF-ON	Screw	6.80	5.44	4.42	3.40
683-0067	HK250-73	3.P.S.T. ON-NONE-OFF	Solder	9.10	7.28	5.92	4.55
683-0068	HK251-73	3.P.S.T. ON-NONE-OFF	Spade	9.10	7.28	5.92	4.55
683-0069	HK254-73	3.P.S.T. ON-NONE-OFF	Screw	10.76	8.61	7.00	5.38
683-0070	HL250-73	3.P.D.T. ON-NONE-ON	Solder	11.19	8.95	7.28	5.60
683-0071	HL251-73	3.P.D.T. ON-NONE-ON	Spade	11.19	8.95	7.28	5.60
683-0072	HL254-73	3.P.D.T. ON-NONE-ON	Screw	13.38	10.70	8.70	6.69
683-0073	HM250-73	3.P.D.T. ON-OFF-ON	Solder	11.19	8.95	7.28	5.60
683-0074	HM251-73	3.P.D.T. ON-OFF-ON	Spade	11.19	8.95	7.28	5.60
683-0075	HM254-73	3.P.D.T. ON-OFF-ON	Screw	13.38	10.70	8.70	6.69
683-0076	IK250-73	4.P.S.T. ON-NONE-OFF	Solder	12.47	9.98	8.11	6.24
683-0077	IK251-73	4.P.S.T. ON-NONE-OFF	Spade	12.47	9.98	8.11	6.24
683-0078	IK254-73	4.P.S.T. ON-NONE-OFF	Screw	13.85	11.08	9.00	6.92
683-0079	IL250-73	4.P.D.T. ON-NONE-ON	Solder	15.23	12.18	9.90	7.61
683-0080	IL251-73	4.P.D.T. ON-NONE-ON	Spade	15.23	12.18	9.90	7.61
683-0081	IL254-73	4.P.D.T. ON-NONE-ON	Screw	18.31	14.65	11.90	9.16
683-0082	IM250-73	4.P.D.T. ON-OFF-ON	Solder	15.23	12.18	9.90	7.61
683-0083	IM251-73	4.P.D.T. ON-OFF-ON	Spade	15.23	12.18	9.90	7.61
683-0084	IM254-73	4.P.D.T. ON-OFF-ON	Screw	18.31	14.65	11.90	9.16

*Momentary On Action

Nylon Insulated Toggle Switches

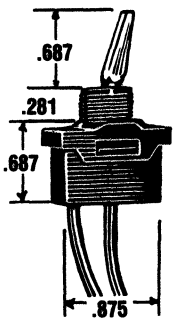
Series D switches have self-cleaning wiping action contacts suitable for both power and low-level switching nylon flat or bat lever actuators and bushing/frame super structure for double insulated requirements. UL listed, CSA certified. Series rated at 10 AMP 125 VAC, 5 AMP 250 VAC, 1/2 H.P. 125-250 VAC, 10 AMP 28 VDC.

Paddle Toggle Actuator

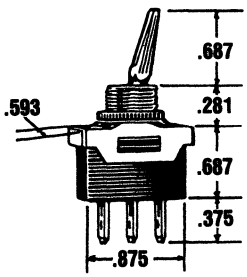
Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH			
				1-24	25-49	50-99	100-249
683-0085	DA100-PB-B	S.P.S.T. ON-NONE-OFF	Solder/Spade	1.86	1.49	1.21	0.93
683-0086	DA105-PB-B	S.P.S.T. ON-NONE-OFF	Wire	2.73	2.18	1.77	1.37
683-0087	DB100-PB-B	S.P.D.T. ON-NONE-ON	Solder/Spade	2.08	1.66	1.35	1.04
683-0088	DC100-PB-B	S.P.D.T. ON-OFF-ON	Solder/Spade	2.08	1.66	1.35	1.04

Bat Toggle Actuator

683-0089	DAT100-BB-B	S.P.S.T. ON-NONE-OFF	Solder/Spade	1.86	1.49	1.21	0.93
683-0090	DA105-BB-B	S.P.S.T. ON-NONE-OFF	Wire	2.73	2.18	1.77	1.37
683-0091	DB100-BB-B	S.P.D.T. ON-NONE-ON	Solder/Spade	2.08	1.66	1.35	1.04
683-0092	DC100-BB-B	S.P.D.T. ON-OFF-ON	Solder/Spade	2.08	1.66	1.35	1.04



DA100-PB-B



DA105-PB-B

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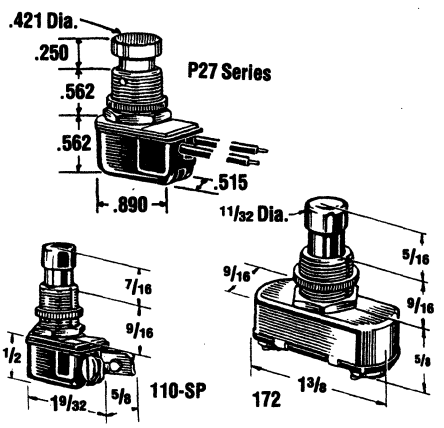


General Purpose Pushbutton Switches

Slow make/slow break momentary AC only.

6 AMP 125 VAC—3 Amp 250 VAC. UL listed and CSA certified.

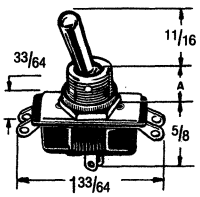
Stock No.	Mfr.'s Type	Switch Action	Terminals	Cap	EACH			
					1-24	25-49	50-99	100-249
683-0093	P26A-1D-RMB	S.P.M.O.	Solder	Metal	3.78	3.12	2.63	2.10
683-0094	P26L-1D-RMB	S.P.N.C.	Solder	Metal	3.78	3.12	2.63	2.10
683-0095	P27A-1D-BL	S.P.N.O.	Solder	Black	3.61	2.89	2.35	1.81
683-0096	P27A-1D-RD	S.P.N.O.	Solder	Red	3.61	2.89	2.35	1.81
683-0097	P27L-1D-BL	S.P.N.C.	Solder	Black	3.61	2.89	2.35	1.81
683-0098	P27L-1D-RD	S.P.N.C.	Solder	Red	3.61	2.89	2.35	1.81

15 AMP 125 VAC—10 AMP 250 VAC

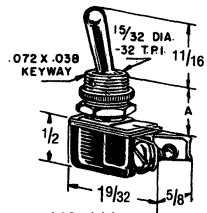
683-0099	170	S.P.N.C.	Screw	Metal	4.58	3.66	2.97	2.29
683-0100	172	S.P.N.O.	Screw	Metal	4.58	3.66	2.97	2.29

Quick Make/Quick Break Maintained AC/DC. 6 AMP 125 VAC—3 AMP 250 VAC. UL listed and CSA certified.

683-0101	110-SP	S.P.S.T.	Screw	Metal	5.46	4.37	3.55	2.73
683-0102	111-16P	S.P.S.T.	Wire	Metal	5.46	4.37	3.55	2.73



112, 216, 316, 516, 2BB, 2BK, 2BL Series



110, 111, 160 Series

General Purpose AC-DC Toggle Switches

Quick Make and Break AC-DC Rated 6 Amps 125 VAC, 3 Amps 250 VAC
UL listed, and CSA certified 15/32" bushing 11/16" toggle.

Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH 1-24	25-49	50-99	100-249
683-0103	110-73	S.P.S.T. ON-NONE-OFF	Solder	3.19	2.55	2.07	1.60
683-0104	110-S-73	S.P.S.T. ON-NONE-OFF	Screw	4.27	3.42	2.78	2.14
683-0105	111-16-73	S.P.S.T. ON-NONE-OFF	Wire	4.27	3.42	2.78	2.14
683-0106	2BB62-73	S.P.D.T. ON-NONE-ON	Solder	3.91	3.13	2.54	1.96
683-0107	2BK62-73	D.P.S.T. ON-NONE-OFF	Solder	5.62	4.50	3.65	2.81
683-0108	2BK65-73	D.P.S.T. ON-NONE-OFF	Wire	7.44	5.95	4.84	3.72
683-0109	2BL62-73	D.P.D.T. ON-NONE-ON	Solder	6.45	5.16	4.19	3.23

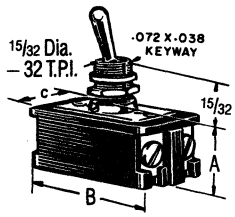
Heavy Duty AC-DC Toggle Switches

16 Amps, 125 VAC 8 Amps 250 VAC 1 HP 125-250 VAC

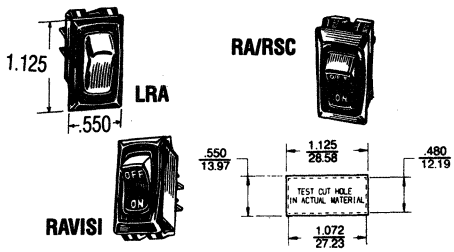
Stock No.	Mfr.'s Type	Switch Action	Terminals	EACH 1-24	25-49	50-99	100-249
683-0110	DK284-73	D.P.S.T.	Screw	5.96	4.77	3.88	2.98

20 Amps 125 VAC — 10 Amps 250 VAC — 1-1/2 H.P. 125-250 VAC

683-0111	EK204-73	D.P.S.T.	Screw	8.88	7.11	5.77	4.44



D Series



Dimensions same for all models.

Curvette Snap-In Switches

Slow-make and break action. .250 quick connect terminals. 16 amps 125 VAC — 10 amps 250 VAC, 10(4) amps — 250 W. UL listed, CSA and VDE certified. Rated life 50 M cycles at rated load. Also features our unique visi-rocker—two-color molded curved rocker for low cost "ON" indication.

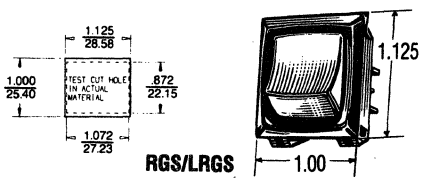
Stock No.	Mfr.'s Type	Switch Action	Rocker Color	EACH 1-24	25-49	50-99	100-249
683-0112	RA911-RB-B-O-N	S.P.S.T. ON-NONE-OFF	Black	1.34	1.07	0.87	0.67
683-0113	RA-911-VB-B0-V	S.P.S.T. ON-NONE-OFF	Visi-Rocker*	1.55	1.24	1.01	0.83
683-0114	RA911-VB-B-1-V	S.P.D.T. ON-NONE-OFF	Visi-Rocker* with on-off imprint	1.95	1.56	1.28	0.98
683-0115	RB911-RB-B-O-N	S.P.D.T. ON-NONE-ON	Black	1.79	1.43	1.16	0.89
683-0116	RC-911-RB-B-O-N	S.P.D.T. ON-OFF-ON	Black	1.84	1.47	1.20	0.92
683-0117	LRA911-RS-B/120/N	S.P.S.T. ON-NONE-OFF Lighted	Red	2.78	2.23	1.81	1.39

*Curvette Visi-Rocker has a second color molded-in for attractive low cost "ON" indication.

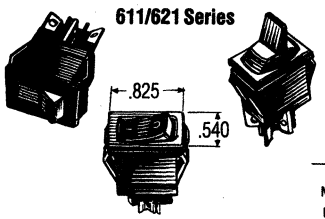
SC High Inrush Curvette Snap-In Switches

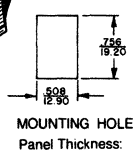
Designed to handle current surges over 100 amps. UL listed and CSA certified for 20 amps 125 VAC — 15 amps 250 VAC.

Stock No.	Mfr.'s Type	Switch Action	Rocker Color	EACH 1-24	25-49	50-99	100-249
683-0118	RSCA711-RB-B-O-N	S.P.S.T. ON-NONE-OFF	Black	1.89	1.52	1.23	0.95
683-0119	RGSA711-RB-B-O-N	D.P.S.T. ON-NONE-OFF	Black	2.34	1.87	1.52	1.17
683-0120	LRGSCK211-RS-B/120N	D.P.S.T. ON-NONE-OFF Lighted	Red	4.53	3.62	2.94	2.27



RGS/LRGS





MOUNTING HOLE
Panel Thickness:
.030 - .156
.762 3.96

Dimensions same for all models

Miniature Curvette Snap-In Switches

These double-insulated miniature switches offer self-cleaning wiping action. Contact system rated at 4 amps 250 VAC — 8 amps 125 VAC, 6(4) amps 250 VAC. UL listed, CSA and VDE certified. Also features our unique Visi-Rocker two molded curved rocker for low cost "ON" indication.

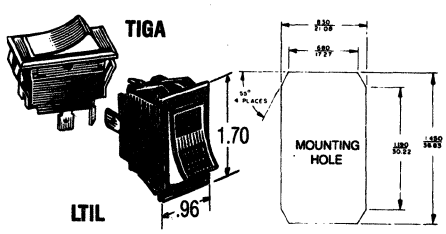
Stock No.	Mfr.'s Type	Switch Action	Terminals	Rocker Color	EACH 1-24	25-49	50-99	100-249
683-0121	62111421-0-0-N	S.P.D.T. ON-NONE-ON	Solder	Black	1.46	1.16	0.95	0.73
683-0122	62112421-0-0-N	D.P.D.T. ON-NONE-ON	Solder	Black	2.08	1.66	1.35	1.04
683-0123	62116319-0-0-N*	S.P.S.T. ON-NONE-OFF	.187 Tabs	Black	1.34	1.07	0.87	0.67
683-0124	62115929-0-0-V**	D.P.D.T. ON-NONE-ON	.187 Tabs	Visi-Rocker	1.92	1.58	1.32	1.06
683-0125	62116919-0-9-V**	S.P.S.T.	.187 Tabs	Visi-Rocker with 0-1 Mtg.	1.45	1.20	1.01	0.83

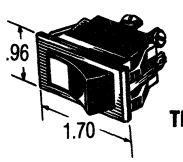
*UL listed and CSA Certified for 11 amp 125 VAC ratings. **Curvette Visi-Rocker has a second color molded-in for attractive low cost "ON" indication.

Heavy Duty Rocker Switches

These full-size rocker switches are designed for AC and low voltage DC applications. They include a slow make, slow break contact mechanism, nylon snap-in brackets and are available to resolve most insulation requirements. They are rated at 15 amps 125 VAC, 28 VDC, 10 amps 250 VAC 3/4 H.P. UL listed and CSA certified.

Stock No.	Mfr.'s Type	Switch Action	Terminals	Rocker Color	EACH 1-24	25-49	50-99	100-249
683-0126	TIGA50-6S-BL-NBL	S.P.S.T. ON-NONE-OFF	Solder	Black	4.81	3.85	3.13	2.41
683-0127	TIGK50-6S-BL-NBL	D.P.S.T. ON-NONE-OFF	Solder	Black	4.81	3.85	3.13	2.41
683-0128	LTILA50-6S-BL-RC-NBL	S.P.S.T. ON-NONE-OFF	Solder	Black with Red Light	4.59	3.69	3.02	2.35





TIGK54

Drip Dry Rocker Switches

We have modified the tippette switches above to provide front panel dust and moisture protection with built in seal feature.

Stock No.	Mfr.'s Type	Switch Action	Terminals	Rocker Color	EACH 1-24	25-49	50-99	100-249
683-0129	TIGA54-6S-BL-WBL	S.P.S.T. ON-NONE-OFF	Screw	Black	5.57	4.46	3.62	2.79
683-0130	TIGK54-6S-BL-WBL	D.P.S.T. ON-NONE-OFF	Screw	Black	5.57	4.46	3.62	2.79

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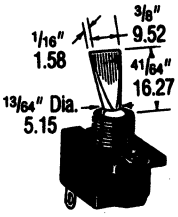
AC-DC Designer Line Toggle Switches



The lever and bushing on these switches are constructed of durable, high-strength thermo plastic. Lever color is black. Double insulated, quick-make, quick-break contact mechanism. Nylon bushing 15/32" dia. 11/32" long. Solder lug terminals. U.L./CSA listed.

On-On Circuit

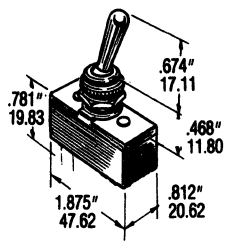
Stock No.	Mfr.'s Type	Amps		EACH	
		125V	250V	1-24	25-49
757-6520	8282K127C†	3A	1A	2.57	2.37
757-6940	8373K127C‡	6A	3A	4.10	3.78

On-Off Circuit

Stock No.	Mfr.'s Type	Amps		EACH	
		125V	250V	1-24	25-49
757-7070	8381K127C†	6A	3A	2.13	1.97
757-6880	8370K127C‡	6A	3A	3.57	3.30

† = single pole. ‡ = double pole.

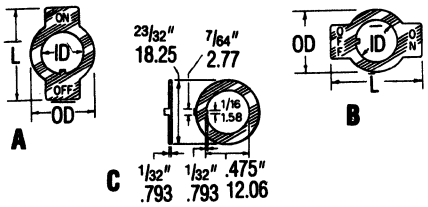
VDE Approved Toggle Switch



One hole mounting with quick-make, quick-break contact. Wiping contact action. Mtg. hdw. consisting of hexagon locknut and knurled facenut comes unassembled. **Threaded bushing:** 0.0468" 32. **Keyway:** 0.068 × 0.039" (1.7 × 0.9mm). **Ratings:** Amps (AC & DC): 125V, 16A; 250V, 8A VDE. Hp at 125V: AC, 1 hp; DC, 1 hp. DPST, On-Off circuit.

Stock No.	Mfr.'s Type	Terminal	EACH			
			1-24	25-49	50-99	100-249
757-3725	7320K55	Screw	3.66	3.38	2.82	2.54

Switch Hardware



L = 1", OD = 5/8", ID = .470-.480"

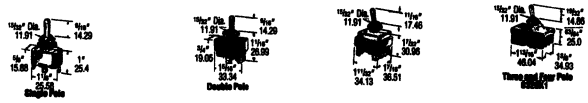
► **For 15/32" Diameter Bushing Switches**
► **Locking Ring; Keyway Switch Plates**

For 15/32" diameter bushing toggle switches. Types (A) and (B) are keyway switch plates. **Material:** .032 inch steel. Burnished nickel. (C) is a locking ring of zinc plated steel. **Av. Shpg. wt.:** 8 oz.

Stock No.	Mfr.'s Type	Fig.	EACH	
			1-24	25-49
757-2813	30-5632-4	A	0.10	0.09
757-2816	30-5632-13	B	0.10	0.09

Locking Ring With Washer.
757-2229. Type 29-761. 1-4 (Fig. C) .....PER PKG./100 7.14

AC Rated Toggle Switches



Slow-make, slow-break rocker style contact. Mounting hardware included. U.L./CSA listed. All have 15/32" bushing length, except ‡ have 11/32".

Single Pole

Stock No.	Mfr.'s Type	Circuit	Amps @		HP @ 250VAC	Terminals	EACH	
			125V	250V			1-24	25-49
757-4885	7580K4	On-Off	6	3	—	Screw	1.76	1.63
757-4888	7580K7‡	On-Off	6	3	—	Solder	1.52	1.41
757-4887	7580K6	On-Off	6	3	—	Solder	1.52	1.41
757-4001	7500K14	On-Off	15	10	3/4	Screw	2.01	1.85
757-4021	7501K13	On-Off	15	10	3/4	Solder	1.76	1.63
757-4022	7501K15	On-Off	15	10	3/4	.250 Spade	1.76	1.63
757-4926	7582K6	On-Off	6	3	—	Solder	1.85	1.71
757-4870	7576K2‡*	On-Off	30	25	—	Screw	5.18	4.78
757-4201	7504K4	On-On	15	10	3/4	Screw	2.57	2.37
757-4225	7505K4	On-On	15	10	3/4	Solder	2.21	2.04
757-4906	7581K6	On-Off-On	6	3	—	Solder	1.85	1.71
757-4070	7502K13	On-Off-On	15	10	3/4	Screw	2.57	2.37
757-4270	7509K5†	On-Off-On†	—	10	1/2	Screw	3.70	3.41
757-4091	7503K13‡	On-Off-On	15	10	3/4	Solder	2.21	2.04

Double Pole

757-4940	7590K4	On-Off	6	3	—	Screw	2.83	2.63
757-4942	7590K6	On-Off	6	3	—	Solder	2.47	2.28
757-4500	7560K5	On-Off	15	10	3/4	Screw	3.37	3.11
757-4560	7561K4	On-Off	15	10	3/4	Solder	2.83	2.63
757-5004	7592K4	On-On	6	3	—	Screw	3.37	3.11
757-5006	7592K6	On-On	6	3	—	Solder	2.77	2.56
757-4760	7564K6	On-On	15	10	3/4	Screw	4.14	3.82
757-4805	7565K5	On-On	15	10	3/4	Solder	3.37	3.11
757-4807	7565K7	On-On	15	10	3/4	.250 Spade	3.21	2.96
757-4970	7591K4	On-Off-On	6	3	—	Screw	3.37	3.11
757-4972	7591K6	On-Off-On	6	3	—	Solder	2.69	2.48
757-4590	7562K4	On-Off-On	15	10	3/4	Screw	4.14	3.82
757-4720	7563K4	On-Off-On	15	10	3/4	Solder	3.37	3.11

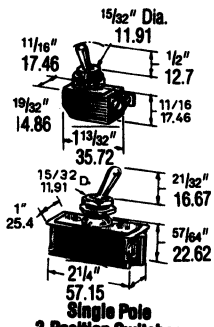
Three Pole

757-5070	7700K2	On-Off	15	10	3/4	Screw	6.38	5.89
757-5071	7700K1	On-Off	15	10	3/4	Solder	5.48	5.06
757-5090	7702K2	On-On	15	10	3/4	Screw	8.13	7.50
757-5095	7702K1	On-On	15	10	3/4	Solder	6.76	6.24
757-5080	7701K2	On-Off-On	15	10	3/4	Screw	8.11	7.48

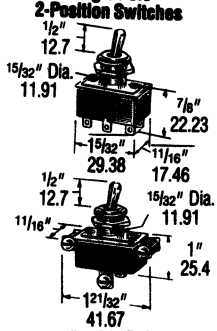
Four Pole

757-5170	7690K8	On-Off	15	10	3/4	Screw	8.34	7.70
757-5205	7695K5	On-On	15	10	3/4	Solder	9.16	8.45
757-5182	7692K13	On-Off-On	15	10	3/4	Screw	10.40	9.60
757-5190	7693K2	On-Off-On	15	10	3/4	Solder	9.16	8.45

* Double Pole Base. † Momentary contact in "On" position.



Single Pole 2-Position Switches



Double Pole 2-Position Switches

AC-DC Rated Toggle Switches

Quick-make, quick-break contact with wiping action. Arc-resistant. 15/32" diameter bushing; mounting hardware included. U.L. and C.S.A. listed. All have 11/32" bushing length, except (†) have 15/32". Wt. 2 oz.

Single Pole 2-Position Switches

Stock No.	Mfr.'s Type	Circuit	Amps @		HP @ 250V		Terminals	EACH	
			125V	250V	AC	DC		1-24	25-49
757-6302	8280K115	On-Off	—	3	—	—	Solder	1.85	1.71
757-6555	8295K107	On-Off	—	3	—	—	Screw	2.45	2.26
757-7040	8381K107	On-Off	6	3	—	—	Solder	1.92	1.77
757-7041	8381K108	On-Off	6	3	—	—	Solder	1.92	1.77
757-7097	8396K108†	On-Off	6	3	—	—	Screw	2.25	2.07
757-7096	8396K107	On-Off	6	3	—	—	Screw	2.25	2.07
757-3751	7321K3†	On-Off	16	8	*	*	Screw	3.70	3.41
757-3770	7361K5†	On-Off	20	10	1	1 1/2	Screw	5.74	5.30

Double Pole 2-Position Switches

Stock No.	Mfr.'s Type	Circuit	Amps @		HP @ 250V		Terminals	EACH	
			125V AC-DC	250V DC	AC	DC		1-24	25-49
757-6840	8370K107†	On-Off	6	3	—	—	Solder	4.10	3.78
757-6895	8372K107†	On-Off	6	3	—	—	Solder	4.10	3.78
757-3720	7320K2	On-Off	16	8	*	*	Screw	3.35	3.09
757-3760	7360K7	On-Off	20	10	1 1/2	1 1/2	Screw	5.38	4.96
757-3761	7360K8†	On-Off	20	10	1 1/2	1 1/2	Screw	5.38	4.96
757-3802	7402K3	On-Off	—	20	2	2	Screw	7.98	7.36
757-3803	7402K4†	On-Off	—	20	2	2	Screw	7.98	7.36
757-6910	8373K107†	On-On	6	3	—	—	Solder	3.87	3.58
757-7005	8375K107†	On-On	6	3	—	—	Screw	4.98	4.59

* Rated 1 HP @ 125 VAC and DC.

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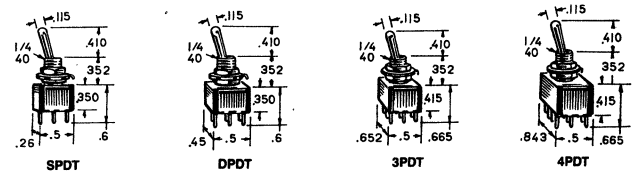
Miniature Rocker and Paddle Switches

Miniature Rocker and Paddle Switches. Your choice of sub-panel mounting, snap-in mounting or direct P.C. mount. Operators have standard black color. All have soldered terminals and carry rating 6 Amps at 125VAC/28VDC and 3 Amps at 250VAC except Fig "E" which has P.C. terminals, epoxy seal, standard and carry .5 Amps at 28VAC/DC.

Stock No.	Mfr.'s Type	Action (momentary)	Contacts	Fig.	EACH 1-24	EACH 25-99
757-8000	B121J1ZQ2	on-off-on	SPDT	B	3.91	3.35
757-8005	B123J1ZQ2	on-none-on	SPDT	B	3.45	2.97
757-8010	B121J2ZQ2	on-off-on	SPDT	C	3.91	3.35
757-8015	B123J2ZQ2	on-none-on	SPDT	C	3.45	2.97
757-8020	B121J11ZQ22M	on-off-on	SPDT	D	4.38	3.82
757-8025	B123J11ZQ22M	on-none-on	SPDT	D	3.92	3.44
757-8030	B127J11ZQ22M	(on)-off-(on)	SPDT	D	4.38	3.82
757-8035	B121J21ZQ22M	Mon-off-on	SPDT	E	4.38	3.82
757-8040	B123J21ZQ22M	on-none-on	SPDT	E	3.92	3.44
757-8045	B121J3ZQ2	on-off-on	SPDT	F	3.91	3.35
757-8050	B123J3ZQ2	on-none-on	SPDT	F	3.45	2.97
757-8055	B121J5ZQ2	on-off-on	SPDT	G	3.91	3.35
757-8060	B123J5ZQ2	on-none-on	SPDT	G	3.45	2.97
757-8075	B121J50ZQ2	on-off-on	SPDT	H	3.91	3.35
757-8080	B123J50ZQ2	on-none-on	SPDT	H	3.45	2.97
757-8085	B121J60ZQ2	on-off-on	SPDT	A	3.91	3.35
757-8090	B123J60ZQ2	on-none-on	SPDT	A	3.45	2.97
757-8100	B221J1ZQ2	on-off-on	DPDT	B	5.27	4.55
755-8105	B223J1ZQ2	on-none-on	DPDT	B	4.66	4.06
755-8110	B221J2ZQ2	on-off-on	DPDT	C	5.27	4.55
757-8115	B223J2ZQ2	on-none-on	DPDT	C	4.66	4.06
757-8120	B221J11ZQ22M	on-off-on	DPDT	D	5.74	5.02
757-8125	B223J11ZQ22M	on-none-on	DPDT	D	5.13	4.53
757-8130	B226J11ZQ22M	on-none-(on)	DPDT	D	5.74	5.02
757-8135	B221J21ZQ22M	Mon-off-on	DPDT	E	5.74	5.02
757-8140	B223J21ZQ22M	on-none-on	DPDT	E	5.13	4.53
757-8145	B221J3ZQ2	on-off-on	DPDT	F	5.27	4.55
757-8150	B223J3ZQ2	on-off-on	DPDT	F	4.66	4.06
757-8155	B221J5ZQ2	on-off-on	DPDT	G	5.27	4.55
757-8160	B223J5ZQ2	on-none-on	DPDT	G	4.66	4.06
757-8180	B221J50ZQ2	on-off-on	DPDT	H	5.27	4.55
757-8185	B223J50ZQ2	on-none-on	DPDT	H	4.66	4.06
757-8190	B223J60ZQ2	on-off-on	DPDT	A	5.27	4.55
—	—	—	—	—	—	—

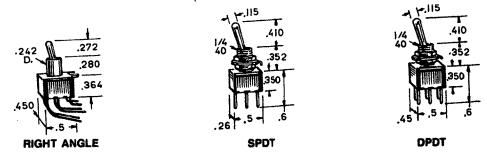
Sub-Miniature Toggle Switches, Panel Mount



One hole mounting, 1/4" threaded bushing, bat lever. **Contact rating:** 6 amps at 225 VAC/28 VDC; 3 amps at 250 VAC. UL Listed. Coin silver contacts, solder lug terminals. Includes mounting hardware.

Stock No.	Mfr.'s Type	Former Part No.	Action (momentary)	Contact	EACH 1-24	EACH 25-99	EACH 100-Up
757-3351	A121SYZQ	JMT121	on-off-on	SPDT	3.56	2.98	2.53
757-3353	A123STZQ	JMT123	on-none-(on)	SPDT	3.26	2.78	2.52
757-9356	A126SYZQ	JMT126	on-none-on	SPDT	3.46	2.90	2.75
757-9357	A127SYZQ	JMT127	(on)-off-(on)	SPDT	3.46	2.90	2.75
757-3361	A131SYZQ	JMT131	on-off-(on)	SPDT	3.46	2.90	2.75
757-9381	A221SYZQ	JMT221	on-off-on	DPDT	4.82	4.10	3.84
757-9883	A223SYZQ	JMT223	on-none-on	DPDT	4.21	3.61	3.42
757-9386	A226SYZQ	JMT226	on-none-(on)	DPDT	4.82	4.10	3.84
757-9387	A227SYZQ	JMT227	(on)-off-(on)	DPDT	4.82	4.10	3.84
757-9392	A232SYZQ	JMT232	on-on-on	DPDT	5.30	4.48	4.16
757-3422	A321SYZQ	JMT321	on-off-on	3PDT	8.64	6.72	6.35
757-3423	A323SYZQ	JMT323	on-none-on	3PDT	8.09	6.34	5.89
757-3451	A421STZQ	JMT421	on-off-on	4PDT	10.77	9.09	8.70
757-3453	A423SYZQ	JMT423	on-none-on	4PDT	10.07	8.54	8.04

PC Mount



Same as panel mount except they are furnished with straight or right angle PC terminals. Terminals are gold flash over silver. Epoxy seal standard. Rating 5 amps at 28 volts AC/DC. Includes mounting hardware.

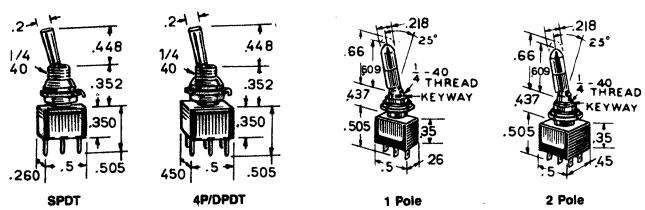
Stock No.	Mfr.'s Type	Former Part No.	Action (momentary)	Contact	EACH 1-24	EACH 25-99	EACH 100-Up
757-9501	A121S1YCQ	MPC121	on-off-on	SPDT	3.53	2.96	2.87
757-9503	A123S1YCQ	MPC123	on-none-on	SPDT	3.07	2.59	2.40
757-9505	A221S1YCQ	MPC221	on-off-on	DPDT	4.95	4.22	3.94
757-9507	A223S1YCQ	MPC223	on-none-on	DPDT	4.34	3.73	3.46

Color Coded Caps For .410" Levers

Insert number where 'X' appears in stock number to indicate color. (0 = Black, 2 = Red, 4 = Yellow, 5 = Green, 9 = White).

757-934X.....EACH .08

Sub-Miniature Flat Handle and Lever-Lock Switches



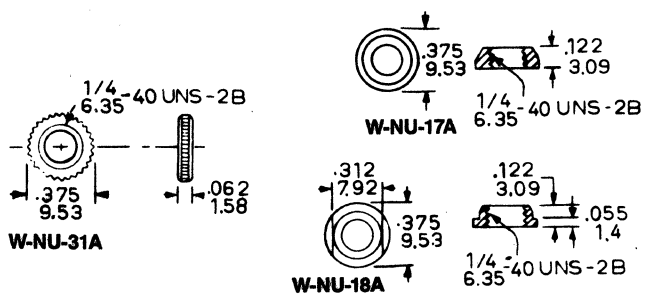
Flat Handle: Flat lever — brass, satin chrome finish. Rated 6 Amps at 125VAC, 28VDC; 3 Amps at 250VAC. UL listed. Solder lug terminals.

Lever Lock: Prevents accidental actuation — lever must be lifted and moved to other position. Rated 6 Amps at 125VAC; 3 Amps at 250VAC. UL listed. Solder lug terminals. All switches include mounting hardware.

Stock No.	Mfr.'s Type	Former Part No.	Action (momentary)	Contact	EACH 1-24	EACH 25-99	EACH 100-Up
757-3321	A121P32Y5ZQ	LFH121	on-off-on	SPDT	4.16	3.59	3.41
757-3323	A123P32Y5ZQ	LFH123	on-none-on	SPDT	3.70	3.21	3.07
757-9203*	A123K12KZQ	LL123	on-none-on	SPDT	4.74	4.26	4.08
757-3414	A221P32Y5ZQ	LFH221	on-off-on	DPDT	5.52	4.80	4.51
757-3416	A223P32Y5ZQ	LFH223	on-none-on	DPDT	4.91	4.31	4.21
757-3213*	A223K12KZQ	LL223	on-none-on	DPDT	6.12	5.52	5.31
757-3433	A423P32Y5ZQ	LFH423	on-none-on	4PDT	10.77	9.24	8.64

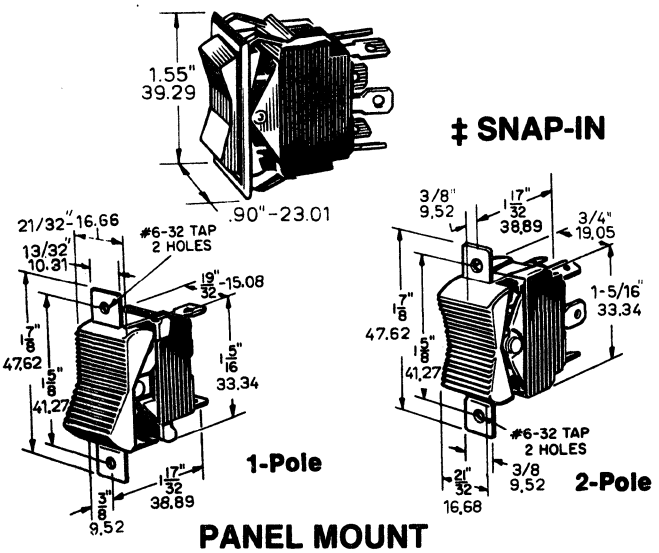
* Lever Lock

Dress Nuts



For Toggle Switches with 1/4-40-2A Bushings.

Stock No.	Mfr.'s Type	Description	EACH
757-9912	W-NU-31A	Knurled	0.10
757-9917	W-NU-17A	Beveled	0.10
757-9918	W-NU-18A	Beveled with Flats	0.21



Rockette Switches

Snap-In Model Rockette Switch

Bezels are fabricated of hardened spring-steel for durability and structural strength. Corrosion-resistant, bright nickel-plated finish. Available in one and two-pole non-illuminated single rocker switches. Mounts in .83 x 1.45″ cut out. Rated 15 Amps, 125VAC; 10 Amps, 250VAC. Spade Terminals.

Panel Mount Rockette Switch

The contact mechanism is Slow-make and Slow-break with white serrated rocker. Quick-connect spade terminals are .250″ wide. The mounting frame is made of heavy gauge steel to provide structural strength and is plated for resistance to corrosion. Rated 15 Amps, 125VAC; 10 Amps, 250VAC. Spade Terminals. U.L./C.S.A. listed. Wt. 2 oz.

One Pole

Stock No.	Mfr.'s Type	Circuit	EACH			
			1-24	25-49	50-99	100-249
757-6178	8144K21A1M52	On-Off	2.43	2.24	1.87	1.68
757-6171	8144K21X1M52‡*	On-Off	2.97	2.75	2.29	2.06

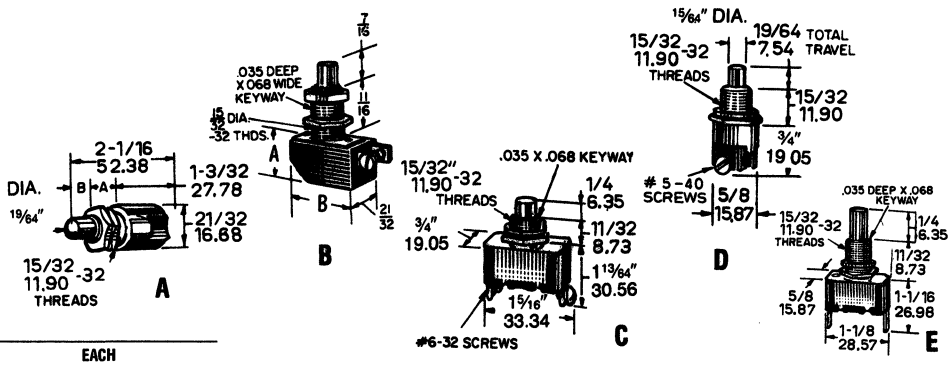
Two Pole

757-6154	8142K21E6M52	On-Off	3.00	2.78	2.31	2.08
757-6161	8142K21X6M52‡*	On-Off	3.57	3.30	2.75	2.47

*1/4″ Spade. ‡Snap-in model.

AC or AC-DC Rated Switches

Mfr.'s Type	Dimensions	
	A	B
8411K11	15/32	3/8
8411K12	15/32	3/8
8411K13	1/4	1/4
8411K7	15/32	13/32
8411K8	15/32	13/32
7206K104	.88	1.09
7208K104	.69	1.39



Multi-Purpose AC-DC Pushbutton Switches
These have slow-make, slow-break contacts. Hardware unassembled.

Single Pole—Momentary—Normally Open

Stock No.	Mfr.'s Type	Fig.	Rating @		Button Color	Terminals	EACH			
			125V	250V			1-24	25-49	50-99	100-249
757-2305	8411K11	A	3/4A	1/4A	Black	Spade	1.37	1.26	1.05	.95
757-2309	8411K12	A	3/4A	1/4A	Black	Screw	1.64	1.51	1.27	1.13
757-2311	8411K13	A	3/4A	1/4A	Red	Spade	1.46	1.34	1.12	1.01

Single Pole—Momentary—Normally Closed

757-2337	8411K7	A	3/4A	1/4A	Black	Screw	1.81	1.67	1.39	1.25
757-2340	8411K8	A	3/4A	1/4A	Black	S. Lug	1.52	1.41	1.18	1.06

AC-DC Pushbutton Switches
AC-DC switches are quick-make, quick-break. Mounting hardware supplied unassembled.

Push-On/Push-Off Switches (SPST)

757-2908	7208K104	B	6A	3A	Nickel	Screw	3.90	3.00	2.70	2.55

AC Pushbutton Switches
AC rated pushbutton switches feature slow-make, slow-break momentary contact mechanism. Bright nickel plated button. 15/32″ (11.9 mm) dia. bushing. Mounting hardware supplied unassembled.

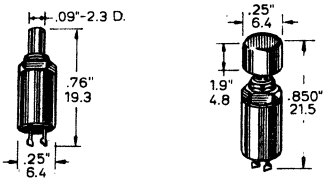
Single Pole—Normally Open

Stock No.	Mfr.'s Type	Fig.	Rating @			Terminals	EACH			
			125V	250V	125/250V		1-24	25-49	50-99	100-249
757-2364	8440K2	D	3A	—	—	S. Lug	3.76	3.48	2.90	2.60
757-2363	8440K3	D	3A	—	—	Screw	4.14	3.81	3.18	2.87
757-2369	8442K4	E	6A	3A	—	Screw	2.63	2.42	2.02	1.82
757-2373	8444K4	E	15A	10A	1/3 hp	Screw	2.84	2.63	2.18	1.96

Double Pole—Normally Open

757-2383	8448K2	C	15A	10A	—	Screw	4.27	3.95	3.29	2.96

Ultra-Miniature Pushbutton Switches



These small, 1/4″ by 3/4″ pushbutton switches have gold plated contacts and have an initial contact resistance of 10 milliohms and an electrical life of 50,000 min. operations at rated load. The case of these switches is nickel plated brass. Base is thermosetting plastic which provides a terminal to terminal and terminal to case voltage breakdown rating of 1000VAC. The operator button is made of molded nylon. **See right for .250″ slip-on button caps.**

Stock No.	Mfr.'s Type	Amps*	Circuit	Button Color	EACH			
					1-24	25-49	50-99	100-249
757-0040	SA1RV20	0.75	N.O.	Red	2.25	1.66	1.50	1.39
757-0041	SA1BW20	0.50	N.C.	Black	2.25	1.66	1.50	1.39

*Resistive rating: 125VAC.

Slip-On Caps

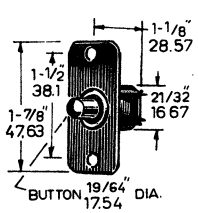
.250″ diameter caps are slip-on and designed for ultra-miniature, pushbutton swtiches. Two colors: red and black.

Stock No.	Mfr.'s Type	Color	EACH			
			1-24	25-49	50-99	100-249
757-1101	SW53-AA1	Red	.21	.16	.15	.14
757-1102	SW53-AA2	Black	.22	.16	.15	.14

Commercial Pushbutton Switches

Flush mounted, light duty momentary contact general purpose AC rated pushbutton switches. Slow make, slow break contact mechanism. Terminal screws and mounting hardware are furnished unassembled. Nominal ratings: amperes AC/DC: 125 volts, 3/4; 250 volts, 1/4. Poles and throw: SPST. Button constructed of black nylon.

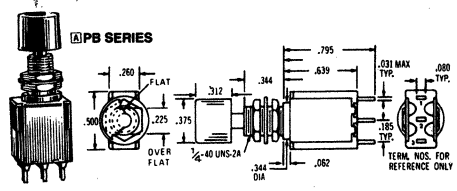
Stock No.	Mfr.'s Type	Contacts	EACH			
			1-24	25-49	50-99	100-249
757-7101	8410K1	N.C.	1.90	1.75	1.47	1.31
757-7103	8410K3	N.O.	1.90	1.75	1.47	1.31



15

PB Series Pushbutton Switches

Maintained and Momentary



PB SERIES
(Shown with .375" Cap)

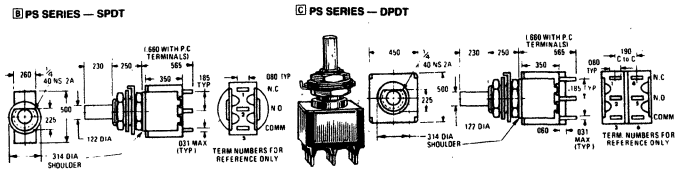
Panel mount. PB series with 3 cap sizes and colors, sold separately. See table below. **Specifications. Contact Rating:** 6 amp at 125 VAC; 3 amp at 250 VAC; 6 amp at 28 VDC, resistive (UL listed). 100,000 make-and-break cycles for maintained models; 60,000 for momentary, resistive load only. Coin silver contacts. Solder lugs. Other terminals styles available upon request.

Stock No.	Mfr.'s Type	Circuit	EACH		
			1-24	25-99	100-249
757-0780	PB-12300ZQ	SPDT Maintained	3.65	3.00	2.65
757-0781	PB-12600ZQ	SPDT Momentary	3.65	3.00	2.65

Caps For Above

Stock No.	Mfr.'s Type	Color	Diameter Inches	EACH
757-0784	W-KN-14	Black	.375	.18
757-0785	W-KN-14A	White	.375	.18
757-0786	W-KN-14B	Red	.375	.18
757-0789	W-KN-12B	Red	.200	.18
757-0900	W-KN-31	Black	.310	.18
757-0901	W-KN-31A	White	.310	.18
757-0902	W-KN-31B	Red	.310	.18

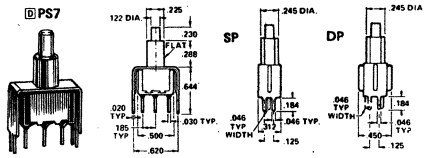
Momentary Snap Action



Specifications. Contact Rating: 5 amp resistive (1 pole), 1 amp resistive (2 pole) at 125 VAC or 28 VDC (UL listed). 0.4 volt-amp (VA) maximum at 28 V max. (AC or DC). 60,000 cycles minimum at full load resistive. **Center and End Contact:** 1 and 5 amp, brass, silver inlay and gold flash for solderability. .4 VA—brass, 50 millionths gold plated over nickel. Epoxy seal is standard. Caps sold separately.

Stock No.	Mfr.'s Type	Terminal/ Rating	Circuit	EACH		
				1-24	25-99	100-249
757-0790	PS1-100Q	S.L. 5 amp	SPDT	5.18	4.16	3.51
757-0791	PS2-100Q	PC 5 amp	SPDT	5.32	4.25	3.65
757-0793	PS2-100B	PC .4VA	SPDT	3.62	2.92	2.59
757-0794	PS1-200Q	S.L. 1 amp	DPDT	7.22	5.79	4.91
757-0795	PS2-200Q	PC 1 amp	DPDT	7.22	5.79	4.91
757-0796	PS1-200B	S.L. .4VA	DPDT	7.52	6.08	5.21

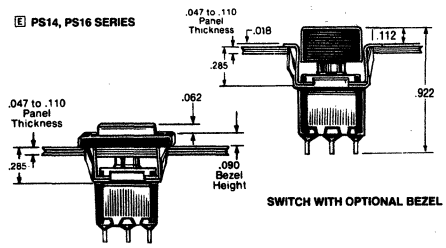
Direct PC Mount



Specifications. Contact Rating: .4 amp at 28 VAC/DC, brass, 50 millionths gold plated over nickel. Caps sold separately, below. Epoxy sealed terminals. PS7 has .288 smooth flat bushing height, .230 plunger height.

Stock No.	Mfr.'s Type	Terminal/ Rating	Circuit	EACH		
				1-24	25-99	100-249
757-0823	PS7-100B	PC .4VA	SPDT	3.44	2.78	2.61
757-0824	PS7-200B	PC .4VA	DPDT	4.85	3.97	3.56

Snap-In Mount



Specifications. Contact Rating: 5 amp resistive (1 pole), 1 amp resistive (2 pole) at 125 VAC or 28 VDC (UL listed). For caps, see type W-KN-18 series in table above. Bezels sold separately, see below. Epoxy seal is standard. Recommended panel cut out is .500 × .600.

Stock No.	Mfr.'s Type	Terminal/ Rating	Circuit	EACH		
				1-24	25-99	100-249
757-0810	PS14-100Q	S.L.	SPDT	5.61	4.59	3.94
757-0811	PS14-200Q	S.L.	DPDT	7.65	6.22	5.34

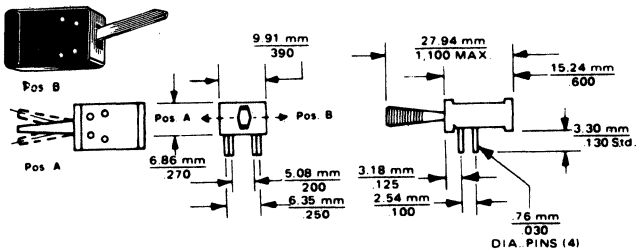
Caps for PS Series

Stock No.	Mfr.'s Type	Color	Size Inches	EACH
757-0800	W-KN-16B	Red	.200 dia.	.18
757-0804	W-KN-18	Black	.450 sq.	.26
757-0805	W-KN-18A	White	.450 sq.	.26
757-0806	W-KN-18B	Red	.450 sq.	.26

Bezels for Above Switches (.765 × .615)

Stock No.	Mfr.'s Type	Color	EACH
			1-9999
757-0819	W-BZ-12	Black	.26
757-0820	W-BZ-12A	White	.26
757-0821	W-BZ-12B	Red	.26

PCB Subminiature Toggle Switches

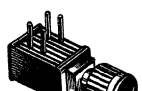


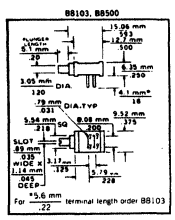
Simple 2-piece spring/cam-block mechanism results in long mechanical life. Drain holes permit complete flux washdown. Gold-plated silver sporting bar. 0.130" terminal length. **Current Ratings (Resistive):** 1 A at 6 VDC, 1 A at 12 VDC, 0.5 A at 28 VDC, 0.5 A at 125 VAC. **Contact Resistance:** 25 milliohms max. **Dielectric Strength:** 1000 VAC rms. **Ambient Temp. Range:** −20°C to +70°C. **Electrical Life:** 500,000 operations min. at 0.1 A resistive, 6 VDC. **Mechanical Life:** 500,000 operations.

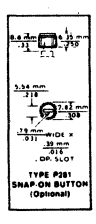
Stock No.	Mfr.'s Type	Switch Action	Poles and Throw	EACH			
				1-24	24-49	50-99	100-499
757-0201	T8201	On-On	2 Circ.	1.93	1.74	1.67	1.59
757-0202	T8202	On-On*	2 Circ.	1.93	1.74	1.67	1.59
757-0206	T8206	On-Off-On	2 Circ.	1.93	1.74	1.67	1.59

*Momentary Contact.

PCB Subminiature Pushbutton Switch







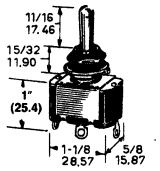
"Crossed Wire" contact system eliminates bounce. High contact pressure gives low contact resistance. Drain holes permit complete flux washdown. Solid silver contacts with gold over nickel plate. Momentary or Latch-Down (depress plunger and rotate 30° clockwise) operation. **Current Ratings:** 1 A at 6 VDC and 12 VDC; 0.5 A at 28 VAC and 125 VAC. 2 circuit poles and throw. Right Angle PC mounting. **Note:** Optional snap-on buttons should be ordered separately.

Stock No.	Mfr.'s Type	Terminal Length Inches	EACH			
			1-24	25-49	50-99	100-499
757-0100	B8500	.160 (4.1 mm)	2.26	2.04	1.94	1.85

Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	100-499	500-Up
757-0281	P281R	Red Snap-On Button	.22	.20	.18	.17
757-0282	P281B	Black Snap-On Button	.22	.20	.18	.17

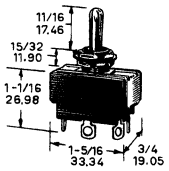
Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

Jan-S-23 Heavy-Duty Toggle Switches



1-POLE JAN-S-23

2-POLE JAN-S-23



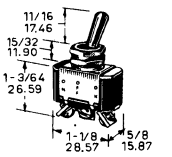
15A @ 125VAC, 20A @ 30VDC. Solder lug terminals. All are Single Throw except ‡ which indicates Double Throw. **Wt.:** 2 oz.

Single Pole

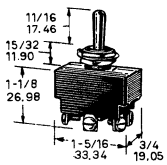
Stock No.	Mfr.'s Type	JAN No. ST-	Lever	EACH			
				1-24	25-49	50-99	100-249
757-3421	7300K38	42A	On-None-Off	**5.41**	**4.42**	**3.35**	**2.72**
757-3424	7302K38	42D	On-None-On	**6.87**	**5.63**	**4.27**	**3.43**
757-3425	7301K38‡	42E	On-Off-On	**6.87**	**5.63**	**4.27**	**3.43**
757-9427	7306K38‡	42G	On*-Off-On*	**7.76**	**6.37**	**4.82**	**3.90**
757-9428	7305K38‡	42H	On-Off-On*	**7.76**	**6.37**	**4.82**	**3.90**
Double Pole							
757-3521	7310K38	52K	On-None-Off	**7.71**	**6.33**	**4.79**	**3.85**
757-3522	7312K38‡	52N	On-None-On	**8.57**	**7.04**	**5.31**	**4.25**
757-3523	7311K38‡	52P	On-Off-On	**8.57**	**7.04**	**5.31**	**4.25**
757-3525	7317K38‡	52R	On-None-On*	**10.07**	**8.25**	**6.24**	**5.03**
757-7910	7316K38‡	52S	On*-Off-On*	**10.52**	**8.63**	**6.51**	**5.27**
757-9527	7315K38‡	52T	On-Off-On*	**10.07**	**8.25**	**6.24**	**5.03**

*Momentary

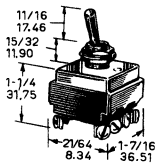
MIL-S-83731 Lever-Seal Switches



SINGLE POLE MIL-S-83731



DOUBLE POLE



FOUR POLE

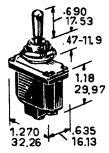
Lever Seal Toggle. Tinned screw terminals, except †, Solder lug. All are Single Throw except ‡ which indicates Double Throw. **Wt.:** 2 oz.

Single Pole

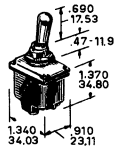
Stock No.	Mfr.'s Type	Gov't MS No.	Lever	EACH			
				1-24	25-49	50-99	100-249
757-3822	8261K22†	25098-22	On-None-Off	**10.90**	**8.95**	**6.77**	**5.46**
826-8701	8801K22	35058-22	On-None-Off	**8.24**	**6.59**	**4.95**	**3.76**
826-8680	8800K16‡	35058-21	On-Off-On	**9.19**	**7.35**	**5.51**	**4.18**
826-8750	8810K15‡	35058-23	On-None-On	**9.29**	**7.43**	**5.58**	**4.22**
826-8770	8812K14‡	35058-27	On*-Off-On*	**10.19**	**8.15**	**6.11**	**4.45**
Double Pole							
757-3022	8262K22†	25100-22	On-None-Off	**14.84**	**12.16**	**9.20**	**7.42**
757-3023	8262K23†	25100-23	On-None-On	**16.35**	**13.41**	**10.12**	**8.16**
826-8845	8820K16‡	35059-21	On-Off-On	**12.62**	**10.09**	**7.57**	**5.86**
826-8855	8822K20	35059-22	On-None-Off	**11.28**	**9.02**	**6.77**	**5.24**
826-8869	8824K14‡	35059-23	On-None-On	**12.62**	**10.09**	**7.57**	**5.86**
826-8904	8834K5‡	35059-27	On*-Off-On*	**16.27**	**13.02**	**9.76**	**7.56**
Four Pole							
826-8127	7662K7‡	25068-21	On-Off-On	**26.32**	**24.32**	**18.25**	**17.90**
826-6827	7672K5‡	25068-27	On*-Off-On*	**38.01**	**35.48**	**29.80**	**27.58**

*Momentary.

MIL-S-3950 Teeter Totter Action Environmentally-Sealed Toggle Switch



SINGLE POLE
MIL-S-3950



DOUBLE POLE

MIL-S-3950. Improved teeter totter mechanism provides positive "feel" and reliable return action. Silver contacts. Anodized aluminum bushing and cover; molded melamine/phenolic base. Sealed according to MIL-S-3950 standards. **Wt.:** 2 oz. Flush screw terminals.

Single Pole

Stock No.	Mfr.'s Type	Gov't MS No.	Lever Travel	EACH			
				1-24	25-49	50-99	100-249
826-8199	8500K9	24523-22	On-Off	**14.35**	**13.35**	**11.48**	**10.51**
826-8200	8500K1	24523-21	On-Off-On	**14.35**	**13.35**	**11.48**	**10.51**
826-8201	8500K2	24523-27	On*-Off-On*	**14.35**	**13.35**	**11.48**	**10.51**
826-8203	8500K4	24523-23	On-None-On	**14.35**	**13.35**	**11.48**	**10.51**
Double Pole							
826-8449	8501K9	24524-22	On-None-Off	**19.31**	**15.45**	**13.50**	**12.90**
826-8442	8501K2	24524-27	On*-Off-On*	**19.31**	**15.45**	**13.50**	**12.90**
826-8441	8501K1	24524-21	On-Off-On	**19.31**	**15.45**	**13.50**	**12.90**

*Momentary.

Switch and Panel Seals

50151

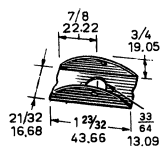
40151

30122

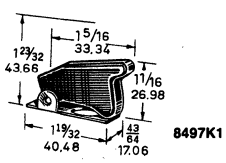
Military types perform three functions; provide vibration resistance for mtg. nut; seal mounting hole; seal switch lever to 15 psi. Made of gray silicon rubber. Commercial type 80151 is black neoprene, comes in two parts, boot and nut which together form a switch seal. All others come molded as a complete switch seal. **Shpg. wt.:** 1 oz.

Stock No.	Mfr.'s Type	Threads	MIL-B-5423	EACH		
				1-24	25-49	50-Up
760-0001	50151	15/32-32	1 A1	**2.05**	**1.82**	**1.64**
760-0008	5168	15/32-32	2 A3	**2.34**	**2.07**	**1.87**
760-0051	40151	15/32-32 5/16	7 B21	**2.08**	**1.85**	**1.66**
760-0022	30122	3/8-32	9 C2	**1.78**	**1.27**	**1.16**
760-0152	80151	15/32-32	Comm.	**1.29**	**1.07**	**.89**

One-Pole Mounting Switch Guards



8492K1



8497K1

Prevents accidental operation of toggle switches. **8492K1 (MS24417-1):** With pin in place, toggle will operate in left and center, but not extreme right pos. Metal. Black. **8497K1 (MS25224-1):** Returns lever to off position when guard is closed. (For Full-Throw/Single Throw switches).

Stock No.	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-249
826-8182	8492K1	**5.22**	**4.18**	**3.13**	**2.81**
826-8187	8497K1	**12.02**	**9.62**	**7.21**	**6.80**

15

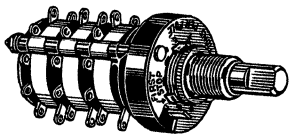
How To Select

42D and 44D, 50D, and 71D series are adjustable stop rotary switches. They provide exacting electrical properties and basic mechanical characteristics needed. To obtain the correct number of positions per pole for an application, simply adjust the stop washers or stop pins. If you need a 1″ diameter, multi-deck rotary switch: choose 42D series for 36° angle of throw switch; **44D** series for 30° angle. For a 1/2″ diameter, single-deck rotary switch: choose **50D** series for 36°, 45°, and 60° angles of throw switch; choose **51D** series for 30° angle. Should you need a 1/2″ diameter, multi-deck rotary switch: choose **71D** series for 30° and 36° angles of throw switch.
Chart indicates rotary switch series (first two numbers), style (letters), and angle of throw (last two numbers) of fixed-stop and adjustable-stop rotary switches.

Fixed Stop	Adjustable Stop	Fixed Stop	Adjustable Stop	Fixed Stop	Adjustable Stop
8A36	71AD36	50MP36	50MPD36	51S30	51MD30
9A30	71AD30	50P36	50CDP36	51SP30	51MPD30
42A36	42D36	50S36	50MD36	71A30	71AD30
42M36	42D36	50SP36	50MPD36	71A36	71AD36
44A30	44D30	51A30	51CD30	71AF30	71ADF30
44M30	44D30	51C30	51CD30	71AF36	71ADF36
50A36	50CD36	51CP30	51CDP30	71B30	71BD30
50C36	50CD36	51M30	51MD30*	71B36	71BD36
50CP36	50CDP36	51MP30	51MPD30*	71BF30	71BDF30
50M36	50MD36	51P30	51CDP30	71BF36	71BDF36

* 51MD/51MDP Qualified to MIL-S-3786

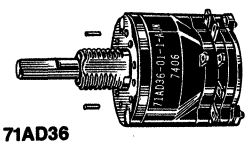
42D and 44D Series 1 Amp Adjustable Stop Rotary



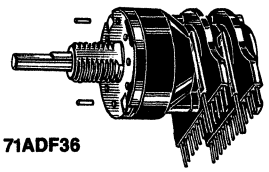
Fully enclosed switches interchange with fixed stop models. **Electrical ratings:** make/break 1 amp, carry 10 amps at 115 VAC, resistive. **Insulation resistance:** 50,000 megohms initial, 10,000 megohms minimum. Non-shorting contacts. 3/8-32NEF bushing. **Behind-panel depth:** 1-deck, 1.025″; 2-deck, 1.371″; 3-deck, 1.717″; 4-deck, 2.063″. **42D Series.** 10-position switch. 36° indexing. 1″ diameter. **44D Series.** 12-position switch. 30° indexing. 1.162″ diameter.

Stock No.	Mfr.'s Type	Poles	Decks	EACH	
				1-9	10-24
948-7224	42D36-01-1-AJN	1	1	24.44	22.48
948-7225	42D36-01-2-AJN	2	1	25.48	23.44
948-7226	42D36-02-1-AJN	1	2	31.84	29.29
948-7227	42D36-02-2-AJN	2	2	33.94	31.22
948-7228	44D30-01-1-AJN	1	1	25.32	23.29
948-7229	44D30-01-2-AJN	2	1	26.39	24.28
948-7230	44D30-02-1-AJN	1	2	33.64	30.95
948-7231	44D30-02-2-AJN	2	2	35.75	32.89
948-7232	44D30-03-1-AJN	1	3	41.95	38.59
948-7233	44D30-03-2-AJN	2	3	45.10	41.49
948-7234	44D30-04-1-AJN	1	4	50.24	46.22

71 Series 1/4-Amp, 1/2″ Diameter Adjustable Stop Rotary Switches



71AD36



71ADF36

71 Series multi-deck, single shaft switches are adjustable stop. **Insulation resistance:** 10,000 megohms minimum. **Voltage breakdown:** 500 VAC minimum. Meet moisture, shock, salt spray, explosion and stop strength requirements of MIL-S-3786. **71AD** are standard style with solder lug terminals and 0.125″ diameter shaft; **71BD** same but have 0.250″ diameter shaft. **71ADF** are PC mount with 0.125″ diameter shaft; **71BDF** same but have 0.250″ diameter shaft. All are either 30° or 36° angle of throw. **Behind-panel depth:** 1-deck, 3/4″; 2-deck, 1″.

Solder Lug Terminals

Stock No.	Mfr.'s Type	Decks	Positions	EACH	
				1-9	10-24
948-7235	71AD36-01-1-AJN	1	10	12.89	11.86
948-7236	71AD36-01-2-AJN	2	5	13.39	12.32
948-7237	71AD36-02-1-AJN	1	10	16.70	15.36
948-7238	71AD36-02-2-AJN	2	5	17.74	16.32
948-7239	71AD30-01-1-AJN	1	12	12.89	11.86
948-7240	71AD30-01-2-AJN	2	6	13.39	12.32
948-7241	71AD30-02-1-AJN	1	12	16.70	15.36
948-7242	71AD30-02-2-AJN	2	6	17.74	16.32
948-7243	71BD36-01-1-AJN	1	10	12.89	11.86
948-7244	71BD36-01-2-AJN	2	5	13.39	12.32
948-7245	71BD36-02-1-AJN	1	10	16.70	15.36
948-7246	71BD36-02-2-AJN	2	5	17.74	16.32
948-7247	71BD30-01-1-AJN	1	12	12.89	11.86
948-7248	71BD30-01-2-AJN	1	6	13.39	12.32
948-7249	71BD30-02-1-AJN	1	12	16.70	15.36
948-7250	71BD30-02-2-AJN	2	6	17.74	16.32

Printed Circuit Terminals

948-7251	71ADF36-01-1-AJN	1	10	14.09	12.96
948-7252	71ADF36-01-2-AJN	2	5	14.61	13.44
948-7253	71ADF30-01-1-AJN	1	12	14.09	12.96
948-7254	71ADF30-01-2-AJN	2	6	14.61	13.44
948-7255	71ADF30-02-2-AJN	2	6	20.35	18.72
948-7256	71BDF36-01-1-AJN	1	10	14.09	12.96
948-7257	71BDF36-02-1-AJN	1	10	14.61	13.44
948-7258	71BDF36-02-2-AJN	2	5	20.35	18.72
948-7259	71BDF30-01-1-AJN	1	12	14.09	12.96
948-7260	71BDF30-01-2-AJN	2	6	14.61	13.44

50 and 51 Series 200 mA 1/2″ Diameter Switches

50, 51 series single-deck adjustable stop switches with nonshorting contacts are electrically rated 115 VAC or 30 VDC resistive. **Insulation resistance:** 10,000 megohm minimum. **Volt breakdown:** 600 VAC. Life expectancy depends on switching current. **50CD** units military style, solder lug terminal; **50MD** same but have shaft and panel "O" ring seal. **50CDP** military style, PC mount; **50MDP** same but have shaft and panel "O" ring seal. **51CD** units military qualified MIL-S-3786/35, solder lug terminal; **51MD** same but have shaft and panel "O" ring seal. **51CDP** military qualified MIL-S-3786/35, PC mount. **50 series** are 36° angle of throw; **51 series** 30° angle.

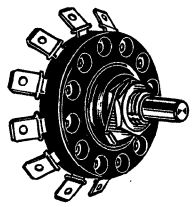
Solder Lug Terminals

Stock No.	Mfr.'s Type	Poles	Positions	EACH	
				1-9	10-24
948-7261	50CD36-01-1-AJN	1	10	15.80	14.54
948-7262	50CD36-01-2-AJN	2	5	19.47	17.91
948-7263	50MD36-01-1-AJN	1	10	16.60	15.27
948-7264	50MD36-01-2-AJN	2	5	20.27	18.65
948-7265	51CD30-01-1-AJN	1	12	16.60	15.27
948-7266	51CD30-01-2-AJN	2	6	20.10	18.49
948-7267	51MD30-01-1-AJN	1	12	17.41	16.02
948-7268	51MD30-01-2-AJN	2	6	20.90	19.23

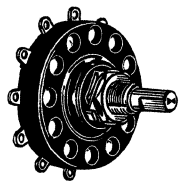
Printed Circuit Terminals

948-7269	50CDP36-01-1-AJN	1	10	16.39	15.08
948-7270	50CDP36-01-2-AJN	2	5	19.71	18.13
948-7271	50MDP36-01-1-AJN	1	10	17.19	16.47
948-7272	51CDP30-01-1-AJN	1	12	17.12	15.75
948-7273	51CDP30-01-2-AJN	2	6	20.61	18.96

19 Series 15-Amp Power Tap Rotary Switches



Faston Terminal

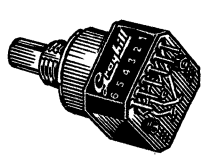


Solder Terminal

UL Recognized. Single pole, single deck units have 2 to 11 positions plus common, with 30° indexing. Available in solder lug terminal with 0.125″ wire hole or Faston terminal with 0.080″ wire hole. 15 amps, 120 VAC, non-inductive load. **Contact resistance:** 10 milliohms at 2 VDC and 100 mA; contacts are non-shorting. **Insulation resistance:** 100,000 megohms. **Voltage breakdown:** 2500 VAC.

Stock No.	Mfr.'s Type	Taps	Terminals	EACH	
				1-9	10-24
948-7274	19001-2UL	2	Solder	14.70	13.52
948-7275	19001-3UL	3	Solder	15.48	14.24
948-7276	19001-4UL	4	Solder	16.26	14.96
948-7277	19001-5UL	5	Solder	17.05	15.69
948-7278	19001-6UL	6	Solder	17.84	16.41
948-7279	19001-7UL	7	Solder	18.63	17.14
948-7280	19001-8UL	8	Solder	19.43	17.88
948-7281	19001-10UL	10	Solder	21.00	19.32
948-7282	19001-11UL	11	Solder	21.77	20.03
948-7283	19101-3UL	3	Faston	15.48	14.24
948-7284	19101-4UL	4	Faston	16.26	14.96
948-7285	19101-5UL	5	Faston	17.05	15.69
948-7286	19101-6UL	6	Faston	17.84	16.41
948-7287	19101-7UL	7	Faston	18.63	17.14
948-7288	19101-8UL	8	Faston	19.43	17.88
948-7289	19101-10UL	10	Faston	21.00	19.32
948-7290	19101-11UL	11	Faston	21.77	20.03

61 Series, Optically Coupled, Rotary Encoder Switch — Fixed Stop

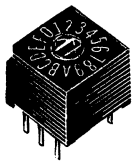


61 series are PC mountable, optically switches, which can be used to move a cursor or icon on a display. Economic alternative to a touchscreen. Optional pushbutton switch is actuated by pressing in on the shaft. Rated at 10 mA for over 1,000,000 cycles of 720°. Shaft is 1/4″ in diameter. Available in 16 or 24 positions, with or without pushbutton, in Quadrature 2 Bit Code, or 2 Bit Counting Code.

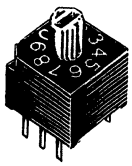
Stock No.	Mfr.'s Type	Positions	Pushbutton Switch	Code	EACH	
					1-9	10-24
948-7291	61B22-01-01	16	No	Q2B	41.00	37.72
948-7292	61B22-01-02	16	Yes	Q2B	46.00	42.32
948-7293	61B15-01-01	24	No	Q2B	40.00	36.80
948-7294	61B15-01-02	24	Yes	Q2B	45.00	41.40
948-7295	61B15-02-01	24	No	2BC	40.00	36.80
948-7296	61B15-02-02	24	Yes	2BC	45.00	41.40

15

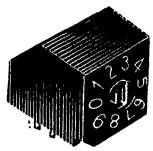
74 Series Coded Rotary Dip Switches



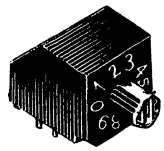
74A
.38"x.38"x.30"



74B
.38"x.38"x.47"



74A, -RA
.38"x.45"x.38"



74B, -RA
.38"x.62"x.38"

- Internally Sealed
- Choice of 2 Internally Bussed Commons
- Industry Standard Pin Location
- BCD (10) & Hexadecimal (16) Codes and Compliments
- Perpendicular of Right Angle
- Flush or Extended Actuator

Flush Actuator Type

Stock No.	Mfr.'s Type	Code & Positions	EACH 1-9	EACH 10-24	EACH 25-49
948-7501	74AB10	BCD	3.38	3.11	2.84
948-7502	74AB10-RA	BCD	3.78	3.48	3.18
948-7503	74AC10	BCD Comp.	3.38	3.11	2.84
948-7504	74AC10-RA	BCD Comp.	3.78	3.48	3.18
948-7505	74AB16	Hex.	3.38	3.11	2.84
948-7506	74AB16-RA	Hex.	3.78	3.48	3.18
948-7507	74AC16	Hex. Comp.	3.38	3.11	2.84
948-7508	74AC16-RA	Hex. Comp.	3.78	3.48	3.18

Extended Actuator Type

948-7509	74BB10	BCD	3.38	3.11	2.84
948-7510	74BB10-RA	BCD	3.78	3.48	3.18
948-7511	74BC10	BCD Comp.	3.38	3.11	2.84
948-7512	74BC10-RA	BCD Comp.	3.78	3.48	3.18
948-7513	74BB16	Hex.	3.38	3.11	2.84
948-7514	74BB16-RA	Hex.	3.78	3.48	3.18
948-7515	74BC16	Hex. Comp.	3.38	3.11	2.84
948-7516	74BC16-RA	Hex. Comp.	3.78	3.48	3.18

61 Series Optically Coupled Rotary Encoder Switch

- Economical Touchscreen Alternative
- 1-Hand Control of Cursor and Entry
- Optically Coupled, Logic Compatible
- Over 1,000,000 Operations
- No Backlash
- Quadrature 2 Bit Code (Q2B) or 2 Bit Counting Code (2BC)
- 16 or 24 Positions, Full Rotation

Logic low is .5 V maximum; logic high is 3.8 V minimum. **Terminal connections are as follows: 1** = Ground; **2 & 3** = Optional Pushbutton Switch; **4** = Output B; **5** = Output A; **6** = 5V Supply. Body is .767" square. Plastic shaft is .250" diameter; bushing is .375" diameter. Panel to PC connector length is .753 inches.

Switch Without Pushbutton

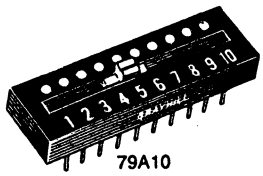
Stock No.	Mfr.'s Type	Code & Positions	EACH 1-9	EACH 10-24	EACH 25-49
948-7291	61B22-01-01	Q2B/16	35.50	32.66	29.82
948-7293	61B15-01-01	Q2B/24	34.50	31.74	28.98
948-7295	61B15-02-01	2BC/24	34.50	31.74	28.98

Switch and Pushbutton

948-7292	61B22-01-02	Q2B/16	40.00	36.80	33.60
948-7294	61B15-01-02	Q2B/24	39.00	35.88	32.76
948-7296	61B15-02-02	2BC/24	39.00	35.88	32.76

79 Series Linear Action Coded Dip Switches

- Easily Set, Linear Face
- 10 or 16 Positions
- Optional Top Seal (Suffix S)
- BCD/Hex (79B) With True Zero Output
- Selector Switch (79A) Has 10 or 16 Separate Circuits

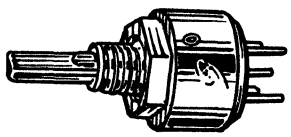


79A10

Stock No.	Mfr.'s Type	Code & Positions	EACH 1-9	EACH 10-24	EACH 25-49
948-7517	79B10	BCD	4.41	4.06	3.70
948-7518	79B10S	BCD	4.75	4.37	3.99
948-7519	79B16	Hex	5.12	4.71	4.30
948-7520	79B16S	Hex	5.46	5.02	4.59
948-7154	79A10	1 of 10	4.41	4.06	3.70
948-7521	79A10S	1 of 10	4.75	4.37	3.99
948-7155	79A16	1 of 16	5.12	4.71	4.30
948-7522	79A16S	1 of 16	5.46	5.02	4.59

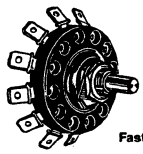
26 Series Binary Coded 1/2" Diameter Front Panel Switch

- Shaft and Panel Seal
- 16 Positions, Adjustable To 8 or 10 Positions
- Hexadecimal, BCD, Or Octal Outputs
- 1/2 Inch Diameter
- Economically Priced
- Logic Compatible
- 25,000 Cycles of Operation

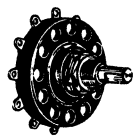


Stock No.	Mfr.'s Type	EACH 1-9	EACH 10-24	EACH 25-49
948-7523	26ASD22-01-1-AJS	10.87	10.00	9.13

19 Series 15-Amp Power Tap Rotary Switches



Faston Terminal



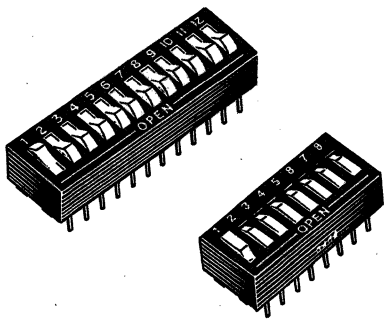
Solder Terminal

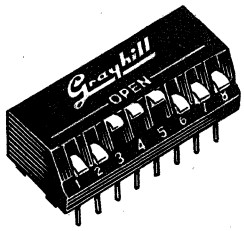
- 15 Amps, 120 VAC
- UL Recognized
- SPST, 30°, 2-11 Positions
- 2 Inch Diameter

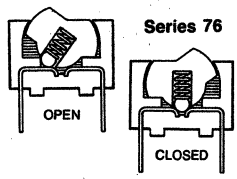
UL Recognized. Single pole, single deck units have 2 to 11 positions plus common, with 30° indexing. Available in solder lug terminal with 0.125" wire hole or Faston terminal with 0.080" wire hole. 15 amps, 120 VAC, non-inductive load. **Contact resistance:** 10 milliohms at 2 VDC and 100 mA; contacts are non-shorting. **Insulation resistance:** 100,000 megohms. **Voltage breakdown:** 2500 VAC.

Stock No.	Mfr.'s Type	Taps	Terminals	EACH 1-9	EACH 10-24
948-7274	19001-2UL	2	Solder	14.70	13.52
948-7275	19001-3UL	3	Solder	15.48	14.24
948-7276	19001-4UL	4	Solder	16.26	14.96
948-7277	19001-5UL	5	Solder	17.05	15.69
948-7278	19001-6UL	6	Solder	17.84	16.41
948-7279	19001-7UL	7	Solder	18.63	17.14
948-7280	19001-8UL	8	Solder	19.43	17.88
948-7281	19001-10UL	10	Solder	21.00	19.32
948-7282	19001-11UL	11	Solder	21.77	20.03
948-7283	19101-3UL	3	Faston	15.48	14.24
948-7284	19101-4UL	4	Faston	16.26	14.96
948-7285	19101-5UL	5	Faston	17.05	15.69
948-7286	19101-6UL	6	Faston	17.84	16.41
948-7287	19101-7UL	7	Faston	18.63	17.14
948-7288	19101-8UL	8	Faston	19.43	17.88
948-7289	19101-10UL	10	Faston	21.00	19.32
948-7290	19101-11UL	11	Faston	21.77	20.03

76 Series Rocker-Actuated DIP Switches







► **High pressure spring and ball contact system assures reliable switching, positive positioning and immunity to shock and vibration.**
► **Epoxy-sealed bases keep switches contamination-free**
► **Sealed bases make underside of switch impenetrable to cleaning solutions and impurities.**
Rated at 150μA for 10,000 cycle life, SPST and SPDT DIP switches. Available with low profile, raised and recessed rocker actuators plus, for easy access panel-edge mounting, use the PIANO-DIP® switch. **Switch height with raised rocker:** .295″. **With recessed rocker:** .247″. **PIANO-DIP style:** .281″.10,000-operation life. Numerical suffix indicates number of rockers. **'S' after suffix indicates top tape seal.**

SPST Raised Rocker

Stock No.	Mfr.'s Type	Length	EACH			
			1-9	10-24	25-49	50-99
948-7602	76-SB02	0.28	2.90	2.67	2.29	1.74
948-7102	76-SB02S	0.28	3.10	2.85	2.45	1.86
948-7603	76-SB03	0.38	3.00	2.76	2.37	1.80
948-7103	76-SB03S	0.38	3.20	2.94	2.53	1.92
948-7604	76-SB04	0.48	3.10	2.85	2.45	1.86
948-7104	76-SB04S	0.48	3.30	3.04	2.61	1.98
948-7605	76-SB05	0.58	3.20	2.94	2.53	1.92
948-7105	76-SB05S	0.58	3.40	3.13	2.69	2.04
948-7606	76-SB06	0.68	3.30	3.04	2.61	1.98
948-7106	76-SB06S	0.68	3.50	3.22	2.77	2.10
948-7607	76-SB07	0.78	3.35	3.08	2.65	2.01
948-7107	76-SB07S	0.78	3.55	3.27	2.81	2.13
948-7608	76-SB08	0.88	3.45	3.17	2.73	2.07
948-7108	76-SB08S	0.88	3.65	3.36	2.88	2.19
948-7609	76-SB09	0.98	3.55	3.27	2.81	2.13
948-7109	76-SB09S	0.98	3.75	3.45	2.96	2.25
948-7610	76-SB10	1.08	3.60	3.31	2.84	2.16
948-7110	76-SB10S	1.08	3.80	3.50	3.00	2.28
948-7612	76-SB12	1.28	3.80	3.50	3.00	2.28
948-7112	76-SB12S	1.28	4.00	3.68	3.16	2.40

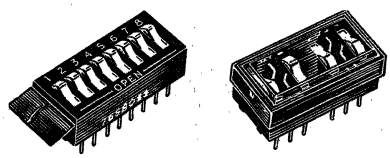
SPDT Raised Rocker

Stock No.	Mfr.'s Type	Length	EACH			
			1-9	10-24	25-49	50-99
948-7115	76-SC02	.380	3.70	3.40	3.11	2.92
948-7116	76-SC02S	.380	3.90	3.59	3.28	3.08
948-7117	76-SC03	.580	3.95	3.63	3.32	3.12
948-7118	76-SC03S	.580	4.15	3.82	3.49	3.28
948-7119	76-SC04	.780	4.20	3.86	3.53	3.32
948-7120	76-SC04S	.780	4.40	4.05	3.70	3.48

SPDT Tape-Sealed Recessed Rocker

948-7121	76-RSB02S	0.28	3.10	2.85	2.45	1.86
948-7122	76-RSB03S	0.38	3.20	2.94	2.53	1.92
948-7123	76-RSB04S	0.48	3.30	3.04	2.61	1.98
948-7124	76-RSB05S	0.58	3.40	3.13	2.69	2.04
948-7125	76-RSB06S	0.68	3.50	3.22	2.77	2.10
948-7126	76-RSB07S	0.78	3.55	3.27	2.81	2.13
948-7127	76-RSB08S	0.88	3.65	3.36	2.88	2.19
948-7128	76-RSB09S	0.98	3.75	3.45	2.96	2.25
948-7129	76-RSB10S	1.08	3.80	3.50	3.00	2.28

Optional Accessories



Top Tape Seal

Protect contact surfaces from contaminants during vapor, spray and immersion cleaning.

Protective Cover

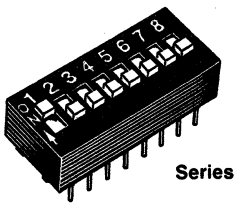
Help keep DIP switches free from dust and accidental actuation with clear protective covers. Just slip the molded plastic cover over the entire switch. Protective covers have no sticky residue and are reuseable.

Stock No.	Mfr.'s Type	For Switch Length	EACH		
			1-24	25-99	100-499
948-7130	76P02	0.280	0.15	0.14	0.13
948-7131	76P03	0.380	0.15	0.14	0.13
948-7132	76P04	0.480	0.15	0.14	0.13
948-7133	76P05	0.580	0.15	0.14	0.13
948-7134	76P06	0.680	0.15	0.14	0.13
948-7135	76P07	0.780	0.15	0.14	0.13
948-7136	76P08	0.880	0.15	0.14	0.13
948-7137	76P10	1.080	0.15	0.14	0.13

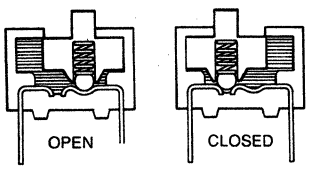
SPST Piano-DIP® Switch

Stock No.	Mfr.'s Type	Length	EACH			
			1-9	10-24	25-49	50-99
948-7603	76-PSB04	0.48	3.65	3.36	3.07	2.88
948-7138	76-PSB04S	0.48	3.85	3.54	3.23	3.04
948-7631	76-PSB05	0.58	3.70	3.40	3.11	2.92
948-7139	76-PSB05S	0.58	3.90	3.59	3.28	3.08
948-7632	76-PSB06	0.68	3.80	3.50	3.19	3.00
948-7140	76-PSB06S	0.68	4.00	3.68	3.36	3.16
948-7633	76-PSB07	0.78	3.90	3.59	3.28	3.08
948-7141	76-PSB07S	0.78	4.10	3.77	3.44	3.24
948-7634	76-PSB08	0.88	3.95	3.63	3.32	3.12
948-7142	76-PSB08S	0.88	4.15	3.82	3.49	3.28
948-7635	76-PSB09	0.98	4.10	3.77	3.44	3.24
948-7143	76-PSB09S	0.98	4.30	3.96	3.61	3.40
948-7636	76-PSB10	1.08	4.25	3.91	3.57	3.36
948-7144	76-PSB10S	1.08	4.45	4.09	3.74	3.52

78 Series Slide-Actuated



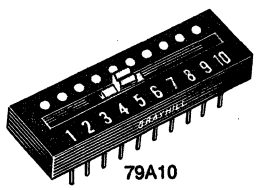
Series 78



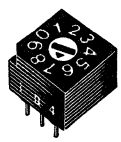
78 Series 150 mA DIP switches provide 10,000-operation life. SPST circuitry with raised slide actuators. **Switch height:** .295″. For other **78 Series** slide styles — including SPDT, DPDT and multiple pole single throw circuitries — contact your nearest Allied location. **The suffix 'S' on switch type numbers indicates top tape seal is included.** Use high pressure spring and ball contact system.

Stock No.	Mfr.'s Type	Actuators	Length	EACH			
				1-9	10-24	25-49	50-99
948-7637	78-B02	2	0.280″	2.61	2.40	2.06	1.57
948-7145	78-B02S	2	0.280″	2.79	2.57	2.20	1.67
948-7638	78-B03	3	0.380″	2.70	2.48	2.13	1.62
948-7146	78-B03S	3	0.380″	2.88	2.65	2.28	1.73
948-7639	78-B04	4	0.480″	2.79	2.57	2.20	1.67
948-7147	78-B04S	4	0.480″	2.97	2.73	2.35	1.78
948-7640	78-B05	5	0.580″	2.88	2.65	2.28	1.73
948-7148	78-B05S	5	0.580″	3.06	2.82	2.42	1.84
948-7641	78-B06	6	0.680″	2.97	2.73	2.35	1.78
948-7149	78-B06S	6	0.680″	3.15	2.90	2.49	1.89
948-7642	78-B07	7	0.780″	3.02	2.78	2.39	1.81
948-7150	78-B07S	7	0.780″	3.20	2.94	2.53	1.92
948-7643	78-B08	8	0.880″	3.11	2.86	2.46	1.87
948-7151	78-B08S	8	0.880″	3.29	3.03	2.60	1.97
948-7644	78-B09	9	0.980″	3.20	2.94	2.53	1.92
948-7152	78-B09S	9	0.980″	3.38	3.11	2.67	2.03
948-7645	78-B10	10	1.080″	3.24	2.98	2.56	1.97
948-7153	78-B10S	10	1.080″	3.42	3.15	2.70	2.05

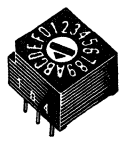
74 Series Rotary DIP Switches/ 79 Series Linear Action DIP Switches



79A10



74B10



74B16

74 Series

Space saving, low profile switches in Binary Code or Hexadecimal Code output. The 2 common terminals are internally bussed. All types have base seal. **Types with 'S' suffix have top tape seal.** Life is 1000 cycles and more.

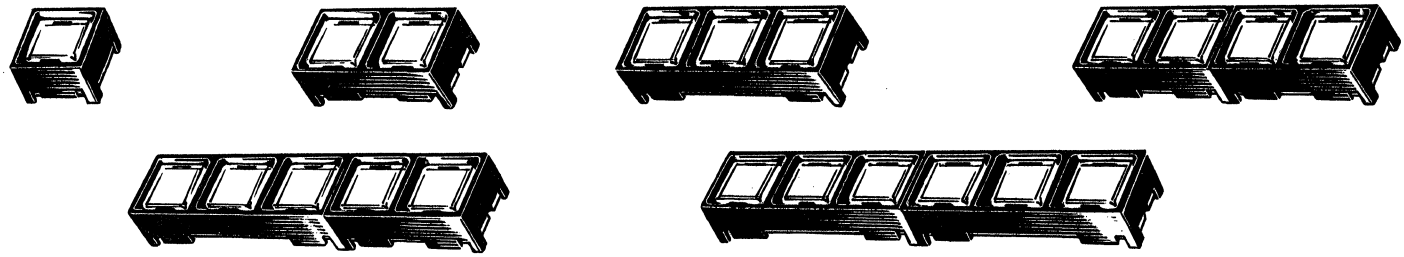
Stock No.	Mfr.'s Type	Output Code	EACH		
			1-9	10-24	25-49
948-7156	74B10	BCD	12.41	11.42	10.42
948-7157	74B10S	BCD	12.61	11.60	10.59
948-7158	74B16	Hexadecimal	12.41	11.42	10.42
948-7159	74B16S	Hexadecimal	12.61	11.60	10.59

79 Series

Type 79A. Linear, slide actuated DIP switches provide single setting accuracy. **Dimensions:** .380″W × .270″H. **Isolated Circuitry:** 1-of-10 or 1-of-16. Rated at 125 mA.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-24	25-49
948-7154	79A10	1.18	4.20	3.86	3.53
948-7155	79A16	1.78	4.88	4.49	4.10

87 Series Keyswitches — Provide Low Profile, Custom In-Line or Keypad Arrangements



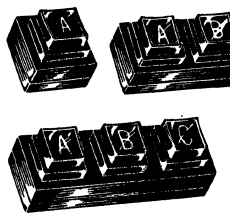
- Stackable Horizontally and Vertically
- Maintains 1/2" Button Centers
- Audible and Tactile Feedback
- Logic Compatible, 10 mA 24 VDC
- 3,000,000 Operations Per Button
- Single Pole/Common Bus Circuitry
- Post Mounted; PC Termination
- Snap-off Cap for Insertable Legend
- Legend Insert Sheet Available

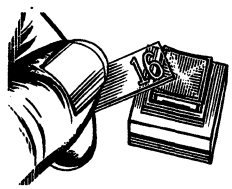
Stock No.	Mfr.'s Type	Configuration	Circuitry*	Dimensions .350" Typ. High	EACH 1-49	50-99	100-499
948-7372	87CC3-201	1 Button	SPST	.490 Typ. Sq.	1.78	1.51	1.34
948-7373	87DC3-201	2 Button	SP/CB	.490 × .990	2.58	2.19	1.94
948-7374	87EC3-201	3 Button	SP/CB	.490 × 1.490	3.31	2.81	2.48
948-7375	87FC3-201	4 Button	SP/CB	.490 × 1.990	4.42	3.76	3.32
948-7376	87GC3-201	5 Button	SP/CB	.490 × 2.490	5.51	4.68	4.13
948-7377	87HC3-201	6 Button	SP/CB	.490 × 2.990	6.12	5.20	4.59
948-7378	87AC2046	Legends	—	—	1.22	1.04	0.92

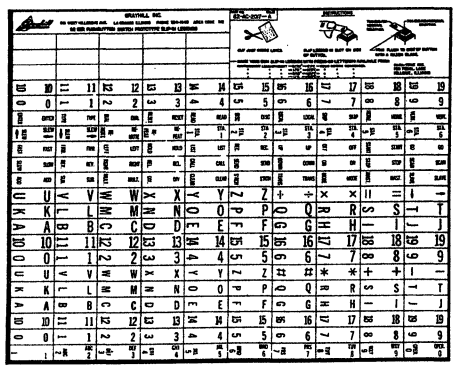
*SP/CB = Single Pole/Common Buss

82 Series—Telephone-Like Keypads In Any Button Configuration

- PC Mountable, Stackable Horizontally or Vertically
- Maintains Comfortable 11/16" Button Centers
- Long Stroke, Wiping Contacts
- Slotted Cap For Insertable Legend
- Legend Insert Sheet Available





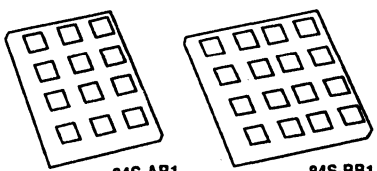


Stock No.	Mfr.'s Type	Buttons	Circuit	EACH 1-49	50-99	100-499
948-7381	82-101-71	1	SPST	2.33	1.98	1.75
948-7382	82-101-74	1	4PST	2.85	2.42	2.14
948-7383	82-201-41	2	SPST	3.75	3.19	2.18
948-7384	82-201-44	2	4PST	4.78	4.06	3.59
948-7385	82-301-61	3	SPST	5.17	4.39	3.88
948-7386	82-301-64	3	4PST	6.70	5.70	5.03
948-7387	82-601-81	6	SPST	9.43	8.02	7.07
948-7388	82-601-84	6	4PST	12.50	10.63	9.38

Legend Sheets

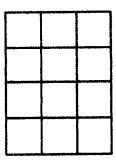
Stock No.	Mfr.'s Type	EACH 1-49	50-99	100-499
948-7389	82AC2017-1	1.63	1.39	1.22

84S Series Environmentally Sealed Keyboards

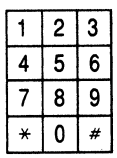


84S-AB1 2.4" x 3.1"

84S-BB1 3.1" sq.

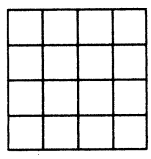


84S-AB1-101

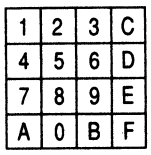


84S-AB1-102

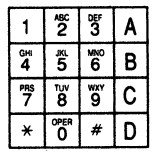
84S-AB1-103



84S-BB1-001



84S-BB1-004



84S-BB1-006

- Silicone Rubber Boot Keyboard Seal
- Logic Compatible; 3,000,000 Operations
- Standard RFI/EMI Shielding
- Audible and Tactile Feedback
- Stud Mount; Optional Nuts (-N Suffix)
- Comfortable 3/4" Button Centers
- Matrix (Row and Column) Circuitry
- Standard Legends Or Blank Buttons
- Removable, Arrangeable Buttons

Stock No.	Mfr.'s Type	EACH 1-49	50-99	100-499
948-7524	84S-AB1-101	32.90	27.97	24.68
948-7525	84S-AB1-101-N	33.50	28.48	25.13
948-7526	84S-AB1-102	34.70	29.50	26.03
948-7527	84S-AB1-102-N	35.30	30.01	26.48
948-7528	84S-AB1-103	34.70	29.50	26.03
948-7529	84S-AB1-103-N	35.30	30.01	26.48
948-7379	84S-BB1-001	34.49	29.32	25.87
948-7530	84S-BB1-001-N	35.39	30.08	26.54
948-7531	84S-BB1-004	36.89	31.36	27.67
948-7532	84S-BB1-004-N	37.79	32.12	28.34
948-7380	84S-BB1-006	36.89	31.36	27.67
948-7533	84S-BB1-006-N	37.79	32.12	28.34

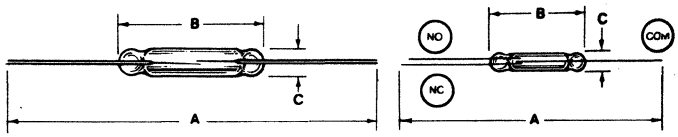
Reed Switches

Highest quality reed switches feature contacts hermetically sealed in a protective atmosphere. Protected contacts mean reliable operation in wet, oily, dirty—even explosive—environments.

Glass capsule size ranges from a compact 2-inch glass length down to under 1/4-inch long! Ideal for use in proximity switches, flow meters, counting devices, limit switches, reed relays and precision instrumentation.

Actuate time: 3 millisecond or less on 2-inch capsules; 1 millisecond or less on capsules under 1-inch in length.

Typical life expectancy 50 million operations. **Contacts:** Form A (SPST-N.O.) or Form C (SPDT), may be actuated by permanent magnet or coil. Magnets and coils sold below. **Average shipping weight:** 1 ounce each.



Microminiature Reed Switches

Stock No.	Mfr.'s Type*	Form†	Cross to Hamlin	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
				A	B	C								1-24	25-49
808-0001	HSR-003DT	A	—	1.050	.210	.055	0.1	0.01	10	150	5-15	M-01	C-01	**2.56**	**2.13**
808-0002	HSR-067RT	A	MINI-2S-115	1.240	.460	.070	4.0	0.20	30	250	15-25	M-01	C-01	**1.40**	**1.16**
808-0003	HSR-042RT	A	MMRR-2-185	1.850	.370	.090	0.3	0.01	100	200	25-35	M-02	C-01	**2.18**	**1.82**
808-0004	HSR-069RT	A	MDRR-4-185	1.240	.540	.101	4.0	0.20	30	250	20-40	M-02	C-01	**1.14**	**0.95**

Miniature Reed Switches

Stock No.	Mfr.'s Type*	Form†	Cross to Hamlin	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
				A	B	C								1-24	25-49
808-0005	HSR-520RT	C	MRG-DT-175	2.000	.600	.125	3.0	0.25	100	200	15-40	M-02	C-02	**3.54**	**2.95**
808-0006	HSR-102RT	A	MRR-2-185	2.190	.800	.122	10.0	0.50	200	350	20-40	M-02	C-02	**1.14**	**0.95**
808-0007	HSR-101RT	A	MSRR-2-185	2.090	.800	.091	10.0	0.50	200	300	20-40	M-02	C-02	**1.08**	**0.90**
808-0008	HSR-1015RT	A	MARC-2-186	2.190	.800	.101	10.0	0.50	200	350	20-40	M-02	C-02	**1.06**	**0.88**
808-0009	HSR-510RT	C	MLC-DT-186	2.000	.590	.105	3.0	0.25	100	200	20-40	M-02	C-02	**3.06**	**2.55**
808-0010	HSR-740RT	A	MARR-5-196	2.190	.800	.101	10.0	0.50	300	1200	25-35	M-02	C-02	**4.76**	**3.97**

Standard Reed Switches

Stock No.	Mfr.'s Type*	Form†	Cross to Hamlin	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
				A	B	C								1-24	25-49
808-0011	HSR-190RT	A	DRR-1-425	3.230	2.100	.210	15.0	1.00	250	500	60-80	M-04	C-04	**1.94**	**1.62**
808-0012	HSR-630RT	C	DLC-DT-327	3.390	1.300	.210	25.0	1.00	200	250	40-70	M-04	C-04	**2.70**	**2.25**
808-0013	HSR-194WT	A	DRR-129-425	3.230	2.100	.210	50.0	2.00	350	500	65-75	M-04	C-04	**3.34**	**2.78**

High Voltage and High Power Reed Switches

Stock No.	Mfr.'s Type*	Form†	Cross to Hamlin	Dimensions (In.)			Max. DC Contact Ratings Watts	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	Test Coil	EACH	
				A	B	C								1-24	25-49
808-0014	HSR-830RT	C	DRR-DTH-445	3.390	1.300	.210	25.0	1.00	250	1000	65-85	M-03	C-04	**4.20**	**3.50**
808-0015	HSR-834WT	C	DRT-DTH-445	3.390	1.300	.210	100.0	3.00	500	1000	65-80	M-03	C-04	**5.80**	**4.83**
808-0016	HSR-V10K	A	DRVT-10-685	3.230	2.100	.210	50.0	3.00	7500	10000	100-140	M-04	C-03	**7.86**	**6.55**
808-0017	HSR-780RT	A	DRR-5-425	3.200	2.000	.215	25.0	1.50	1500	3000	60-80	M-04	C-04	**3.28**	**2.73**
808-0018	HSR-790WT	A	DRT-5-425	3.230	2.000	.215	50.0	2.50	1000	2500	60-80	M-04	C-04	**4.36**	**3.63**
808-0019	HSR-156WT	A	—	3.200	1.700	.190	100.0	3.00	50	300	60-90	M-04	C-03	**3.04**	**2.53**

Notes: † Form A: SPST; Form C: SPDT. * R: Rhodium Contacts; D: Durel Contacts: W: Tungsten Contacts; T: Tin-Plated External Leads (Last 2 letters in Type No.)

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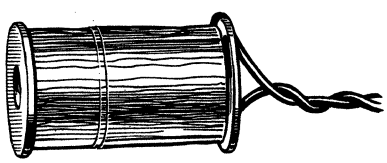
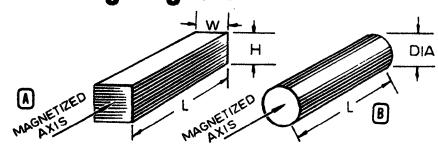
Reed Switch Test Coils

The coils described below are used for testing magnetic characteristics of reed switches. Pull-In, Drop-Out, Operate Time, Bounce Time, and Release Time are typical parameters measured using one of these coils. Coil specifications reference EIA/NARM RS-421-A for dry reed switches. MIL Spec MIL-S-55433



Stock No.	Mfr.'s Type	NARM RS-421 Coil #	MIL-S-55433 Coil #	Number of Turns	Approx. Coil Ohms	Bobbin Dimensions Length × I.D. × O.D.	Recommended		EACH	
							Maximum Current	Maximum Voltage	1-24	25-49
808-0021	C-01	I	B	5,000	830	.435 × .110 × .325	0.02	24 VDC	**8.20**	**6.83**
808-0022	C-02	II	A	10,000	3700	.775 × .125 × .350	0.02	40 VDC	**12.36**	**10.30**
808-0023	C-03	III	C	10,000	1400	1.100 × .250 × .700	0.02	40 VDC	**7.32**	**6.10**
808-0024	C-04	IV	D	10,000	600	2.050 × .225 × .575	0.02	40 VDC	**12.36**	**10.30**

Actuating Magnets

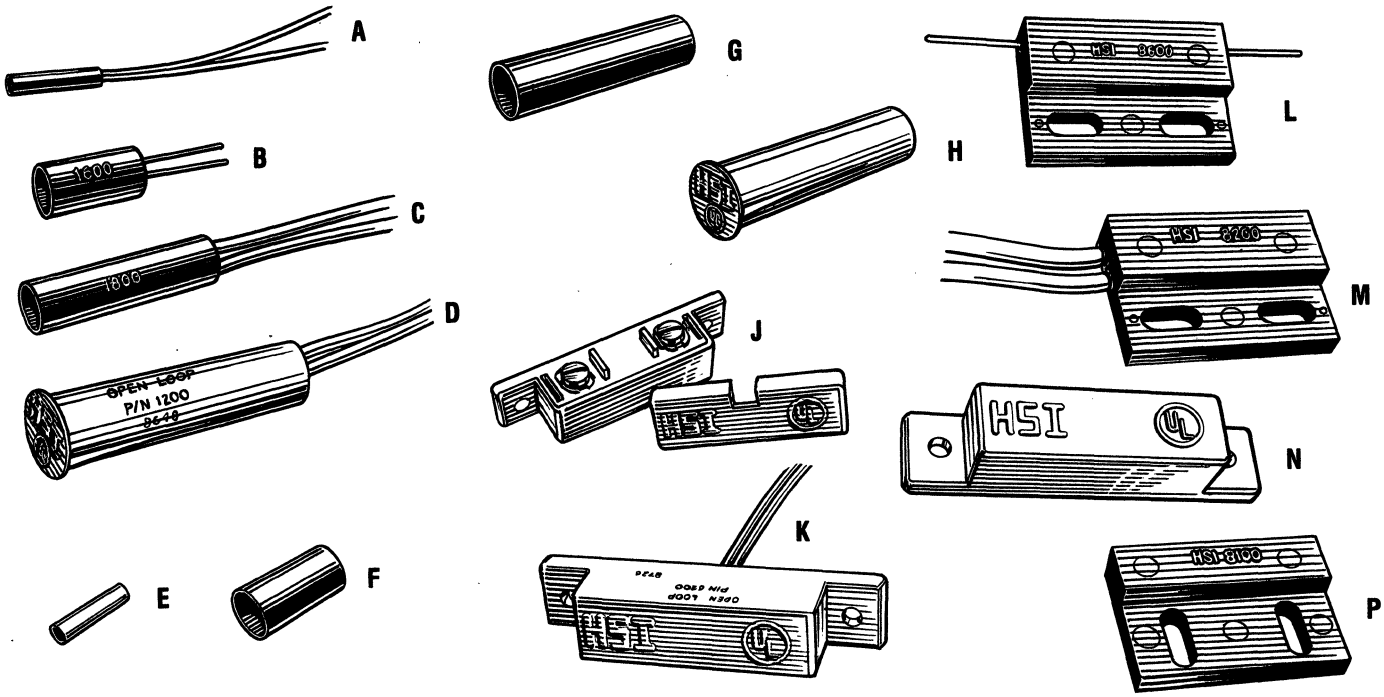


The quality magnets below are available for operation of our dry reed switches. They feature temperature stable Alnico V material magnetized lenghthwise for strong consistent operation. The variety of sizes enables you to match your proximity or motion application to our switch and magnet with ease and satisfaction.

Stock No.	Mfr.'s Type	Fig.	Size Inches	EACH	
				1-24	25-49
808-0025	M-01	A	1/16 × 1/16 × 1/2	**1.56**	**1.30**
808-0026	M-02	A	1/8 × 1/8 × 3/4	**1.98**	**1.85**
808-0027	M-03	A	3/16 × 3/16 × 1	**2.00**	**1.67**
808-0028	M-04	A	1/4 × 1/4 × 1	**2.24**	**1.86**
808-0029	M-05	B	1/4 Dia. × 1.4	**2.86**	**2.38**

Proximity Sensors

Hermetic Switch, Inc. manufactures a variety of two part magnetic proximity sensors (sensor and actuator). All sensors feature hermetically sealed reed switch contacts that can survive harsh environments. Specially selected epoxy potting materials and rugged plastic cases withstand the impacts and forces of the real world. Many models are listed with Underwriters Laboratories, verifying that they have passed rigorous testing. The sensors listed in this catalog are designed for use in alarm systems, automotive, consumer products, industrial controls, safety interlock, and many other applications.



Cylindrical Proximity Sensors

Stock No.		Mfr.'s Type	Form[6]	Switching Capabilities					Dimensional Data Inches				Fig.	Notes	EACH	
				Max Watts	Max VAC	Max VDC	Max Amps	Brkdn VDC Min.	Length	Diameter	Wire Length	Oper. Dist.			1-24	25-49
808-1025*	**808-1030†**	1100	A	3.00	30	30	.25	200	1.510	.375	6	.075″	A	UL Listed	**1.88**	**1.57**
808-1035*	**808-1040†**	1200	B	3.00	30	30	.25	200	1.510	.375	6	.075″	A	UL Listed	**3.56**	**2.97**
808-1045*	**808-1050†**	1300	C	3.00	30	30	.25	200	1.510	.375	6	.075″	A	UL Listed	**3.72**	**3.10**
808-2000‡	—	1500	A	0.25	30	30	.01	150	0.480	.095	3	.125″	B	Worlds Smallest	**6.90**	**5.75**
808-2001‡	—	1600	A	3.00	100	100	.25	200	0.500	.250	1	.125″	C	PC Board Design	**3.46**	**2.88**
808-2002‡	—	1700	A	7.00	100	100	.25	250	1.000	.250	6	.200″	D	Fits 1/4″ hole	**3.08**	**2.57**
808-2003‡	—	1800	B	3.00	100	100	.25	200	1.000	.250	6	.200″	D	Fits 1/4″ hole	**5.60**	**4.67**
808-2004‡	—	1900	C	3.00	100	100	.25	200	1.000	.250	6	.200″	D	Fits 1/4″ hole	**5.94**	**4.95**
808-2006*	**808-2007†**	1000	Actuator for 1100, 1200, 1300						1.510	.375	—	—	H	UL Listed	**2.00**	**1.67**
808-2008*	—	1005	Actuator for part 1500						0.410	.100	—	—	E	Alnico Magnet	**1.36**	**1.13**
808-2009*	—	1006	Actuator for Part 1600						0.500	.250	—	—	F	Custom Actuator	**1.98**	**1.65**
808-2010*	—	1007	Actuator for 1700, 1800, 1900						1.000	.250	—	—	G	Matched Actuator	**2.52**	**2.10**

Screw Mounted Proximity Sensors

Stock No.		Mfr.'s Type	Form[6]	Switching Capabilities					Dimensional Data Inches					Fig.	Notes	EACH	
				Max Watts	Max VAC	Max VDC	Max Amps	Brkdn VDC Min.	Length	Width	Thick	Wire Length	Oper. Dist.			1-24	25-49
808-1055*	**808-1060†**	5100[1]	A	3.0	30	30	0.25	200	2.562	.750[1]	.575	—	1.0″	J	UL Listed	**2.20**	**1.83**
808-1065*	**808-1070†**	5200[1]	B	3.0	30	30	0.25	200	2.562	.750[1]	.575	—	1.0″	J	UL Listed	**3.70**	**3.08**
808-1075*	**808-1080†**	5300[1]	C	3.0	30	30	0.25	200	2.562	.750[1]	.575	—	1.0″	J	UL Listed	**4.02**	**3.35**
808-1085*	**808-1090†**	6100	A	3.0	30	30	0.25	200	2.562	.550	.575	6.000	1.0″	K	UL Listed	**2.14**	**1.78**
808-1095*	**808-1100†**	6200	B	3.0	30	30	0.25	200	2.562	.550	.575	6.000	1.0″	K	UL Listed	**3.70**	**3.08**
808-1105*	**808-1110†**	6300	C	3.0	30	30	0.25	200	2.562	.550	.575	6.000	1.0″	K	UL Listed	**3.98**	**3.32**
808-1000‡	—	8200[2]	A	10.0	200	200	0.50	250	1.125	.750	.250	6.000	0.5″	M	Low Profile	**2.68**	**2.23**
808-1005‡	—	8300[2]	C	3.0	100	100	0.25	300	1.125	.750	.250	6.000	0.5″	M	Low Profile	**4.84**	**4.03**
808-1010‡	—	8400[2]	B	3.0	100	100	0.25	200	1.125	.750	.250	0.450	0.5″	L	Low Profile	**3.26**	**2.72**
808-1015‡	—	8500[2]	A	360.0	240[2]	—	1.50	400	1.125	.750	.250	6.000	0.5″	M	High Power	**9.46**	**7.88**
808-1155‡	—	8600[2]	A	10.0	200	200	0.50	350	1.125	.750	.250	0.450	0.5″	L	Low Profile	**2.16**	**1.80**
808-2011*	**808-2012†**	5000	Actuator for 5100, 5200, 5300						2.562	.550	.575	—	—	N	UL Listed	**2.76**	**2.30**
808-2013*	**808-2014†**	6000	Actuator for 6100, 6200, 6300						2.562	.550	.575	—	—	N	UL Listed	**2.76**	**2.30**
808-1020‡	—	8100[3]	Actuator for 8000 Series						1.125	.750	.250	—	—	P	Custom Actuator	**2.14**	**1.78**

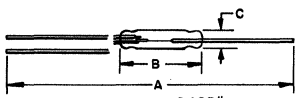
*Brown. †White. ‡Black. Notes: 1. Part #8500 is for AC loads only. Sensor will latch on with DC loads and will remain on until voltage is removed. 2. 8000 series sensors: .125 wide × .281 long horizontal slot to .656 centers. 3. 8100 actuator: .125 wide × .350 long vertical slot on .625 centers. 6. A = SPST N.O.; B = SPST N.C.; C = SPDT.

Dry and Mercury-Wetted Type Reed Switches

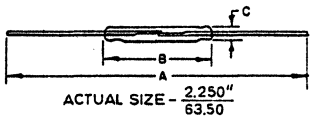
Precision crafted for reliable operation under the most critical conditions. Offer excellent flexibility in a broad range of applications. Hermetically sealed for safe, dependable use in any atmosphere—even under explosive conditions.

Unaffected by high or low temperature extremes or pressure. Compact size with high sensitivity and rapid cycling rate. Excellent for use in position indicators, counting instruments, limiting switches, flow meters, communications instruments and reed relays. Actuating time: 1 millisecond or less.

Dry reed switches have life expectancy of 50 million operations, mercury-wetted switches, 1 billion operations. Contacts: Form A (SPST-N.O.) or C (SPDT). May be actuated by permanent or electro magnets. Permanent magnets sold below. Av. shpg. wt., 1 oz. each.



Type MRG — SPDT Form C



Type MARR-2 — SPST Form A

Miniature Magnetic Reed Switches

Stock No.	Mfr.'s Type	Size Code	Form	Max. DC Contact Ratings, W	Max. Amps	Max. DC Volts	Min. VDC Breakdown	Stock Ampere Turn Pull-In	Actuating Magnet	EACH 1-24	EACH 25-99	EACH 100-499
807-0081	MDRR-4-185	3	A	10	500.00	200	250	30 ± 7.5	H-33	**.95**	**.80**	**.71**
807-0100	MARR-5-196	3	A	10	500.00	500	1500	32.5 ± 10	H-33	**3.60**	**3.06**	**3.27**
807-0101	MDSR-4-185	2	A	10	500.00	200	250	30 ± 7.5	H-33	**1.14**	**.95**	**.87**
807-0102	MARR-2-185	4	A	10	500.00	200	250	30 ± 7.5	H-33	**1.14**	**.95**	**.87**
807-0103	MDRR-6-185	2	A	10	500.00	300	600	30 ± 7.5	H-33	**1.01**	**.86**	**.76**
807-0104	MARR-8-185	10	A	20	750.00	300	800	30 ± 7.5	H-33	**1.78**	**1.48**	**1.37**
807-0105	MDRR-DT-175	6	C	3	250.00	200	200	27.5 ± 7.5	H-33	**4.64**	**3.86**	**3.56**

Standard Magnetic Reed Switches

DRR-DTH-445: High breakdown voltage; **DRT-DTH-445:** Inductive loads.

807-0006	DRR-DTH-445	8	C	10	0.50	250	1000	72.57 ± 7.5	H-32	**5.74**	**4.88**	**4.31**
807-0007	DRT-DTH-445	8	C	20	1.50	500	1000	72.57 ± 7.5	H-32	**7.34**	**6.24**	**5.51**

Mercury-Wetted Magnetic Reed Switch

Replaces MRC and HRC types.

807-0080	MDC-1-387	9	A	50	2.00	100	1000	65 ± 15	H-33	**5.36**	**4.55**	**4.02**

High Current Magnetic Reed Switches

807-0084	DRR-129-425	7	A	100	3.00	400	500	70 ± 7.5	H-34	**3.94**	**3.15**	**2.69**

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Dimension Chart for Switches

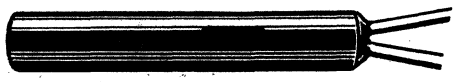
Size Code	1	2	3	4	5	6	7	8	9	10	14
(A) Overall L. Nom.	2.000" 50.8 mm	1.235" 31.36 mm	1.775" 45.09 mm	2.125" 53.97 mm	2.250" 57.15 mm	2.250" 57.15 mm	3.375" 85.72 mm	3.125" 78.47 mm	3.465" 88.01 mm	2.250" 57.15 mm	3.250" 82.55 mm
(B) Glass L. Max.	.375" 9.52 mm	.500" 12.70 mm	.800" 20.32 mm	.820" 15.49 mm	.800" 20.32 mm	.800" 20.32 mm	1.562" 39.67 mm	2.100" 53.34 mm	1.640" 41.65 mm	.800" 20.32 mm	1.950" 49.53 mm
(C) Glass Dia. Max.	.090" 2.28 mm	.070" 1.77 mm	.105" 2.67 mm	.130" 3.30 mm	.090" 2.28 mm	.130" 3.30 mm	.218" 5.53 mm	.218" 5.53 mm	.212" 5.38 mm	.105" 2.66 mm	.218" 5.54 mm

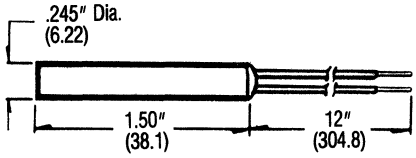
Magnets for Above Switches

These quality magnets are for all the reed switches on this page. Select the reed switches you want from above and the magnets to go with them at right.

Stock No.	Mfr.'s Type	Size Inches	Size Millimeters	EACH 1-24	EACH 25-49
807-0001	H-31-604	1/16 × 1/16 × 1/2	0.39 × 0.39 × 0.50	**1.22**	**.98**
807-0002	H-32-605	3/16 × 3/16 × 1	4.76 × 4.76 × 25.4	**2.76**	**2.35**
807-0003	H-33-606	1/8 × 1/8 × 3/4	3.17 × 3.17 × 19.05	**1.24**	**1.05**
807-0004	H-34-607	1/4 × 1/4 × 1	6.35 × 6.35 × 25.4	**3.48**	**2.98**

Proximity Switches





59030-010

59135-020

57135-000

59015-010

59135-030

57015-000

A permanent magnet is the actuating mechanism for these sensors. By bringing the sensor and magnetic actuator to within a specific proximity of each other switch closure is accomplished. When the magnetic actuator is close enough the normally open contacts will close. When the magnetic field is removed the contacts will open.

Magnetically Actuated Models

SPST Reed Proximity Switch

Stock No.	Mfr.s Type	Cont. Max. W	SW. VDC Max.	Curr. Max. Amp	Bkdn. VDC Min.	EACH 1-24	EACH 25-49	EACH 50-99
807-5801	59135-020	10	200	.500	400	**8.31**	**7.06**	**6.23**
807-5804	59015-010	10	100	.500	200	**3.36**	**2.85**	**2.52**
807-5807	59030-010	10	100	.500	200	**3.08**	**2.56**	**2.36**
807-5812	59025-020	10	200	.500	400	**4.28**	**4.06**	**3.38**

SPDT Reed Proximity Switch

807-5802	59135-030	3	28	.250	200	**10.40**	**8.84**	**7.80**
807-5809	59030-020	3	28	.250	200	**5.39**	**5.12**	**4.85**

Magnetic Acutators for Above

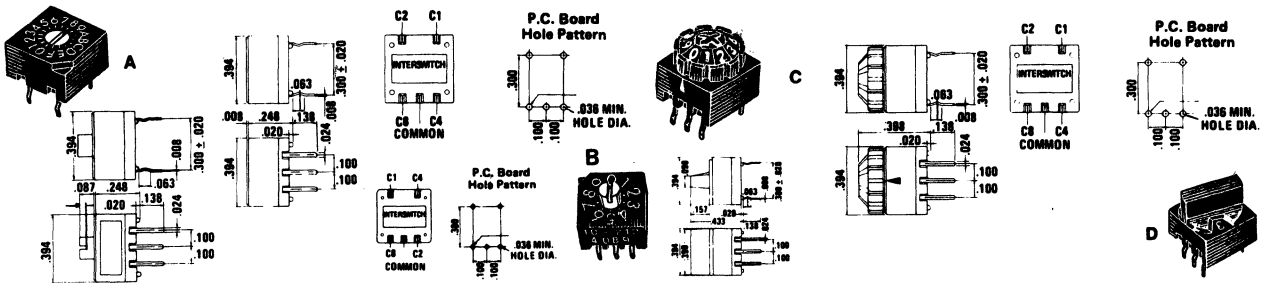
Stock No.	Mfr.'s Type	Oper. Dist.	Differential	Rel. Dist.	EACH 1-24	EACH 25-49	EACH 50-99
807-5701	57135-000	To 5/8"	1/8-1/4"	9/16-13/16"	**3.15**	**2.70**	**2.48**
807-5805	57015-000	To 29/32"	1/32-7/16"	39/64-1"	**3.85**	**3.27**	**2.89**
807-5810	5810	To 5/8"	1/8-1/4"	9/16-3/16"	**2.58**	**2.15**	**1.98**

Rotary DIP Code Switches

► **Kinked terminals to hold switches in PC board to prevent lift off in wave soldering. Switches are still socket pluggable.**
► **Knob and wheel type switches may be hand adjusted.**
► **The wheel type RDS switch is designed so that it may be mounted on the end or side of a PCB and adjusted from the side without pulling the board out of the cage.**
► **Detent action is positive and firm assuring reliable settings.**
► **These switches may be interchanged with EECO and others.**
► **Optional red or green, screen indicator or knob color available.**
► **New right angle socket for mounting standard rotary switches provides possible 4-point contact.**

The new RDS rotary DIP switches embody many new improved features and at a reduced cost! This new model features molded-in contacts, ultrasonic welded body to base and an "O" ring around the rotor shaft. These features insure an absolute seal to fluxes, flux gasses and cleaners. (Acceptable solvents are isopropyl alcohol, ethyl alcohol, toluene, benzine, tricylene, clorocene, freon; acetone and methanol solvents are not acceptable.)

Current rating and voltage: Non switching 125 mA at 30 VDC; Switching 125 mA at 30 VDC. **Contact resistance:** 100 milliohms maximum. **Insulation resistance:** 1000 megohms at 250 VDC for 1 minute minimum. **Durability:** 20,000 actuations. **Positions:** 10 and 16. **Temperature rating:** – 25°C (– 13°F) to 85°C (185°F). **Body:** Glass-filled polyamide (UL94V-0). **Contacts:** Copper alloy, selective gold plating over nickel. **Rotor control:** Polyacetal. **Rotor switch element:** Glass epoxy, gold over nickel plated circuits.

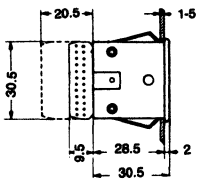


Stock No.	Mfr.'s Type	No. of Pos.	Fig.	Description	EACH 1-99	100-249	250-499	500-999
657-1000	RDS10-112	10	A	BCD Real Code	2.44	2.09	1.94	1.83
657-1005	RDS10-122	10	A	BCD Compliment	2.64	2.26	2.10	1.98
657-1010	RDS10-312	10	C	BCD Real Code	2.44	2.09	1.94	1.83
657-1015	RDS10-322	10	C	BCD Compliment	3.64	3.12	2.90	2.73
657-1020	RDS16-112	16	A	Hexadecimal Real	2.54	2.17	2.02	1.90
657-1025	RDS16-122	16	A	Hexadecimal Compliment	2.57	2.20	2.05	1.93
657-1030	RDS16-312	16	C	BCD Real Code	3.84	3.29	3.06	2.88
657-1035	RDS16-322	16	C	BCD Compliment	3.84	3.29	3.06	2.88
657-1040	RDS10-132	10	A	EECO-Hexadecimal Real	2.44	2.09	1.94	1.83
657-1045	RDS10-142	10	A	EECO-Hexadecimal Compliment	2.44	2.09	1.94	1.83
657-1050	RDS10-232	10	B	EECO-BCD Real Code	2.39	2.04	1.90	1.79
657-1055	RDS10-432	10	D	EECO-Hexadecimal Real	2.76	2.36	2.19	2.06
657-1060	RDS16-142	16	A	EECO-BCD Compliment	2.52	2.16	2.01	1.89
—	—	—	—	—	—	—	—	—

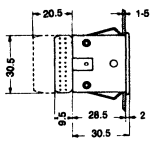
Thumbwheel Switches

Type "H"

These switches are relatively small in size and are used extensively in instrumentation and test equipment. They are mounted through the panel from the front and snap into place and held firm by a pair of springs attached to each end plate. **Contact rating:** 100 milliamps. **Max. Current:** 1 amp. **Working voltage:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resist. at 20°C:** 10^5 megohms. **Temperature range:** – 55°C to + 85°C. **Character height:** 4mm.



Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH 1-49	50-99	100-450
657-2000	HBW	—	End Plates (Pair)	2.73	2.38	2.14
657-2005	HBY	—	Spacer	1.68	1.46	1.32
657-2010	HB010/LS	10	Single Pole Decimal	9.41	8.07	7.53
657-2015	HB010/S	10	Single Pole Decimal	8.88	7.61	7.11
657-2020	HB731/LS	10	BCD Positive	8.73	7.48	6.99
657-2025	HB731/S	10	BCD Positive	8.20	7.02	6.56



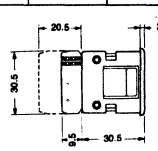
Type "M"

The type "M" thumbwheel switch is of relatively small size and is designed for use in computers, machine tool controls, data handling equipment and test equipment. This series is designed for front panel insertions into a panel cutout and requires no separate mounting hardware. **Contact rating:** 100 milliamps. **Max. current:** 1 amp. **Working voltage:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resistance at 20°C:** 10^5 megohms. **Temperature:** – 25°C to + 70°C. **Height:** 4mm.

Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH 1-49	50-99	100-450
657-2060	MBW	—	End Plates (Pair)	2.73	2.38	2.14
657-2065	MBY	—	Spacer	1.68	1.46	1.32
657-2070	MB010/LS	10	Single Pole Decimal	9.41	8.07	7.53
657-2075	MB010/S	10	Single Pole Decimal	8.88	7.61	7.11
657-2080	MB731/LS	10	BCD Positive	8.73	7.48	6.99
657-2085	MB731/S	10	BCD Positive	8.20	7.02	6.56
657-2090	M2	—	Nut	.05	.05	.04
657-2095	M2X150T	—	Rod; Requires 2 Nuts	1.05	.91	.82

Type "U"

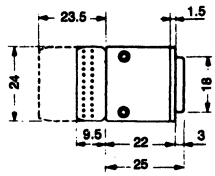
This series is front panel mounted for insertion into a rectangular panel cutout. They are designed for use in computers, machine tool controls, data handling equipment and test equipment. **Contact rating:** 100 milliamps. **Max. current:** 1 amp. **Working voltage:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resistance at 20°C:** 10^3 megohms. **Temperature range:** – 25°C to + 70°C. **Character height:** 5mm.



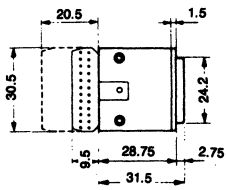
Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH 1-49	50-99	100-450
657-2130	UBW	—	End Plates (Pair)	1.89	1.65	1.48
657-2135	UBJ	—	Spacer	1.89	1.65	1.48
657-2140	UB010/LS	10	Single Pole Decimal	7.86	6.74	6.29
657-2145	UB010/S	10	Single Pole Decimal	7.33	6.28	5.87
657-2150	UB731/LS	10	BCD Positive	7.06	6.05	5.65
657-2155	UB731/S	10	BCD Positive	6.53	5.60	5.23

Type "L"

This series is designed for rear panel insertion into a rectangular panel cutout. They are designed for use in computers, machine tool controls, data handling equipment and test equipment. Their small size gives you the most switch with the least panel space. **Working voltage:** 50V AC or DC. **Contact rating:** 75 milliamps. **Max. current:** 1 amp. **Insulation resistance at 20°C:** 10^3 megohms. **Operating temperature:** – 25°C to + 70°C. **Character height:** 4mm.



Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH 1-49	50-99	100-450
657-2030	LBW	—	End Plates (Pair)	2.31	2.01	1.81
657-2035	LBY	—	Spacer	1.68	1.46	1.32
657-2040	LB010/LS	10	Single Pole Decimal	7.30	6.25	5.84
657-2045	LB010/S	10	Single Pole Decimal	6.76	5.80	5.41
675-2050	LB731/LS	10	BCD Positive	7.06	6.05	5.65
675-2055	LB731/S	10	BCD Positive	6.53	5.60	5.23



Type "P"

This series of switch is designed for rear panel insertion into a rectangular panel cutout. The type "P" thumbwheel switch is used in computers, machine tool controls, data handling equipment and test equipment. **Contact rating:** 100 milliamps. **Max. current:** 50V AC or DC. **Dielectric strength:** 500V. **Insulation resistance at 20°C:** 10^5 megohms. **Temperature range:** – 55°C to + 85°C. **Character height:** 4mm.

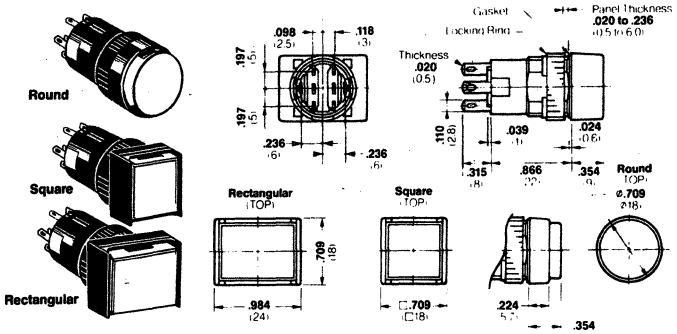
Stock No.	Mfr.'s Type	No. of Pos.	Description	EACH 1-49	50-99	100-450
657-2100	PBW	—	End Plates (Pair)	2.31	2.01	1.81
657-2105	PBY/2.7	—	Spacer	2.31	2.01	1.81
657-2110	PB010/LS	10	Single Pole Decimal	9.41	8.07	7.53
657-2115	PB010/S	10	Single Pole Decimal	8.88	7.61	7.11
657-2120	PB731/LS	10	BCD Positive	8.73	7.48	6.99
657-2125	PB731/S	10	BCD Positive	8.20	7.02	6.56

Connectors for Types H, L, M, P & U

Stock No.	Mfr.'s Type	Description	EACH 1-49	50-99	100-450
657-2200	CU300-644*	Solder Lugs w/out Mounting Ears	4.61	4.02	3.62
657-2205	CU300-645*	Wire Wrap w/out Mounting Ears	4.61	4.02	3.62
657-2210	CU400-217	Solder Lugs w/out Mounting Ears	5.04	4.39	3.96
657-2215	CU400-218	Wire Wrap w/out Mounting Ears	5.04	4.39	3.96
657-2220	CU400-354	PC Pins w/out Mounting Ears	5.04	4.39	3.96

*For Type "L" only.

A Series 16mm Miniature Pushbutton Switches



Rating: 3 A 250 V AC/DC. **Contact Configuration:** SPDT, DPDT. **Contact Resistance:** 50 mΩ max. **Insulation Resistance:** 100 MΩ min. (500 VDC megger). **Dielectric Strenth:** Switch unit — 2000 VAC, 1 min. between live/dead part and terminal of different poles; 1000 VAC, 1 min. between terminal of same pole; 1500 VAC between contact and lamp terminals. Illumination unit — 2000 VAC, 1 min. between live part/ground. **Operating Temperature:** -25°C to +55°C (no freezing); incandescent type -25°C to +40°C. **Maximum Voltage:** 250 V AC/DC. **Operating Voltage:** 24 V, 120 V, 240 V. **Contact Material:** Gold-silver clad. **Terminals:** Solder lug. **LED Lamp Ratings. Operating Voltage:** 12 VDC ± 10%; 24 VDC ± 10%. **Rated Voltage:** 12 VDC; 24 VDC. **Rated Current:** 13 mA; 10 mA.

A Series Accessories and Tools

Stock No.	Mfr.'s Type	Description	EACH 1-9	EACH 10-99	EACH 100-499
814-1001	MT-001	Locking Ring Wrench	4.00	3.80	3.60
814-1002	MT-101	Lens Removal Tool	1.00	.95	.90
814-1003	OR-77	Lamp Holder	1.50	1.43	1.35
814-1005	AL-K6	Switch Guard*	2.00	1.90	1.80
814-1006	AL-KH6	Switch Guard†	2.00	1.90	1.80

*Round/Square. †Rectangular Note: Locking ring wrench can be used on AP Series Pilot Lights.

LED Illuminated Oiltight Enclosure (IP65) Momentary Action

Stock No.	Mfr.'s Type	Lens Shape	Color	Contacts	VDC	EACH 1-9	EACH 10-99	EACH 100-499
814-1007	AL6M-M13P-R	Round	Red	SPDT	12	8.55	8.12	7.70
814-1008	AL6M-M13P-G	Round	Grn	SPDT	12	8.55	8.12	7.70
814-1009	AL6M-M13P-A	Round	Ambr	SPDT	12	8.55	8.12	7.70
814-1010	AL6M-M13P-Y	Round	Yel	SPDT	12	8.55	8.12	7.70
814-1011	AL6M-M13P-W	Round	Wht	SPDT	12	8.55	8.12	7.70
814-1012	AL6M-M23P-R	Round	Red	DPDT	12	10.10	9.60	9.09
814-1013	AL6M-M23P-G	Round	Grn	DPDT	12	10.10	9.60	9.09
814-1014	AL6M-M23P-A	Round	Ambr	DPDT	12	10.10	9.60	9.09
814-1015	AL6M-M23P-Y	Round	Yel	DPDT	12	10.10	9.60	9.09
814-1016	AL6M-M23P-W	Round	Wht	DPDT	12	10.10	9.60	9.09
814-1017	AL6M-M14P-R	Round	Red	SPDT	24	8.55	8.12	7.70
814-1018	AL6M-M14P-G	Round	Grn	SPDT	24	8.55	8.12	7.70
814-1019	AL6M-M14P-A	Round	Ambr	SPDT	24	8.55	8.12	7.70
814-1020	AL6M-M14P-Y	Round	Yel	SPDT	24	8.55	8.12	7.70
814-1021	AL6M-M14P-W	Round	Wht	SPDT	24	8.55	8.12	7.70
814-1022	AL6M-M24P-R	Round	Red	DPDT	24	10.10	9.60	9.09
814-1023	AL6M-M24P-G	Round	Grn	DPDT	24	10.10	9.60	9.09
814-1024	AL6M-M24P-A	Round	Ambr	DPDT	24	10.10	9.60	9.09
814-1025	AL6M-M24P-Y	Round	Yel	DPDT	24	10.10	9.60	9.09
814-1026	AL6M-M24P-W	Round	Wht	DPDT	24	10.10	9.60	9.09
814-1027	AL6Q-M13P-R	Square	Red	SPDT	12	8.55	8.12	7.70
814-1028	AL6Q-M13P-G	Square	Grn	SPDT	12	8.55	8.12	7.70
814-1029	AL6Q-M13P-A	Square	Ambr	SPDT	12	8.55	8.12	7.70
814-1030	AL6Q-M13P-Y	Square	Yel	SPDT	12	8.55	8.12	7.70
814-1031	AL6Q-M13P-W	Square	Wht	SPDT	12	8.55	8.12	7.70
814-1032	AL6Q-M23P-R	Square	Red	DPDT	12	10.10	9.60	9.09
814-1033	AL6Q-M23P-G	Square	Grn	DPDT	12	10.10	9.60	9.09
814-1034	AL6Q-M23P-A	Square	Ambr	DPDT	12	10.10	9.60	9.09
814-1035	AL6Q-M23P-Y	Square	Yel	DPDT	12	10.10	9.60	9.09
814-1036	AL6Q-M23P-W	Square	Wht	DPDT	12	10.10	9.60	9.09

Stock No.	Mfr.'s Type	Lens Shape	Color	Contacts	VDC	EACH 1-9	EACH 10-99	EACH 100-499
814-1037	AL6Q-M14P-R	Square	Red	SPDT	24	8.55	8.12	7.70
814-1038	AL6Q-M14P-G	Square	Grn	SPDT	24	8.55	8.12	7.70
814-1039	AL6Q-M14P-A	Square	Ambr	SPDT	24	8.55	8.12	7.70
814-1040	AL6Q-M14P-Y	Square	Yel	SPDT	24	8.55	8.12	7.70
814-1041	AL6Q-M14P-W	Square	Wht	SPDT	24	8.55	8.12	7.70
814-1042	AL6Q-M24P-R	Square	Red	DPDT	24	10.10	9.60	9.09
814-1043	AL6Q-M24P-G	Square	Grn	DPDT	24	10.10	9.60	9.09
814-1044	AL6Q-M24P-A	Square	Ambr	DPDT	24	10.10	9.60	9.09
814-1045	AL6Q-M24P-Y	Square	Yel	DPDT	24	10.10	9.60	9.09
814-1046	AL6Q-M24P-W	Square	Wht	SPDT	24	10.10	9.60	9.09
814-1047	AL6H-M13P-R	Rect.	Red	SPDT	12	8.55	8.12	7.70
814-1048	AL6H-M13P-G	Rect.	Grn	SPDT	12	8.55	8.12	7.70
814-1049	AL6H-M13P-A	Rect.	Ambr	SPDT	12	8.55	8.12	7.70
814-1050	AL6H-M13P-Y	Rect.	Yel	SPDT	12	8.55	8.12	7.70
814-1051	AL6H-M13P-W	Rect.	Wht	SPDT	12	8.55	8.12	7.70
814-1052	AL6H-M23P-R	Rect.	Red	DPDT	12	10.10	9.60	9.09
814-1053	AL6H-M23P-G	Rect.	Grn	DPDT	12	10.10	9.60	9.09
814-1054	AL6H-M23P-A	Rect.	Ambr	DPDT	12	10.10	9.60	9.09
814-1055	AL6H-M23P-Y	Rect.	Yel	DPDT	12	10.10	9.60	9.09
814-1056	AL6H-M23P-W	Rect.	Wht	DPDT	12	10.10	9.60	9.09
814-1057	AL6H-M14P-R	Rect.	Red	SPDT	12	8.55	8.12	7.70
814-1058	AL6H-M14P-G	Rect.	Grn	SPDT	24	8.55	8.12	7.70
814-1059	AL6H-M14P-A	Rect.	Ambr	SPDT	24	8.55	8.12	7.70
814-1060	AL6H-M14P-Y	Rect.	Yel	SPDT	24	8.55	8.12	7.70
814-1061	AL6H-M14P-W	Rect.	Wht	SPDT	24	8.55	8.12	7.70
814-1062	AL6H-M24P-R	Rect.	Red	DPDT	24	10.10	9.60	9.09
814-1063	AL6H-M24P-G	Rect.	Grn	DPDT	24	10.10	9.60	9.09
814-1064	AL6H-M24P-A	Rect.	Ambr	DPDT	24	10.10	9.60	9.09
814-1065	AL6H-M24P-Y	Rect.	Yel	DPDT	24	10.10	9.60	9.09
814-1066	AL6H-M24P-W	Rect.	Wht	DPDT	24	10.10	9.60	9.09

Non-Illuminated Oiltight Enclosure (IP65)/Momentary Action

Stock No.	Mfr.'s Type	Lens Shape	Color	Contacts	EACH 1-9	EACH 10-99	EACH 100-499
814-1067	AB6M-M1P-B	Round	Black	SPDT	7.00	6.65	6.30
814-1068	AB6M-M1P-R	Round	Red	SPDT	7.00	6.65	6.30
814-1069	AB6M-M1P-G	Round	Green	SPDT	7.00	6.65	6.30
814-1070	AB6M-M1P-W	Round	White	SPDT	7.00	6.65	6.30
814-1071	AB6M-M1P-Blu	Round	Blue	SPDT	7.00	6.65	6.30
814-1072	AB6M-M1P-Y	Round	Yellow	SPDT	7.00	6.65	6.30
814-1073	AB6M-M2P-B	Round	Black	DPDT	8.65	8.22	7.79
814-1074	AB6M-M2P-R	Round	Red	DPDT	8.65	8.22	7.79
814-1075	AB6M-M2P-G	Round	Green	DPDT	8.65	8.22	7.79
814-1076	AB6M-M2P-W	Round	White	DPDT	8.65	8.22	7.79
814-1077	AB6M-M2P-Blu	Round	Blue	DPDT	8.65	8.22	7.79
814-1078	AB6M-M2P-Y	Round	Yellow	DPDT	8.65	8.22	7.79
814-1079	AB6Q-M1P-B	Round	Black	SPDT	7.00	6.65	6.30
814-1080	AB6Q-M1P-R	Square	Red	SPDT	7.00	6.65	6.30
814-1081	AB6Q-M1P-G	Square	Green	SPDT	7.00	6.65	6.30
814-1082	AB6Q-M1P-W	Square	White	SPDT	7.00	6.65	6.30
814-1083	AB6Q-M1P-Blu	Square	Blue	SPDT	7.00	6.65	6.30
814-1084	AB6Q-M1P-Y	Square	Yellow	SPDT	7.00	6.65	6.30

Stock No.	Mfr.'s Type	Lens Shape	Color	Contacts	EACH 1-9	EACH 10-99	EACH 100-499
814-1085	AB6Q-M2P-B	Square	Black	DPDT	8.65	8.22	7.79
814-1086	AB6Q-M2P-R	Square	Red	DPDT	8.65	8.22	7.79
814-1087	AB6Q-M2P-G	Square	Green	DPDT	8.65	8.22	7.79
814-1088	AB6Q-M2P-W	Square	White	DPDT	8.65	8.22	7.79
814-1089	AB6Q-M2P-Blu	Square	Blue	DPDT	8.65	8.22	7.79
814-1090	AB6Q-M2P-Y	Square	Yellow	DPDT	8.65	8.22	7.79
814-1091	AB6Q-M1P-B	Rect.	Black	SPDT	7.00	6.65	6.30
814-1092	AB6H-M1P-R	Rect.	Red	SPDT	7.00	6.65	6.30
814-1093	AB6H-M1P-G	Rect.	Green	SPDT	7.00	6.65	6.30
814-1094	AB6H-M1P-W	Rect.	White	SPDT	7.00	6.65	6.30
814-1095	AB6H-M1P-Blu	Rect.	Blue	SPDT	7.00	6.65	6.30
814-1096	AB6H-M1P-Y	Rect.	Yellow	SPDT	7.00	6.65	6.30
814-1097	AB6H-M2P-B	Rect.	Black	DPDT	8.65	8.22	7.79
814-1098	AB6H-M2P-R	Rect.	Red	DPDT	8.65	8.22	7.79
814-1099	AB6H-M2P-G	Rect.	Green	DPDT	8.65	8.22	7.79
814-1100	AB6H-M2P-W	Rect.	White	DPDT	8.65	8.22	7.79
814-1101	AB6H-M2P-Blu	Rect.	Blue	DPDT	8.65	8.22	7.79
814-1102	AB6H-M2P-Y	Rect.	Yellow	DPDT	8.65	8.22	7.79

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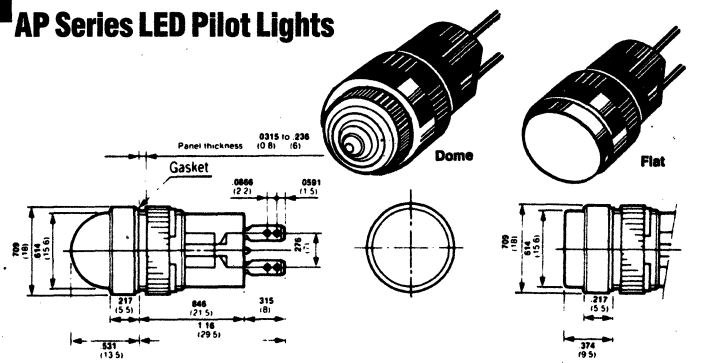
AP Series LED Pilot Lights



Input: Full Voltage. **Operational Voltages:** 12, 24 VDC. **Current Ratings:** 36 mA/6 VDC, 18 mA/12 and 24 VDC. **Insulation Resistance:** 100 MΩ minimum (500 VDC megger). **Reverse Withstand Voltage:** 200 V. **Degree of Protection:** IP65. **Terminal Style:** Solder Type.

Full Voltage/Solder Terminal Type

Stock No.	Mfr.'s Type	Lens Shape	Color	VDC	EACH 1-9	EACH 10-99	EACH 100-499
814-1103	AP6M211-R	Dome	Red	12	6.00	5.40	4.80
814-1104	AP6M211-G	Dome	Grn	12	6.00	5.40	4.80
814-1105	AP6M211-A	Dome	Ambr	12	6.00	5.40	4.80
814-1106	AP6M211-Y	Dome	Yel	12	6.00	5.40	4.80
814-1107	AP6M211-W	Dome	Wht	12	6.00	5.40	4.80
814-1108	AP6M222-R	Dome	Red	24	6.00	5.40	4.80
814-1109	AP6M222-G	Dome	Grn	24	6.00	5.40	4.80
814-1110	AP6M222-A	Dome	Ambr	24	6.00	5.40	4.80
814-1111	AP6M222-Y	Dome	Yel	24	6.00	5.40	4.80
814-1112	AP6M222-W	Dome	Wht	24	6.00	5.40	4.80
814-1113	AP6M111-R	Flat	Red	12	6.00	5.40	4.80
814-1114	AP6M111-G	Flat	Grn	12	6.00	5.40	4.80
814-1115	AP6M111-A	Flat	Ambr	12	6.00	5.40	4.80
814-1116	AP6M111-Y	Flat	Yel	12	6.00	5.40	4.80
814-1117	AP6M111-W	Flat	Wht	12	6.00	5.40	4.80
814-1118	AP6M122-R	Flat	Red	24	6.00	5.40	4.80
814-1119	AP6M122-G	Flat	Grn	24	6.00	5.40	4.80
814-1120	AP6M122-A	Flat	Ambr	24	6.00	5.40	4.80
814-1121	AP6M122-Y	Flat	Yel	24	6.00	5.40	4.80
814-1122	AP6M122-W	Flat	Wht	24	6.00	5.40	4.80

Need Larger Quantity Prices? Call Toll-Free 1-800-433-5700 for Prompt Handling

Oiltight Control Units

UL Listed and CSA Approved

The majority of IDEC assembled control units are UL Listed and CSA Certified. Contact IDEC for details.

UL FILE NO. E70646 CSA FILE NO. LR48366

General Specifications

Dielectric Strength:	2,500 V AC, 1 minute. Between live and dead parts (Full voltage units: 1,000 V Ac, 1 minute)
Mechanical Life (Minimum Operations):	Pushbuttons and Illuminated Pushbuttons. Momentary: 5,000,000 oper. Others: 500,000 Selector Switches Non-Illuminated and Illuminated: 500,000
Electrical Life (Minimum Operations):	5000,000 (Except pilot lights) Operating Frequency: 30 oper./min. Duty Rate 40%

Degrees of Protection

Units	NEMA	IEC Pub 529
Pushbuttons	—	—
Pilot Lights	—	—
Illuminated Pushbuttons	Type	IP65
Selector Switches	1, 2, 3, 3R, 4, 5, 12, 13	IP54

LED Lamp Ratings

Rated Voltage	24 VDC	120 VAC
Rated Current	18 mA	10 mA
Lamp Base	T3¼ Miniature Bayonet Base	
Color Code	(*) Red, Green, Amber	

Contact Ratings

Rated Operational Current	AC (Inductive Load) 120 V/6, 240 V/3 A, 480 V/1.5 A, 600 V/1.2 A	DC (Resistive Load) 120 V/2 A, 240 V/1.1 A, 480 V/0.4 A
Rated Thermal Current	10A	
Rated insulation Voltage	600 VAC/DC	

Note: UL rating-Heavy pilot duty 600 V maximum.

Transformer Ratings

Primary/ Secondary	Application Rating Incandescent Lamp
120 V/6 V	6 to 7 V/1 W

Note: UL rating: primary voltage 120 V to 480 VAC. Secondary Voltage Rating: 6.3 V/1 W.

Pushbuttons, Switches, and Pilot Lights

Flush Mount Momentary Action Pushbuttons (Fig.'s A and B)

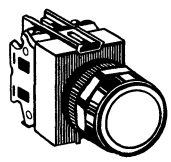
Fig. A 1 13/64" (30 mm) Full Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH 1-24	25-49	50-99
814-0001	ABD110N-R	Red	1NO	**16.80**	**12.83**	**10.86**
814-0002	ABD110N-B	Black	1NO	**16.80**	**12.83**	**10.86**
814-0003	ABD110N-G	Green	1NO	**16.80**	**12.83**	**10.86**
814-0004	ABD101N-R	Red	1NC	**16.80**	**12.83**	**10.86**
814-0005	ABD101N-B	Black	1NC	**16.80**	**12.83**	**10.86**
814-0006	ABD101N-G	Green	1NC	**16.80**	**12.83**	**10.86**
814-0007	ABD111N-R	Red	1NO-1NC	**22.80**	**17.41**	**14.73**
814-0008	ABD111N-B	Black	1NO-1NC	**22.80**	**17.41**	**14.73**
814-0009	ABD111N-G	Green	1NO-1NC	**22.80**	**17.41**	**14.73**

A

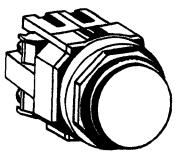
Fig. B 7/8" (22 mm) Miniature Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH 1-24	25-49	50-99
814-0010	ABW110-R	Red	1NO	**11.50**	**8.78**	**7.43**
814-0011	ABW110-B	Black	1NO	**11.50**	**8.78**	**7.43**
814-0012	ABW110-G	Green	1NO	**11.50**	**8.78**	**7.43**
814-0013	ABW101-R	Red	1NC	**11.50**	**8.78**	**7.43**
814-0014	ABW101-B	Black	1NC	**11.50**	**8.78**	**7.43**
814-0015	ABW101-G	Green	1NC	**11.50**	**8.78**	**7.43**
814-0016	ABW111-R	Red	1NO-1NC	**16.90**	**12.91**	**10.92**
814-0017	ABW111-B	Black	1NO-1NC	**16.90**	**12.91**	**10.92**
814-0018	ABW111-G	Green	1NO-1NC	**16.90**	**12.91**	**10.92**



B

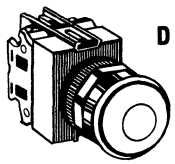
Mushroom Type—Emergency Stop—Momentary Pushbuttons (Fig.'s C and D)



C

Fig. C. 1 13/64" (30 mm) Full Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH 1-24	25-49	50-99
814-0019	ABD310N-R	Red	1NO	**28.80**	**22.00**	**18.61**
814-0020	ABD301N-R	Red	1NC	**28.80**	**22.00**	**18.61**
814-0021	ABD311N-R	Red	1NO-1NC	**34.80**	**26.58**	**22.49**



D

Fig. D 7/8" (22 mm) Miniature Size

Stock No.	Mfr.'s Type	Color	Contacts	EACH 1-24	25-49	50-99
814-0022	ABW410-R	Red	1NO	**16.90**	**12.91**	**10.92**
814-0023	ABW401-R	Red	1NC	**16.90**	**12.91**	**10.92**
814-0024	ABW411-R	Red	1NO-1NC	**22.30**	**12.91**	**10.92**

Maintained Selector Switches—Black with White Insert (Fig.'s E and F)

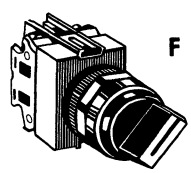
Fig. E 1 13/64" (30 mm) Full Size

Stock No.	Mfr.'s Type	Number of Positions	Contacts	EACH 1-24	25-49	50-99
814-0025	ASD210N	2	1NO	**20.80**	**15.89**	**13.44**
814-0026	ASD201N-116	2	1NC	**20.80**	**15.89**	**13.44**
814-0027	ASD211N	2	1NO-1NC	**26.80**	**20.47**	**17.32**
814-0028	ASD320N	3	2NO	**26.80**	**20.47**	**17.32**
814-0029	ASD302N	3	2NC	**26.80**	**20.47**	**17.32**

E

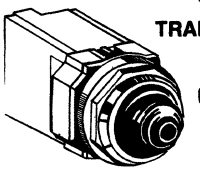
Fig. F 7/8" (22 mm) Miniature Size

Stock No.	Mfr.'s Type	Number of Positions	Contacts	EACH 1-24	25-49	50-99
814-0030	ASW210	2	1NO	**15.10**	**11.53**	**9.75**
814-0031	ASW201-116	2	1NC	**15.10**	**11.53**	**9.75**
814-0032	ASW211	2	1NO-1NC	**20.50**	**15.65**	**13.24**
814-0033	ASW320	3	2NO	**20.50**	**15.65**	**13.24**
814-0034	ASW302	3	2NC	**20.50**	**15.65**	**13.24**



F

Round Domed Lens Pilot Lights (Fig.'s G, H, J, and K)

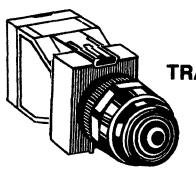


TRANSFORMER TYPE

G

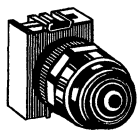
DIRECT TYPE

H



TRANSFORMER TYPE

J



DIRECT TYPE

K

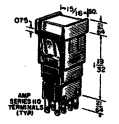
Fig.'s G and H 1 13/64" (30 mm) Full Size

Stock No.	Mfr.'s Type	VAC	Style	Color	EACH 1-9	10-99	100-249
814-0035	APD1126N-120-R	120	Trans.	Red	**42.80**	**32.69**	**27.66**
814-0036	APD1126N-120-G	120	Trans.	Green	**42.80**	**32.69**	**27.66**
814-0037	APD1126N-120-A	120	Trans.	Amber	**42.80**	**32.69**	**27.66**
814-0038	APD199N-120-R	120	Direct	Red	**34.80**	**26.58**	**22.49**
814-0039	APD199N-120-G	120	Direct	Green	**34.80**	**26.58**	**22.49**
814-0040	APD199N-120-A	120	Direct	Amber	**34.80**	**26.58**	**22.49**
814-0041	APD199N-24-R	24	Direct	Red	**34.80**	**26.58**	**22.49**
814-0042	APD199N-24-G	24	Direct	Green	**34.80**	**26.58**	**22.49**
814-0043	APD199N-24-A	24	Direct	Amber	**34.80**	**26.58**	**22.49**

Fig.'s J and K 7/8" (22 mm) Miniature Size

Stock No.	Mfr.'s Type	VAC	Style	Color	EACH 1-9	10-99	100-249
814-0044	APW21260-120-R	120	Trans.	Red	**37.40**	**28.56**	**24.17**
814-0045	APW21260-120-G	120	Trans.	Green	**37.40**	**28.56**	**24.17**
814-0046	APW21260-125-A	120	Trans.	Amber	**37.40**	**28.56**	**24.17**
814-0047	APW299D-120-R	120	Direct	Red	**20.40**	**15.58**	**13.18**
814-0048	APW299D-120-G	120	Direct	Green	**20.40**	**15.58**	**13.18**
814-0049	APW299D-120-A	120	Direct	Amber	**20.40**	**15.58**	**13.18**
814-0050	APW299D-24-R	24	Direct	Red	**19.40**	**14.82**	**12.54**
814-0051	APW299D-24-G	24	Direct	Green	**19.40**	**14.82**	**12.54**
814-0052	APW299D-24-A	24	Direct	Amber	**19.40**	**14.82**	**12.54**

15



01-665 Series Snap-In One-Light Pushbutton Switches

Snap-in panel mounting. Can be mounted individually or in various strip arrays. Basic switch mechanism is butterfly double break snap action switch. **Terminal:** 0.110″ quick connect. Accept one T-1¾ flange base incandescent lamp, ordered separately. Replaceable from front panel. UL recognized, CSA certified. 10.1 amps, 125/250 VAC.

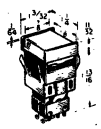
Stock No.	Mfr.'s Type	Action	Description	Housing	EACH 1-49	EACH 50-99
746-0063	01-665111	Alternate	1 Form C	1	16.62	15.75
746-0064	01-665112	Alternate	1 Form C	2	16.62	15.75
746-0065	01-665116	Alternate	1 Form C	6	16.62	15.75
746-0066	01-665136	Alternate	1 Form Z	6	16.62	15.75
746-0067	01-665212	Alternate	2 Form C	2	21.48	20.60
746-0068	01-665216	Alternate	2 Form C	6	21.48	20.60
746-0069	01-665232	Alternate	2 Form Z	2	21.48	20.60
746-0070	01-665236	Alternate	2 Form Z	6	21.48	20.60
746-0071	01-665512	Momentary	1 Form C	2	12.48	10.52
746-0072	01-665516	Momentary	1 Form C	6	12.48	10.52
746-0073	01-665612	Momentary	2 Form C	2	17.27	16.35
746-0074	01-665616	Momentary	2 Form C	6	17.27	16.35
746-0075	01-665632	Momentary	2 Form Z	2	17.27	16.35
746-0076	01-665002	Momentary	Indicator	2	9.42	7.75

Housing Styles: 1 — Vertical row mount with vertical barriers. 2 — Horizontal row mount with vertical barriers. 6 — Horizontal row mount with bezel only.

Lens Cap

Stock No.	Mfr.'s Type	Color	EACH 1-49	EACH 50-99
746-0077	01-921411	Solid White	2.06	1.90
746-0078	01-921412	Solid Red	2.06	1.90
746-0079	01-921413	Solid Green	2.06	1.90
746-0080	01-921421	Projected White	4.00	3.68
746-0081	01-921422	Projected Red	4.00	3.68
746-0082	01-921423	Projected Green	4.00	3.68

01-865 Series Rectangular Snap-In Pushbutton Switches



Snap-in panel mounting. Butterfly snap-action basic switch mechanism. Solder lug terminals. Accept one T-1¾ flange base incandescent lamp, ordered separately. Rectangular bezel-barrier housing. UL recognized, CSA certified. Rated 10.1 amps, 125/250 VAC.

Stock No.	Mfr.'s Type	Action	Description	EACH 1-49	EACH 50-99
746-0083	01-865000	Momentary	Indicator Only	8.53	7.98
746-0084	01-865510	Momentary	1 Pole Form C	16.83	15.95
746-0085	01-865530	Momentary	1 Pole Form Z	16.83	15.95
746-0086	01-865610	Momentary	2 Pole Form C	21.60	20.40
746-0087	01-865630	Momentary	2 Pole Form Z	21.60	20.40
746-0088	01-865110	Alternate	1 Pole Form C	26.14	24.95
746-0089	01-865130	Alternate	1 Pole Form Z	26.14	24.95
746-0090	01-865210	Alternate	2 Pole Form C	30.86	28.90
746-0091	01-865230	Alternate	2 Pole Form Z	30.86	28.90

1⅛ × ⅞″ Lens Cap

Color	Solid Color Stock No.	Solid Color Mfr.'s Type	Solid Color 1-49	Solid Color 50-99	Projected Color Stock No.	Projected Color Mfr.'s Type	Projected Color 1-49	Projected Color 50-99
White	746-0092	01-951911	2.19	2.01	746-0095	01-951921	2.64	2.43
Red	746-0093	01-951912	2.19	2.01	746-0096	01-951922	2.64	2.43
Green	746-0094	01-951913	2.19	2.01	746-0097	01-951923	2.64	2.43

05-1 and 05-2 Series Pushbutton Switches

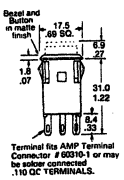
05 series switches are available in double and single pole; lighted, nonplighted and indicator only; and in momentary and maintained action. Contacts are bifurcated, silver-plated and have self cleaning action. Snap in bezel mount fits .625″ square cutout. Lighted switch accepts T-1¾ wedge base bulb. Rated at 125 VAC, unit is UL recognized and CSA certified. Lens cap is 0.51″ square, unit fits panel thickness .031-.093″.

Lighted Switches

Stock No.	Mfr.'s Type	Contacts	Action	EACH 1-49	EACH 50-99
746-0098	05-115	1 Pole NO	Momentary	2.12	1.95
746-0099	05-125	2 Pole NO	Momentary	4.09	3.76
746-0100	05-135	SPDT	Momentary	3.62	3.33
746-0101	05-105	Indicator only	—	1.20	1.10
746-0102	05-145	SPDT	Maintained	5.14	4.73

Unlighted Switches — TY 05-2

746-0103	05-215	1 Pole NO	Momentary	1.72	1.58
746-0104	05-225	2 Pole NO	Momentary	3.57	3.28
746-0105	05-235	SPDT	Momentary	3.22	2.96
746-0106	05-245	SPDT	Maintained	4.55	4.19

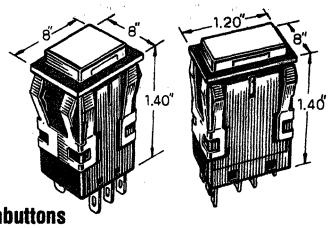


Terminal fits AMP Terminal Connector # 60310-1 or may be solder connected .110 QC TERMINALS.

Lens Caps for 05-1 and 05-2 Series

Stock No.	Mfr.'s Type	Color	EACH 1-49	EACH 50-99
746-0107	80-050007	White	0.49	0.45
746-0108	80-050008	Red	0.49	0.45
746-0109	80-050009	Green	0.49	0.45
746-0110	80-050011	Yellow	0.49	0.45
746-0111	80-050012	Amber	0.49	0.45

50 Series Pushbutton Switches



Mechanical and solid-state control pushbuttons and indicators come in square and rectangular shapes. **Max. electrical rating:** 40 mA @ 17 VDC sinking for solid-state switches, hall effect switches; 3 A @ 125 VAC for silver contact switches; 100 mA @ 24 VDC for gold contact switches. **Terminal:** 0.110″ quick connector of *PCB. Order pushbuttons below. See lamp index to order T-1¾ wedge lamp. SPDT Circuitry.

50 Series Hall Effect, Square Incandescent Pushbuttons

Stock No.	Mfr.'s Type	Action	EACH 1-49	EACH 50-99
746-0112	50-11CBA2AA	Momentary	8.82	8.30
746-0113	50-11CBA2AE	Alternate	8.94	8.40

0 Series Hall Effect, Square Lit Pushbuttons, 5 Volt LED

746-0114	50-12CBS2AA*	Momentary	13.12	12.25

* Green LED.

50 Series Square Lit Electromechanical Pushbuttons, 3A/125 VAC

746-0115	50-21BBA2AA	Momentary	5.25	4.91
746-0116	50-21BBA2AB	Alternate	5.39	5.01

50 Series Square Incandescent Electromechanical Pushbuttons, 3A/125 VAC

746-0117	50-21CBA2AA	Momentary	6.78	6.38
746-0118	50-21CBA2AB	Alternate	6.91	6.50
746-0119	50-21CBA3AA	Momentary	6.78	6.38

50 Series Square Incandescent Electromechanical Pushbuttons, Logic Level

746-0120	50-21CBA2BA	Momentary	7.64	7.15
746-0121	50-21CBA2BB	Alternate	7.78	7.30
746-0122	50-21CBA3BA	Momentary	7.64	7.15

50 Series Rectangular Incandescent Electromechanical Pushbuttons, 3A/125 VAC

746-0123	50-21FBA2AA	Momentary	7.40	6.95
746-0124	50-21FBA2AB	Alternate	7.59	7.10
746-0125	50-21FBA2AD	Momentary	9.25	8.65

50 Series Rectangular Incandescent Electromechanical Pushbutton, Logic Level

746-0126	50-21FBA2BA	Momentary	8.27	7.75

50 Series Square LED Electromechanical Pushbuttons, Logic Level

Stock No.	Mfr.'s Type	Action/Circuitry/ LED Color	EACH 1-49	EACH 50-99
746-0127	50-22CBC2BA	Mom/SPDT/Red	12.18	11.40
746-0128	50-22CBC2BB	Alt/SPDT/Red	12.32	11.49
746-0129	50-22CBJ2BA	Mom/SPDT/Yellow	12.18	11.40
746-0130	50-22CBJ2BB	Alt/SPDT/Yellow	12.32	11.49
746-0131	50-22CBS2BA	Mom/SPDT/Green	12.18	11.40
746-0132	50-22CBS2BB	Alt/SPDT/Green	12.32	11.49

50 Series Lighted Indicators, Square

Stock No.	Mfr.'s Type	Lamp Type	EACH 1-49	EACH 50-99
746-0133	50-41CBA2	Incandescent	4.40	4.15
746-0134	50-41CBA3*	Incandescent	4.40	4.15
746-0135	50-42CBC2	Red LED	10.17	9.49
746-0136	50-42CBJ2	Yellow LED	10.17	9.49
746-0137	50-42CBS2	Green LED	10.17	9.49

50 Series Unlit and Incandescent Square Buttons

Stock No.	Mfr.'s Type	Button Height Above Panel	Color	EACH 1-49	EACH 50-99	EACH 100-499
746-0138	50-51A10G	.32″	Green	1.37	1.26	0.93
746-0139	50-51A10K	.32″	Black	1.37	1.26	0.93
746-0140	50-51A10R	.32″	Red	1.37	1.26	0.93
746-0141	50-51A10W	.32″	White	1.37	1.26	0.93
746-0142	50-51C10B	.19″	Blue	0.56	0.52	0.42
746-0143	50-51C10G	.19″	Green	0.56	0.52	0.42
746-0144	50-51C10K	.19″	Black	0.56	0.52	0.42
746-0145	50-51C10R	.19″	Red	0.56	0.52	0.42
746-0146	50-51C10W	.19″	White	0.56	0.52	0.42
746-0147	50-51C10Y	.19″	Yellow	0.56	0.52	0.42

50 Series Unlit and Incandescent Rectangular Buttons

746-0148	50-51F10G	.19″	Green	0.66	0.61	0.50
746-0149	50-51F10K	.19″	Black	0.66	0.61	0.50
746-0150	50-51F10R	.19″	Red	0.66	0.61	0.50
746-0151	50-51F10W	.19″	White	0.66	0.61	0.50

50 Series LED Switch Buttons

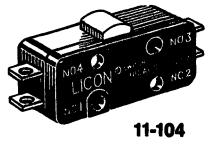
746-0152	50-52C10K	.19″	Black	0.56	0.52	0.42
746-0153	50-52C10W	.19″	White	0.56	0.52	0.42

Switches

Type 11 Miniature Switches.

High capacity two circuit double break mechanism. Wiping action. UL recognized, CSA certified. SPDT-DB. For Z. 3/4 Hp. 250 VAC. 10 amps @ 125/250 VAC 75%-80% P.F.

Stock No.	Mfr.'s Type	Terminals	Description	EACH 1-49	EACH 50-99
746-0033	11-104	End Solder	Basic Switch	7.17	5.88
746-0034	11-204	#4 Screw	Basic Switch	7.25	5.95
746-0035	11-304	Side Solder	Basic Switch	6.78	5.56
746-0036	11-504	Quick Disconnect, 250	Basic Switch	6.97	5.72



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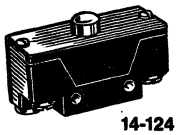
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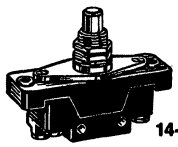
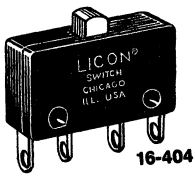
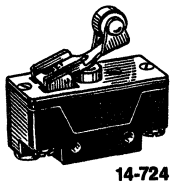
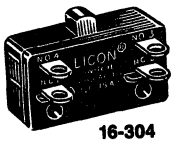

14-324



16-404


14-724

16-104



16-304

Heavy Duty Switches.

Type 14. Industrial limit switch. Double break mechanism for high electrical rating. UL recognized. 20 A @ 125/250 480 VAC. 75-80% PF. SPDT-DB. Form Z.

Type 14 Standard Mount Switches

Stock No.	Mfr.'s Type	Oper. Force Oz.	Release Force	Pre-Travel Max.	Over Travel Min.	Movement Differential	EACH 1-49	EACH 50-99
746-0037	14-324	12 ± 3	4 Oz. Min.	.074	.219	.020 ± .007	18.30	15.01
746-0038	14-124	12 ± 3	4 Oz. Min.	.074	.030	.020 ± .007	12.56	10.30
746-0039	14-724	5 ± 2	2 Oz. Min.	.156	.060	.046 ± .012	16.42	13.46

Type 16 Standard Mount Switches

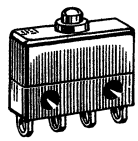
746-0040	16-104	5	2 Oz. Min.	.050	.012	.020 ± .005	7.85	6.44
746-0041	16-304	5	2 Oz. Min.	.050	.012	.020 ± .005	7.86	6.45
746-0042	16-404	5	2 Oz. Min.	.050	.012	.020 ± .005	7.28	5.97
746-0043	16-403	5	2 Oz. Min.	.050	.012	.020 ± .005	7.28	5.97
746-0044	16-504	5	2 Oz. Min.	.050	.012	.020 ± .005	7.28	5.97

Sub Subminiature and Pole Switches.

Type 18 Sub Subminiature Switch

Double break. **Rated:** 7 A @ 125/250 VAC; 3 amps inductive @ 28 VDC. UL recognized. Diallyl phthalate case.

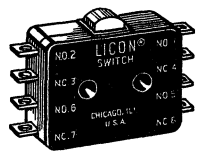
Stock No.	Mfr.'s Type	Terminal	Circuit	EACH 1-49	EACH 50-99
746-0045	18-40421	Solder-Lug	SPDT-D8	14.11	11.57


18-40421

Type 22 Double Pole Switches

DPDT high current interruption. **Rated:** 10 A @ 125/250 VAC. 75-80% PF. UL recognized. 10 amps @ RES 28 VDC. Wiping action.

746-0046	22-104	End Solder	DPDT-DB (Form ZZ)	19.25	15.79
746-0047	22-304	Side Solder	DPDT-DB (Form ZZ)	19.25	15.79
746-0048	22-504	1/2" Quick Disconnect	DPDT-DB (Form ZZ)	19.25	15.79

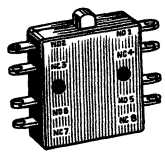


22-304

Type 26 Double Pole Subminiature Switches

Two butterfly double break mechanisms. Poles operate simultaneously due to special linkage. Uses Type 76 actuators. UL rated 8 amps @ 125/250 VAC. 75-80% PF. UL recognized. DPDT-DB (Form ZZ). 10 amps resistive, 5 inductive @ 28 VDC.

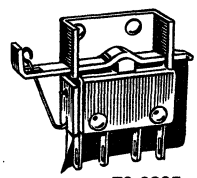
746-0049	26-804	End Solder	DPDT-DB (Form ZZ)	20.50	16.81
746-0050	26-904	Side Solder	DPDT-DB (Form ZZ)	22.05	18.08


26-804

Type 76-6 Single Pole Switch

Subminiature door interlock switch for electronic equipment. Manual set for servicing. Uses Type 25 or 36 double break switches.

746-0051	76-6005	.100" Lug	Single pole	11.46	9.40


76-6005

Actuators for Above Switches

Type 11

Stock No.	Mfr.'s Type	Kind	Oper. Force Oz.	RLS Force Oz.	Pre-Travel	Over Travel	Move Differential	EACH
746-0052	71-1040	Roller	5.5 Max.	1 3/4 Min.	.093 Max.	.062 Min.	.045 ± .015	2.98
746-0053	71-2010	O.T.	8 + 3	4 Min.	.062 Max.	.216 Min.	.020 ± .010	7.43

Type 16/26/36

746-0054	76-1200	Roller	4 Max.	1 Min.	.125 Max.	.025 Min.	.045 ± .001	2.98
746-0055	76-1210	Lever	2.5 Max.	1 Min.	.125 Max.	.025 Min.	.047 ± .013	3.41
746-0056	76-1220	Roller	5 + 3—2	2 Min.	.050 Max.	.050 Min.	.020 ± .005	7.16

Type 18

746-0057	78-3000	Lever	5 ± 3	1 1/2 Min.	.035	.006	.015 ± .005	4.44
746-0058	78-3100	Roller	6 ± 2	2 Min.	.125 Max.	.030 Min.	.035 ± .015	5.30

Type 22

746-0059	72-1160	Roller	10 Max.	1.5 Min.	.150 Max.	.035 Min.	.064 ± .015	4.38

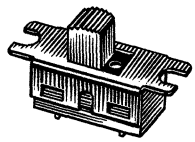
Switch Kits

ITW Switches now offers switch kits for three of its switch products. Series 39 includes over 300 Series 39 pushbutton switches, LEDs, buttons, keycaps, light pipes, and connectors. **Series 60** includes 66 Series 60 pushbutton switches (2 styles), 144 caps (all colors and sizes) and 60 LED supports. **Type 16** includes 44 Type 16 switches (9 different styles) and 24 actuators and hardware (4 styles of Type 76 actuators). With these kits, you can build the switch you need immediately!

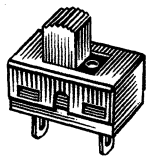
Stock No.	Mfr.'s Type	EACH
746-0060	39-KIT	143.00
746-0061	60-KIT	108.90
746-0062	16-KIT	148.50

Mini Mike™ Line of Slide Action Switches

Types 23-021-017 and **23-021-040** are ultra low bounce maintained models. **23-021-105, 23-021-112, 23-021-113** and **23-021-114** are slide switches with snap-action contacts. **23-021-304** is SPDT 4 terminal form Z SPST-NO + SPST-NC slide switch.



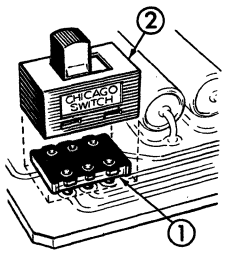
23-021 Panel Mount



23-021 PC Mount

Stock No.	Mfr.'s Type	Circuit	Mount	Terminal	Button		Rating	EACH	
					Height	Color		1-99	100-249
746-0001	23-021-017†	SPST*	Panel	.20″	.20″	Black	1 amp	**3.69**	**2.21**
746-0002	23-021-040†	SPST*	PC	.12″	.20″	Black	125 VAC	**3.69**	**2.21**
746-0003	23-021-105	SPDT	PC	.12″	.20″	Black	250 mA	**5.19**	**3.32**
746-0004	23-021-112	SPDT	Panel	.12″	.20″	Black	30 VDC	**5.19**	**3.32**
746-0005	23-021-113	DPDT	Panel	.12″	.20″	Black	100 mA	**2.92**	**2.64**
746-0006	23-021-114	DPDT	PC	.12″	.20″	Black	125 VAC	**5.90**	**3.77**
746-0007	23-021-304‡	Form Z*	PC	.12″	.14″	Black	500 mA	**3.69**	**2.21**

*Hot Stamped: On-Off. †UL listed. ‡UL recognized.



1. Insert lower base half into PC board by hand or automatically. Wave solder same as other components. Clean board to remove excess flux.

2. When clean and dry, snap and clean uncontaminated upper switch half in place by hand. No tools needed.

Mr. Clean II Wave Solderable Miniature Slide Switches

- **Over Center Snap-Action**
- **Gold Contacts**
- **Insert Molded Pins**

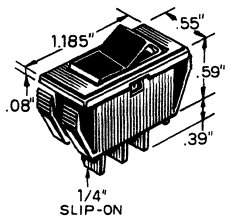
These anti-contamination design switches feature insert molded base and hard gold over nickel barrier as standard for low energy applications. Compatible with fluroinated and aqueous cleaning methods. 2-piece assembly.

Stock No.	Mfr.'s Type	Circuit	Mount	Terminal	Button		EACH	
					Height	Color	1-99	100-249
746-0008	124-240-020	SPDT (2 Sub-Assy.)	PC	0.120″	0.200″	Black	**1.55**	**.93**
746-0009	124-440-020	DPDT (2 Sub-Assy.)	PC	0.120″	0.200″	Black	**1.75**	**1.05**

Rocker Switches

Single and Double Pole Unlighted Rocker Switches

UL recognized and CSA certified.



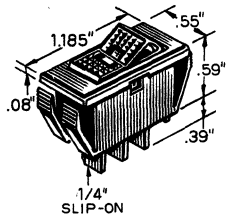
161 SERIES

Stock No.	Mfr.'s Type	Circuit	Switch Rating	Rocker Color	Case Color	EACH	
						1-99	100-249
746-0010	161-009-009	SPST, On-Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	White	Black	**1.08**	**.65**
746-0011	161-029-009	SPST, On-Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Red	Black	**1.09**	**.66**
746-0012	161-099-009	SPST, On-Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Black	Black	**1.08**	**.65**
746-0013	161-900-001*	SPST, On-Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Black	Black	**1.14**	**.71**
746-0014	161-099-019	SPST-NO, Momentary On	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Black	Black	**1.57**	**.83**
746-0015	161-099-049	SPDT, 3-pos. Center Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Black	Black	**1.27**	**.67**
746-0016	163-099-009	SPDT, On-Off	16A, 3/4 HP, 125VAC; 12A, 3/4 HP, 250VAC	Black	Black	**1.36**	**.72**
746-0017	163-099-029	SPDT, Maintained	16A, 3/4 HP, 125VAC; 12A, 3/4 HP, 250VAC	Black	Black	**1.48**	**.78**
746-0018	171-029-109	On-Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Red	Black	**2.33**	**1.23**
746-0019	171-099-109	On-Off	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Black	Black	**2.30**	**1.22**
746-0020	171-099-129	Maintained	10A, 1/2 HP, 125VAC; 8A, 1/2 HP, 250VAC	Black	Black	**2.53**	**1.34**

*Hot Stamped: On-Off.

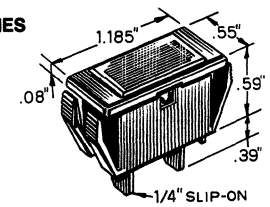
Single Pole Lighted Rocker Switches

- **UL Recognized, CSA Certified**
- **Snap-In Installation**
- **Compact Size**
- **Large Hole Panel Cutout Adapter**



Stock No.	Mfr.'s Type	Rating/ Circuit	Rocker Color	Case Color	Lamp	EACH	
						1-99	100-249
746-0021	161-029-004	10 amp 125VAC; SPST ON-OFF; 1/2 HP	Red	Black	9-14V Incandescent	**2.99**	**1.92**
746-0022	161-049-004	10 amp 125VAC; SPST ON-OFF; 1/2 HP	Amber	Black	9-14V Incandescent	**2.98**	**1.58**
746-0023	161-029-006	10 amp 125VAC; SPST ON-OFF; 1/2 HP	Red	Black	125V Neon	**3.25**	**1.72**
746-0024	161-049-006	10 amp 125VAC; SPST ON-OFF; 1/2 HP	Amber	Black	125V Neon	**3.24**	**2.28**
746-0025	163-029-006	16 amp 125VAC; SPST ON-OFF	Red	Black	125V Neon	**3.40**	**2.17**

150 SERIES



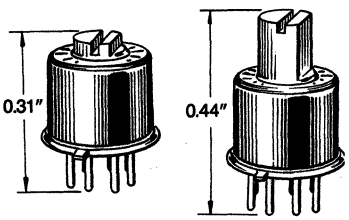
150 Series Panel Indicator Lights

Compact indicators for applications where reliability, economy, styling, smallness are key. Snap-in type mounting allows easy installation without additional mounting hardware. Recommended panel cutout 0.48 × 1.08″ snaps into panels 0.015 to 0.125″ thick. UL recognized, CSA certified. **Termination:** 1/4″ slip-on.

Stock No.	Mfr.'s Type	Lamp	Lens Color	Case Color	EACH	
					1-99	100-249
746-0026	150-009-109	125V Neon	White	Black	**3.03**	**1.93**
746-0027	150-029-109	125V Neon	Red	Black	**3.06**	**1.96**
746-0028	150-049-109	125V Neon	Amber	Black	**3.14**	**2.01**

Series TO-5 Spasaver™ Rotary Switches

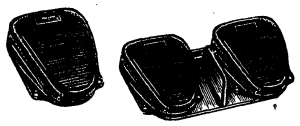
- **Subminiature package size (.36″ Dia.)**
- **Up to 8 positions at 45° indexing. 1 pole.**
- **Low energy switch contacts (gold over nickel plating)**
- **Glass to metal sealer header.**
- **0.025″ P.C. terminals on 0.200″ bolt circle.**
- **Shaft dia. 0.170″ with flat and slot.**
- **Shaft length 0.31″ or 0.44″ from P.C. board.**



The TO-5 Spasaver™ switch offers high quality and reliability in a very small package. Glass-to-metal seal header prevents solder from entering on contact pins. **Contact rating:** 500 mA @ 125 VAC. Life expectancy in excess of 10,000 operations. **Hypot:** 600 V rms (60 Hz). **Actuation Torque:** 85 in g max. initially.

Stock No.	Mfr.'s Type	Position	Shaft Length	EACH		
				1-24	25-49	50-99
746-0029	30-303-005	3	.31	**3.94**	**3.35**	**3.25**
746-0030	30-303-018	3	.44	**3.94**	**3.35**	**3.25**
746-0031	30-404-005	4	.31	**3.94**	**3.35**	**3.25**
746-0032	30-505-005	5	.31	**3.94**	**3.35**	**3.25**

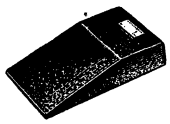
632 Clipper Series



The rugged, long life "Clipper" models have a patented molded nylon acuating cam that ensures long trouble-free performance. All models rated 20 Amps 1 Hp at 125-250VAC. **Models 632-D** and **632-S** consists of a cast-iron housing with skidproof base pads, black wrinkle finish and strain relief connector. **Model 632-S Twin** consists of two SPDT switches, on a heavy steelbase. **Dimensions:** 632-D and 632-S, 4 1/2 × 3 1/2 × 1/2". 632-S Twin, 8 3/8 × 4 1/2 × 1 1/2". **Weight:** 632-D and 632-S — 2 1/4 lbs.; 632-S Twin — 5 lbs.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6691	632-D	SPDT Maintained	31.71	29.44
842-6690	632-S	SPDT Momentary	21.56	18.48
842-6692	632-S Twin	SPDT Momentary	50.77	47.15

Junior Foot Switches



The low, smooth style plus its ease of operation make these models an ideal switch for both office or shop use. **Model 121-S** rated 20 Amps, 1 Hp at 125-250VAC. **Model 124-S** rated 20 Amp 1/2 Hp at 125-250 VAC. Both feature aluminum cast housings with a black wrinkle finish and a skidproof base. Supplied with strain relief clamps and bushings for a wide variety of cord sizes. **Dimensions:** 5 1/2 × 3 1/4 × 1 1/4". **Weight:** 1 lb.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6605	121-S	SPDT Momentary	24.68	22.91
842-6610	124-S	DPDT Momentary	29.66	27.54

Nautilus Foot Switches

Rugged aluminum casting for long life. Piston type acuator sealed with "O" rings. Electrical Contacts sealed in a "Well." Can actually be operated when submerged in water. Waterproof, oilproof, rust and dustproof. Grey enamel finish. **Model WP-541-D** rated 12 Amp at 125VAC, 6 Amp at 250VAC. **Model WP-541-S** rated 20 Amp at 125-250 VAC. **Dimensions:** 8 × 4 × 2 1/2". **Weight:** 2 1/4 lbs.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6615	WP-541-D	SPDT Maintained	129.97	120.69
842-6620	WP-541-S	SPDT Momentary	129.97	120.69

491 Series Compact Foot Switches

Strong steel housing with black finish and a skidproof base. Small compact and lightweight. This model was built for a long life. All type rated 10 Amps at 125VAC. **Dimensions:** 2 7/8 × 2 1/2 × 1 1/8". **Weight:** 7 oz.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6680	491-S	SPDT Momentary	9.18	8.52
842-6682*	491-SC3	SPST Momentary	17.09	15.87
842-6684**	491-SC36	SPST Momentary	15.73	14.60

* Wired N.O. and supplied with an 8' 16/3 cord with a 3 prong series plug. Green lead grounded.
** Wired N.O. and supplied with an 8' 16/3 cord without plug. Green lead grounded.

Lektro-Lok Foot Switches

The Lektro-Lok operates on the teeter-totter principle. Pressure on one side opens or closes circuits, release and switch return to normal off position. Mechanical interlock prevents operation of both circuits at the same time. Second position operates independent of first. Both sides can be wired N.O. or N.C. All connections made internally with only one cord coming out. Rugged stamped metal housing has a black finish and a skidproof base. Both type rated 10 Amps at 125VAC. **Dimensions:** 5 × 2 1/2 × 1 1/4". **Weight:** 10 oz.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6634	L-2-S	SPDT Momentary*	16.94	15.73
842-6635	L-4-S	DPDT Momentary*	31.66	29.40

* Both sides.

Executive Foot Switches

Uses same operating principle as "Lektro-Lok" series with internal wiring and one cord coming out. Also incorporates mechanical interlock to prevent accidental operation of both circuits at the same time. Both types rated 10 Amps at 125-250VAC. Modern style die cast cover is medium grey with skidproof back. **Dimensions:** 5 5/8 × 4 × 1 1/8". **Weight:** 1 1/4 lbs.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6640	72	SPDT Momentary*	22.54	20.91
842-6645	74	DPDT Momentary*	32.74	30.40

* Both sides.

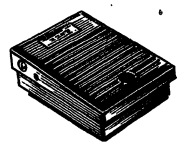
Duplex Foot Switches

This neat cast aluminum housing is pivoted in the center for easy heel-toe operation. Uses same mechanical interlock system as the Executive and Lektro-Lok switches. Comes with an adjustable strain relief connector for most cord sizes. Smooth black finish with a skidproof base. Rated 15 Amps 1/2 Hp at 125-250VAC. **Dimensions:** 8 1/2 × 3 1/2 × 2". **Weight:** 1 3/4 lbs.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6670	476-S	SPDT Momentary*	37.62	34.93

* Both sides.

Treadlite Foot Switches



Operating efficiency and handsome appearance go hand-in-hand with this compact, versatile foot-switch. Each model has a heavy tread on the actuating trendle and a skidproof base. Formed steel casings with a black finish. All models rated 7 Amps, 1/6 Hp at 125VAC. **Dimensions:** 3 1/2 × 2 5/8 × 1". **Weight:** 7 oz.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6658	T-51-S	SPDT Momentary	8.00	7.43
842-6660*	T-51-SC3	SPST Momentary	15.09	14.01
842-6662**	T-51-3C36	SPST Momentary	11.95	11.10

* Supplied with 6' 18/3 SJT cable with 3 prong series plug, green lead grounded.
** Supplied with 6" 18/3 SJT cable without play.

Gem Foot Switches

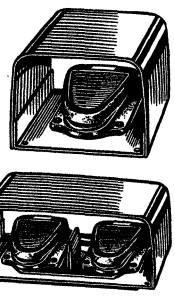
These switches feature a round, black actuating cap in a chrome plated heavy die-cast housing with a full non-skid base pad. Moderate pressure from any direction operates the switch. Internal over travel stop ring prevents damage to switch when excessive force is applied. The **GEM-3** is supplied with a 6' 18/3 cord and a 3 prong plug, green lead grounded. The **GEM-36** is supplied with a 6" 18/3 cord without plug. Both type rated 7 Amps, 1/6 Hp at 125VAC. **Dimensions:** 3 13/16 × 17/32". **Weight:** 1 lb., without cord set.

Stock No.	Mfr.'s Type	Circuit	EACH	
			1-9	10-Up
842-6003*	GEM-3	SPST Momentary	20.57	19.10
842-6036*	GEM-36	SPST Momentary	19.14	17.77

* Wired N.O.

Full-Foot Switch Guards

- **Pre-Drilled**
- **Alert Orange Color**
- **Complete With Hardware and Instructions**

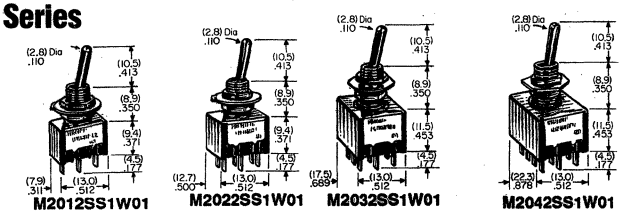


Type 522-B14. Full single guard. Accepts most "classic" and "compact" foot switch models. **Dimensions:** 6 × 6 × 4 1/2". **Weight:** 4 lbs.
842-6652. 1-9 .....EACH 15.55
10-Up .....EACH 14.44

Type 522-B12. Full Twin Guard. Accepts twin clapper style only. **Dimensions:** 11 × 6 × 4 1/2". **Weight:** 7 lbs.
842-6653. 1-9 .....EACH 27.05
10-Up .....EACH 25.11

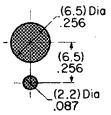
15

M Series



356,000 different configurations; most popular shown here. **Features:** epoxy sealed terminals, high torque bushings, antijamming levers, stainless steel housing, and silver or gold contacts. **Electrical Capacity:** 6A @ 125V AC or 30V DC for silver. **Contact Resistance:** 10 milliohms maximum. **Insulation Resistance:** 1,000 megohms minimum @ 500V DC. **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** 25,000 operations minimum (silver). **Ambient Temperature:** – 15°C ≈ + 85°C. **Angle of Throw:** 25°. Bright chrome plated brass levers. **Standard hardware:** 2 hex nuts, 1 locking ring, and 1 lockwasher.

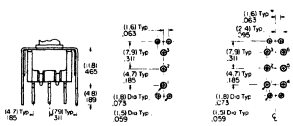
Bat Lever with Threaded Bushing and Solder Lugs



Dimensioned photo above. 1/4″-40 threaded bushing with keyway. **Maximum panel thickness:** .102″. **Standard hardware:** 2 hex nuts, 1 locking ring, 1 lockwasher. **Terminal holes:** .043″ × .079″.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8600	M2012SS1W01	SPDT	on-none-on	3.30	2.84	2.51	2.21
870-8601	M2013SS1W01	SPDT	on-off-on	3.80	3.27	2.89	2.55
870-8602	M2015SS1W01	SPDT	on-none-(on)	3.80	3.27	2.89	2.55
870-8603	M2018SS1W01	SPDT	(on)-off-(on)	3.80	3.27	2.89	2.55
870-8604	M2019SS1W01	SPDT	on-off-(on)	3.80	3.27	2.89	2.55
870-8610	M2024SS1W01	SP3T	on-on-on	5.90	5.07	4.48	3.95
870-8611	M2026SS1W01	SP3T	(on)-on-(on)	6.30	5.42	4.79	4.22
870-8612	M2027SS1W01	SP3T	on-on-(on)	6.30	5.42	4.79	4.22
870-8605	M2022SS1W01	DPDT	on-none-on	4.60	3.96	3.50	3.08
870-8606	M2023SS1W01	DPDT	on-off-on	5.30	4.56	4.03	3.55
870-8607	M2025SS1W01	DPDT	on-none-(on)	5.45	4.69	4.14	3.65
870-8608	M2028SS1W01	DPDT	(on)-off-(on)	5.45	4.69	4.14	3.65
870-8609	M2029SS1W01	DPDT	on-off-(on)	5.45	4.69	4.14	3.65
870-8617	M2044SS1W01	DP3T	on-on-on	13.50	11.61	10.26	9.04
870-8618	M2046SS1W01	DP3T	(on)-on-(on)	13.50	11.61	10.26	9.04
870-8619	M2047SS1W01	DP3T	on-on-(on)	13.50	11.61	10.26	9.04
870-8613	M2032SS1W01	3PDT	on-none-on	8.00	6.88	6.08	5.36
870-8614	M2033SS1W01	3PDT	on-off-on	9.00	7.74	6.84	6.03
870-8615	M2042SS1W01	4PDT	on-none-on	10.50	9.03	7.98	7.04
870-8616	M2043SS1W01	4PDT	on-off-on	11.50	9.89	8.74	7.70

Bat Lever, Smooth Bushing and Straight PC W/Bracket



.244″ diameter smooth bushing with keyway.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-9900	M2012SS2W13	SPDT	on-none-on	3.70	3.18	2.81	2.48
870-9901	M2013SS2W13	SPDT	on-off-on	4.20	3.61	3.19	2.81
870-9902	M2015SS2W13	SPDT	on-none-(on)	4.20	3.61	3.19	2.81
870-9903	M2018SS2W13	SPDT	(on)-off-(on)	4.20	3.61	3.19	2.81
870-9904	M2019SS2W13	SPDT	on-off-(on)	4.20	3.61	3.19	2.81
870-9905	M2024SS2W13	SP3T	on-on-on	6.66	5.73	5.06	4.46
870-9906	M2022SS2W13	DPDT	on-none-on	5.36	4.61	4.07	3.59
870-9907	M2023SS2W13	DPDT	on-off-on	6.06	5.21	4.61	4.06
870-9908	M2025SS2W13	DPDT	on-none-(on)	6.21	5.34	4.72	4.16
870-9909	M2028SS2W13	DPDT	(on)-off-(on)	6.21	5.34	4.72	4.16

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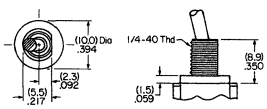
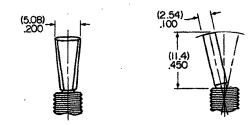
Bat Lever, Threaded Splashproof Bushing and Solder Lug Terminals



1/4″-40 threaded bushing with D-flat. **Maximum panel thickness:** .193″. **Standard hardware:** 1 hex nut and 1 rubber o-ring. **Terminal holes:** .043″ × .079″.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8630	M2012SD3W01	SPDT	on-none-on	4.00	3.44	3.04	2.68
870-8631	M2013SD3W01	SPDT	on-off-on	4.50	3.87	3.42	3.01
870-8632	M2015SD3W01	SPDT	on-none-(on)	4.50	3.87	3.42	3.01
870-8633	M2018SD3W01	SPDT	(on)-off-(on)	4.50	3.87	3.42	3.01
870-8634	M2019SD3W01	SPDT	on-off-(on)	4.50	3.87	3.42	3.01
870-8635	M2024SD3W01	SP3T	on-on-on	6.60	5.68	5.02	4.42
870-8636	M2022SD3W01	DPDT	on-none-on	5.30	4.56	4.03	3.55
870-8637	M2023SD3W01	DPDT	on-off-on	6.00	5.16	4.56	4.02
870-8638	M2025SD3W01	DPDT	on-none-(on)	6.15	5.29	4.67	4.12
870-8639	M2028SD3W01	DPDT	(on)-off-(on)	6.15	5.29	4.67	4.12
870-8642	M2044SD3W01	DP3T	on-on-on	14.20	12.21	10.79	9.51
870-8640	M2032SD3W01	3PDT	on-none-on	8.70	7.48	6.61	5.83
870-8641	M2033SD3W01	3PDT	on-off-on	9.70	8.34	7.37	6.50
870-8643	M2042SD3W01	4PDT	on-none-on	11.20	9.63	8.51	7.50
870-8644	M2043SD3W01	4PDT	on-off-on	12.20	10.49	9.27	8.17
870-8645	M2048SD3W01	4PDT	(on)-off-(on)	13.70	11.78	10.41	9.18

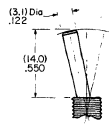
Flatted Lever, Threaded Bushing and Solder Lug Terminals



1/4″-40 threaded bushing with keyway. **Max. panel thickness:** .102″. **Standard hardware:** 2 hex nuts, 1 locking ring, 1 lockwasher. **Terminal holes:** .043″ × .079″.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8646	M2012ES1W01	SPDT	on-none-on	4.06	3.49	3.09	2.72
870-8647	M2013ES1W01	SPDT	on-off-on	4.56	3.92	3.47	3.06
870-8648	M2015ES1W01	SPDT	on-none-(on)	4.56	3.92	3.47	3.06
870-8649	M2018ES1W01	SPDT	(on)-off-(on)	4.56	3.92	3.47	3.06
870-8650	M2019ES1W01	SPDT	on-off-(on)	4.56	3.92	3.47	3.06
870-8651	M2024ES1W01	SP3T	on-on-on	6.66	5.73	5.06	4.46
870-8652	M2022ES1W01	DPDT	on-none-on	5.36	4.61	4.07	3.59
870-8653	M2023ES1W01	DPDT	on-off-on	6.06	5.21	4.61	4.06
870-8654	M2025ES1W01	DPDT	on-none-(on)	6.21	5.34	4.72	4.16
870-8655	M2028ES1W01	DPDT	(on)-off-(on)	6.21	5.34	4.72	4.16

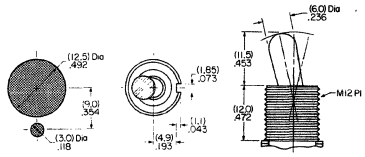
Cone Lever, Threaded Bushing and Solder Lugs



1/4″-40 threaded bushing with keyway. **Maximum panel thickness:** .102″. **Standard hardware:** 2 hex nuts, 1 locking ring, and 1 lockwasher. **Terminal holes:** .043″ × .079″.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-9910	M2012QS1W01	SPDT	on-none-on	3.30	2.84	2.51	2.21
870-9911	M2013QS1W01	SPDT	on-off-on	3.80	3.27	2.89	2.55
870-9912	M2022QS1W01	DPDT	on-none-on	4.60	3.96	3.50	3.08
870-9913	M2023QS1W01	DPDT	on-off-on	5.30	4.56	4.03	3.55
870-9914	M2032QS1W01	3PDT	on-none-on	8.00	6.88	6.08	5.36
870-9915	M2042QS1W01	4PDT	on-none-on	10.50	9.03	7.98	7.03

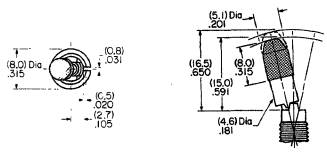
Large Lever and Bushing With Solder Lug Terminals



12mm diameter threaded bushing with keyway. **Maximum panel thickness:** .216″. **Standard hardware:** 2 hex nuts, 1 locking ring, and 1 lockwasher. **Terminal holes:** .043″ × .079″.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8656	M2012BB1W01	SPDT	on-none-on	4.30	3.70	3.27	2.88
870-8657	M2013BB1W01	SPDT	on-off-on	4.80	4.13	3.65	3.22
870-8658	M2015BB1W01	SPDT	on-none-(on)	4.80	4.13	3.65	3.22
870-8659	M2018BB1W01	SPDT	(on)-off(on)	4.80	4.13	3.65	3.22
870-8660	M2019BB1W01	SPDT	on-off-(on)	4.80	4.13	3.65	3.22
870-8666	M2024BB1W01	SP3T	on-on-on	6.90	5.93	5.24	4.62
870-8667	M2026BB1W01	SP3T	(on)-on-(on)	7.30	6.28	5.55	4.89
870-8668	M2027BB1W01	SP3T	on-on-(on)	7.30	6.28	5.55	4.89
870-8661	M2022BB1W01	DPDT	on-none-on	5.60	4.82	4.26	3.75
870-8662	M2023BB1W01	DPDT	on-off-on	6.30	5.42	4.79	4.22
870-8663	M2025BB1W01	DPDT	on-none-(on)	6.45	5.55	4.90	4.32
870-8664	M2028BB1W01	DPDT	(on)-off-(on)	6.45	5.55	4.90	4.32
870-8665	M2029BB1W01	DPDT	on-off-(on)	6.45	5.55	4.90	4.32
870-8669	M2032BB1W01	3PDT	on-none-on	9.00	7.74	6.84	6.03
870-8670	M2033BB1W01	3PDT	on-off-on	10.00	8.60	7.60	6.70
870-8671	M2035BB1W01	3PDT	on-none-(on)	12.00	10.32	9.12	8.04
870-8672	M2038BB1W01	3PDT	(on)-off-(on)	12.00	10.32	9.12	8.04
870-8673	M2042BB1W01	4PDT	on-none-on	11.50	9.89	8.74	7.71
870-8674	M2043BB1W01	4PDT	on-off-on	12.50	10.75	9.50	8.37
870-8675	M2045BB1W01	4PDT	on-none-(on)	14.50	12.47	11.02	9.71

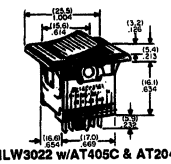
Locking Lever, Threaded Bushing and Solder Lugs



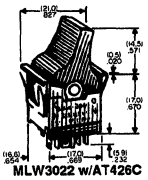
1/4″-40 threaded bushing with keyway. **Maximum panel thickness:** .102″. **Standard hardware:** 2 hex nuts, 1 locking ring, and 1 lockwasher. **Terminal holes:** .043″ × .079″.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8676	M2012LL1W01	SPDT	on-none-on	5.20	4.47	3.95	3.48
870-8677	M2013LL1W01	SPDT	on-off-on	5.70	4.90	4.33	3.82
870-8678	M2015LL1W01	SPDT	on-none-(on)	5.70	4.90	4.33	3.82
870-8679	M2018LL1W01	SPDT	(on)-off-(on)	5.70	4.90	4.33	3.82
870-8680	M2019LL1W01	SPDT	on-off-(on)	5.70	4.90	4.33	3.82
870-8681	M2022LL1W01	DPDT	on-none-on	6.50	5.59	4.94	4.35
870-8682	M2023LL1W01	DPDT	on-off-on	7.20	6.19	5.47	4.82
870-8683	M2028LL1W01	DPDT	(on)-off-(on)	7.35	6.32	5.59	4.92
870-8684	M2032LL1W01	3PDT	on-none-on	9.90	8.51	7.52	6.63
870-8685	M2033LL1W01	3PDT	on-off-on	10.90	9.37	8.28	7.30
870-8686	M2042LL1W01	4PDT	on-none-on	12.40	10.66	9.42	8.31
870-8687	M2043LL1W01	4PDT	on-off-on	13.40	11.52	10.18	8.98

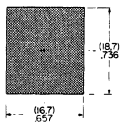
MLW Series



MLW3022 w/AT405C & AT204A



MLW3022 w/AT426C



Cutout

MLW features: lighted, snap-in mount, .902″ behind panel, front panel relampable, isolated lamp circuit, UL & CSA approvals, epoxy sealed terminals. **Electrical Capacity:** 5A resistive load @ 125V AC. **Dielectric Strength:** 1,500VAC minimum. **Electrical Life:** 10,000 operations minimum. **Operating Force:** 1014g for rockers & 460g for paddles. **Angle of Throw:** 26°. **Ambient Temp.:** – 10°C ≈ + 50°C.

Basic Switch with Solder Lug Terminals

Dimensioned photos above. Silver contacts rated 5A. Order caps and bezel separately. Matching indicator available. **Terminal holes:** .043″ × .079″. **Panel thickness:** .039″ - .157″ without bezel & .039″ × .118″ with bezel.

Stock No.	Mfr.'s No.	Pole Throw	Circuit ( ) = momentary	EACH			
				1-24	25-49	50-99	100-249
870-0801	MLW3012	SPDT	on-none-on	**5.00**	**4.50**	**4.25**	**3.75**
870-0802	MLW3013	SPDT	on-off-on	**5.40**	**4.86**	**4.59**	**4.05**
870-0803	MLW3015	SPDT	on-none-(on)	**5.40**	**4.86**	**4.59**	**4.05**
870-0804	MLW3018	SPDT	(on)-off-(on)	**5.60**	**5.04**	**4.76**	**4.20**
870-0805	MLW3019	SPDT	on-off-(on)	**5.60**	**5.04**	**4.76**	**4.20**
870-0806	MLW3022	DPDT	on-none-on	**5.80**	**5.22**	**4.93**	**4.35**
870-0807	MLW3023	DPDT	on-off-on	**6.40**	**5.76**	**5.44**	**4.80**
870-0808	MLW3025	DPDT	on-none-(on)	**6.40**	**5.76**	**5.44**	**4.80**
870-0809	MLW3028	DPDT	(on)-off-(on)	**6.60**	**5.94**	**5.61**	**4.95**
870-0810	MLW3029	DPDT	on-off-(on)	**6.60**	**5.94**	**5.61**	**4.95**

Caps, Bezel, & Lamps

Color Codes: A = black, B = white, C = red, E = yellow, F = green, G = blue, H = gray.

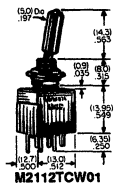
Stock No.	Mfr.'s Type	Description	EACH			
			1-24	25-49	50-99	100-249
870-0811	AT405B	White rocker cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0812	AT405C	Red rocker cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0816	AT405E	Yellow rocker cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0813	AT405F	Green rocker cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0815	AT405G	Blue rocker cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0817	AT426B	White paddle cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0818	AT426C	Red paddle cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0822	AT426E	Yellow paddle cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0819	AT426F	Green paddle cap	**0.75**	**0.67**	**0.64**	**0.56**
870-0821	AT426G	Blue paddle cap	**0.75**	**0.67**	**0.64**	**0.56**
870-8724	AT204A	Black bezel	**0.55**	**0.49**	**0.47**	**0.41**
870-0839	AT204B	White bezel	**0.55**	**0.49**	**0.47**	**0.41**
870-0842	AT204H	Gray bezel	**0.55**	**0.49**	**0.47**	**0.41**
870-0843	AT602-6V	6V incandescent lamp	**1.10**	**0.99**	**0.93**	**0.82**
870-0844	AT602-12V	12V incandescent lamp	**1.10**	**0.99**	**0.93**	**0.82**
870-0847	AT602-28V	28V incandescent lamp	**1.10**	**0.99**	**0.93**	**0.82**
870-8725	AT602N	110V neon lamp	**1.20**	**1.08**	**1.02**	**0.90**

Lamp Specifications

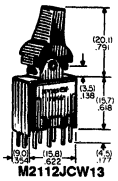
Specifications are determined at basic temperature of 25°C.

Voltage	6V	12V	28V	110V Neon	Recommended Resistor
Current	80mA	50mA	22mA	1.5mA	for Neon: 33KΩ for 110V
Endurance	2000 hrs	2000 hours	2000 hrs	2000 hrs	& 100KΩ for 220VAC

M2100 Series



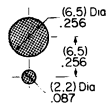
M2112TCW01



M2112JCW13

M2100 features: LED-tipped, antijamming, high torque bushing, epoxy sealed terminals. **Electrical Capacity:** 6A resistive load @ 125V AC (silver); 0.4VA max. @ 28V max. AC/DC (gold). **Dielectric Strength:** 1,5000V AC min. **Elec. Life:** 25,000 operations min. **Angle of Throw:** 20°. Synchronous & isolated LED circuits. **Ambient Temp.:** – 10°C ≈ + 55°C for toggles and – 25°C ≈ + 70°C for paddles.

Toggle Actuator with Synchronous LED & Solder Lug Terminals



Dimensions above. Silver contacts rated 6A. 1/4″-40 dia. bushing. Terminal holes .043″ × .079″. **Hardware:** 2 hex nuts, 1 locking ring, & 1 lockwasher. Panel thickness .102″. **LED Coding:** C = red single color, F = green single color, CF = red/green bicolor.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH			
				1-24	25-99	100-499	500-999
870-8726	M2112TCW01	SPDT	on-none-on	**5.50**	**4.73**	**4.18**	**3.68**
870-8727	M2112TFW01	SPDT	on-none-on	**5.50**	**4.73**	**4.18**	**3.68**
870-8728	M2112TCFW01	SPDT	on-none-on	**6.30**	**5.42**	**4.79**	**4.22**
870-8729	M2113TCW01	SPDT	on-off-on	**6.15**	**5.29**	**4.67**	**4.12**
870-8730	M2113TFW01	SPDT	on-off-on	**6.15**	**5.29**	**4.67**	**4.12**
870-8731	M2113TCFW01	SPDT	on-off-on	**6.95**	**5.98**	**5.28**	**4.66**

Paddle Actuator w/Synchronous LED & PC Terminals with Bracket

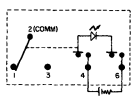
Dimensioned photo above. Silver contacts rated 6A. **LED Coding:** C = red single color, F = green single color, CF = red/green bicolor.

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH			
				1-24	25-99	100-499	500-999
870-9916	M2112JCW13	SPDT	on-none-on	**6.32**	**5.44**	**4.80**	**4.23**
870-9917	M2112JFW13	SPDT	on-none-on	**6.32**	**5.44**	**4.80**	**4.23**
870-9918	M2112JCFW13	SPDT	on-none-on	**7.12**	**6.12**	**5.41**	**4.77**
870-9919	M2113JCW13	SPDT	on-off-on	**6.97**	**5.99**	**5.30**	**4.67**
870-9920	M2113JFW13	SPDT	on-off-on	**6.97**	**5.99**	**5.30**	**4.67**
870-9921	M2113JCFW13	SPDT	on-off-on	**7.77**	**6.68**	**5.91**	**5.21**

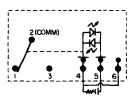
LED Specifications for Toggles/Paddles

Specifications determined at basic temperature of 25°C. **Power terminals for single color models:** 1, 2, & 3; lamp terminals 4 & 6. **Power terminals for bicolor models:** 1, 2, & 3; lamp terminals 4, 5, & 6.

Single Color LED Schematic



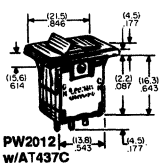
Bicolor LED Schematic



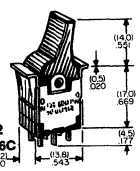
	Toggles			Paddles		
	Red	Green	Bicolor	Red	Green	Bicolor
Forward Peak Current	25mA	30mA	25mA	10mA	30mA	50mA
Continuous Fwd Current	20mA	20mA	20mA	8mA	24mA	25mA
Forward Voltage	2.1V	2.1V	2.1V	1.9V	2.0V	2.1V
Reverse Peak Voltage	4V	4V	—	5V	5V	—
Current Reduction Rate above 25°C	0.33mA per °C	0.40mA per °C	0.33mA/ per °C	0.13mA per °C	0.40mA per °C	0.67mA per °C

PW Series

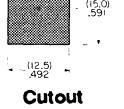
PW features: snap-in mount, .846″ behind panel, UL & CSA approvals, staked-in terminals. **Electrical Capacity:** 5A resistive load @ 125V AC. **Dielectric Strength:** 1,000V AC minimum. **Electrical Life:** 10,000 operations minimum. **Angle of Throw:** 26°. **Ambient Temperature:** – 10°C ≈ + 70°C.



PW2012 w/AT437C & AT207A



PW2022 w/AT436C



Cutout

Basic Switch with Solder Lug Terminals

Order caps & bezels separately. Terminal holes .043″ × .079″. Panel thickness .039″ - .126″ w/o bezel & .039″ - .098″ w/bezel.

Stock No.	Mfr.'s No.	Pole Throw	Circuit ( ) = momentary	EACH			
				1-24	25-99	100-499	500-999
870-8700	PW2012	SPDT	on-none-on	**3.40**	**2.92**	**2.58**	**2.28**
870-8701	PW2013	SPDT	on-off-on	**4.00**	**3.44**	**3.04**	**2.68**
870-8702	PW2015	SPDT	on-none-(on)	**4.00**	**3.44**	**3.04**	**2.68**
870-8703	PW2018	SPDT	(on)-off-(on)	**4.00**	**3.44**	**3.04**	**2.68**
870-8704	PW2019	SPDT	on-off-(on)	**4.00**	**3.44**	**3.04**	**2.68**
870-8705	PW2022	DPDT	on-none-on	**4.60**	**3.96**	**3.50**	**3.08**
870-8706	PW2023	DPDT	on-off-on	**5.30**	**4.56**	**4.03**	**3.55**
870-8707	PW2025	DPDT	on-none-(on)	**5.45**	**4.69**	**4.14**	**3.65**
870-8708	PW2028	DPDT	(on)-off-(on)	**5.45**	**4.69**	**4.14**	**3.65**
870-8709	PW2029	DPDT	on-off-(on)	**5.45**	**4.69**	**4.14**	**3.65**

Caps & Bezel

Stock No.	Mfr.'s No.	Description	EACH			
			1-24	25-99	100-499	500-999
870-8710	AT436A	Black paddle cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8711	AT436B	White paddle cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8712	AT436C	Red paddle cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8713	AT436H	Gray paddle cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8714	AT437A	Black rocker cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8715	AT437B	White rocker cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8716	AT437C	Red rocker cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8717	AT437H	Gray rocker cap	**0.36**	**0.31**	**0.27**	**0.24**
870-8721	AT207A	Black bezel	**0.36**	**0.31**	**0.27**	**0.24**
870-8722	AT207B	White bezel	**0.36**	**0.31**	**0.27**	**0.24**
870-8723	AT207C	Red bezel	**0.36**	**0.31**	**0.27**	**0.24**

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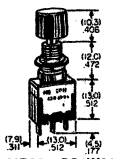
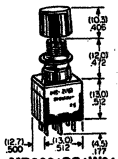
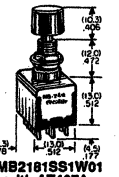
MB2000



MB2011SS1W01
with AT407A



MB2061SS1W01
with AT407A



MB2181SS1W01
with AT407A

MB2000 features: high torque bushings, epoxy sealed terminals, UL and CSA approvals. **Electrical Capacity:** 6A resistive load @ 125V AC or 30V DC (silver); 0.4VA max @ 28V max. AC/DC (gold). **Dielectric Strength:** 1,500V AC min. **Electrical Life:** in operations min. 25,000 (silver) and 50,000 (gold). .071″ on-(on) and .153″ on-on. **Ambient Temp.:** – 15°C - + 85°C. **Hardware:** 2 nuts and 1 lockwasher.

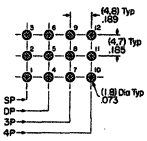
Threaded Bushing and Solder Lug Terminals

Dimensioned photo above. Silver contacts rated 6A. 1/4″ - 40 dia. bushing. Order cap separately.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	EACH 1-24	25-99	100-499	500-999
870-8750	MB2011SS1W01	SPDT	on-(on)	4.00	3.44	3.04	2.68
870-8751	MB2065SS1W01	SPDT	on-on	4.00	3.44	3.04	2.68
870-8752	MB2061SS1W01	DPDT	on-(on)	6.40	5.50	4.86	4.29
870-8753	MB2085SS1W01	DPDT	on-on	6.40	5.50	4.86	4.29
870-8754	MB2181SS1W01	4PDT	on-(on)	10.50	9.03	7.98	7.03
870-8755	MB2185SS1W01	4PDT	on-on	10.50	9.03	7.98	7.03

Threaded Bushing and Straight PC Terminals

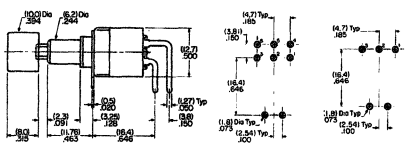
Silver contacts rated 6A. 1/4″ - 40 diameter bushing. .031″ terminal thickness. Order optional screw-on cap separately.



870-8738	MB2011SS1W03	SPDT	on-(on)	4.14	3.56	3.15	2.77
870-8739	MB2065SS1W03	SPDT	on-on	4.14	3.56	3.15	2.77
870-8740	MB2061SS1W03	DPDT	on-(on)	6.68	5.74	5.08	4.48
870-8741	MB2085SS1W03	DPDT	on-on	6.68	5.74	5.08	4.48
870-8742	MB2181SS1W03	4PDT	on-(on)	11.06	9.51	8.41	7.41
870-8743	MB2185SS1W03	4PDT	on-on	11.06	9.51	8.41	7.41

Smooth Bushing & Right Angle PC Terminals

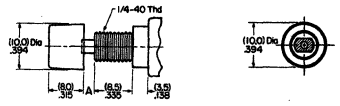
Gold contacts rated 0.4VA @ 28V max AC/DC. .244″ dia. smooth bushing. **Terminal spacing:** .185″ center to center. Order cap separately.



870-8758	MB2011SS2G30	SPDT	on-(on)	4.60	3.96	3.50	3.08
870-8759	MB2065SS2G30	SPDT	on-on	4.60	3.96	3.50	3.08
870-8760	MB2061SS2G30	DPDT	on-(on)	7.60	6.54	5.78	5.09
870-8761	MB2085SS2G30	DPDT	on-on	7.60	6.54	5.78	5.09

Splashproof Bushing and Solder Lug Terminals

Silver contacts rated 6A @ 125V AC. Exterior and interior o-rings for panel sealed 1/4″ - 40 diameter threaded bushing. Order optional screw-on cap separately.



870-8744	MB2011SD3W01	SPDT	on-(on)	4.90	4.21	3.72	3.28
870-8745	MB2065SD3W01	SPDT	on-on	4.90	4.21	3.72	3.28
870-8746	MB2061SD3W01	DPDT	on-(on)	7.30	6.28	5.55	4.89
870-8747	MB2085SD3W01	DPDT	on-on	7.30	6.28	5.55	4.89
870-8748	MB2181SD3W01	4PDT	on-(on)	11.40	9.80	8.66	7.64
870-8749	MB2185SD3W01	4PDT	on-on	11.40	9.80	8.66	7.64

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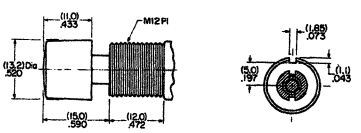
Large Bushing and Solder Lug Terminals

12mm diameter threaded bushing. **Supplied with a .520″ screw-on black cap.** Silver contacts rated 6A @ 125V AC.



870-8762	MB2011SB1W01	SPDT	on-(on)	5.00	4.30	3.80	3.35
870-8763	MB2065SB1W01	SPDT	on-on	5.00	4.30	3.80	3.35
870-8764	MB2061SB1W01	DPDT	on-(on)	7.40	6.36	5.62	4.96
870-8765	MB2085SB1W01	DPDT	on-on	7.40	6.36	5.62	4.96
870-8786	MB2181SB1W01	4PDT	on-(on)	11.50	9.89	8.74	7.70
870-8766	MB2185SB1W01	4PDT	on-on	11.50	9.89	8.74	7.70

Optional Screw-on Caps

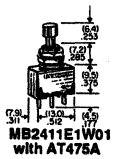
'X' for Color Codes: black = 1 = A; white = 2 = B; red = 0 = C

AT413

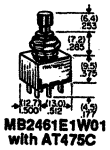
AT407

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-499	500-999
870-300X	AT413A,B, or C	.315″ Dia.	0.25	0.21	0.19	0.17
870-400X	AT407A,B, or C	.394″ Dia.	0.30	0.26	0.23	0.20

MB2400



MB2411E1W01
with AT475A



MB2461E1W01
with AT475C

MB2400 features: snap-acting, light touch and epoxy sealed terminals. **Electrical Capacity:** 3A resistive load @ 125V AC (silver); 0.4VA max. @ 28V max. AC/DC (gold). **Dielectric Strength:** 1,500V AC min. **Elec. Life:** 25,000 operations min. (silver) and 100,000 operations min. (gold). Travel .039″. **Operating force:** 250g (SP) and 400g (DP) **Ambient Temp.:** – 15°C - + 70°C. **Hardware:** 2 nuts and 1 lockwasher.

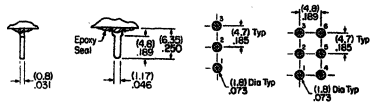
Threaded Bushing and Solder Lug Terminals

Dimensioned photo above. W = silver contacts rated 6A; G = gold contacts rated 0.4VA. 1/4″ - 40 dia. bushing. Order optional snap-on cap separately.

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	EACH 1-24	25-99	100-499	500-999
870-8768	MB2411E1W01	SPDT	on-(on)	3.80	3.27	2.89	2.55
870-8769	MB2461E1W01	DPDT	on-(on)	5.00	4.30	3.80	3.35
870-8770	MB2411E1G01	SPDT	on-(on)	4.00	3.44	3.04	2.68
870-8771	MB2461E1G01	DPDT	on-(on)	5.40	4.64	4.10	3.62

Threaded Bushing and Straight PC Terminals

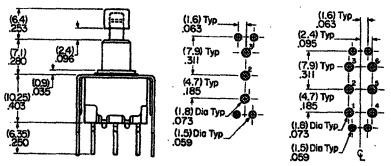
W = silver contacts rated 6A; G = gold contacts rated 0.4VA. 1/4″ - 40 dia. threaded bushing. Terminal thickness .031″. Order optional snap-on cap separately.



870-8772	MB2411E1W03	SPDT	on-(on)	3.94	3.39	2.99	2.64
870-8773	MB2461E1W03	DPDT	on-(on)	5.28	4.54	4.01	3.54
870-8774	MB2411E1G03	SPDT	on-(on)	4.14	3.56	3.15	2.77
870-8775	MB2461E1G03	DPDT	on-(on)	5.68	4.88	4.32	3.81

Smooth Bushing and Straight PC Terminals w/Bracket

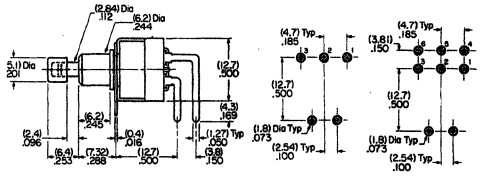
.244″ dia. smooth bushing. Gold contacts rated 0.4VA. Order optional snap-on cap separately.



870-9922	MB2411A2G13	SPDT	on-(on)	4.40	3.78	3.34	2.95
870-9923	MB2461A2G13	DPDT	on-(on)	6.16	5.30	4.68	4.13

Smooth Bushing & Right Angle PC Terminals

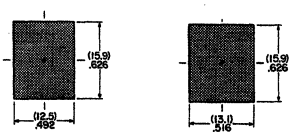
W = Silver contacts rated 6A; G = gold contacts rated 0.4VA. .244″ dia. smooth bushing. Order optional snap-on cap separately.



870-8776	MB2411A2W30	SPDT	on-(on)	4.24	3.65	3.22	2.84
870-8777	MB2461A2W30	DPDT	on-(on)	5.88	5.06	4.47	3.94
870-8778	MB2411A2G30	SPDT	on-(on)	4.44	3.82	3.37	2.97
870-8900	MB2461A2G30	DPDT	on-(on)	6.28	5.40	4.77	4.21

Snap-in Mount & Solder Lug Terminals

Silver contacts rated 6A @ 125V AC. Dimensioned photo above. Listed below with red cap (coded C) and black bezel (coded A). **Other colors available:** A = black, B = white, C = red, E = Yellow, F = green, G = blue, and H = gray. **Panel Thickness:** .039″ - .126″.



870-9924	MB2411JW01-C-1A	SPDT	on-(on)	5.07	4.36	3.85	3.40
870-9925	MB2461JW01-C-1A	DPDT	on-(on)	6.27	5.39	4.77	4.20

Optional Snap-on Caps

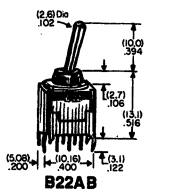
Color Codes: A = black, B = white, C = red.

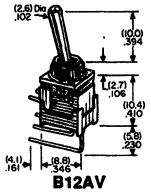
AT475

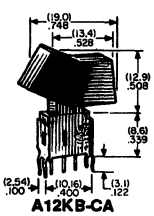
AT496

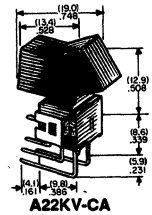
Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-499	500-999
870-1201	AT475A	.201″ Dia.	0.16	0.14	0.12	0.11
870-1202	AT475B	.201″ Dia.	0.16	0.14	0.12	0.11
870-1200	AT475C	.201″ Dia.	0.16	0.14	0.12	0.11
870-0901	AT496A	.295″ Dia.	0.18	0.15	0.14	0.12
870-0902	AT496B	.295″ Dia.	0.18	0.15	0.14	0.12
870-0900	AT496C	.295″ Dia.	0.18	0.15	0.14	0.12

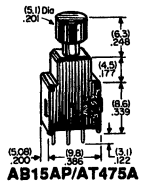
Super-subminiature Switches

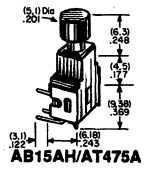

B22AB

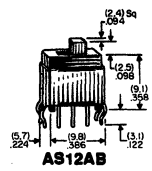

B12AV

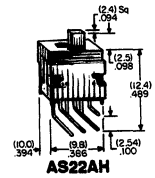

A12KB-CA


A22KV-CA


AB15AP/AT475A


AB15AH/AT475A


AS12AB


AS22AH

PC mountable with straight, right angle, and vertical terminals which are molded in and epoxy sealed. .100″ × .100″ PCB grid spacing. Single or double pole. Washable toggles, rockers, and pushbuttons. Antistatic toggle models. Patented Sliding Twin Crossbar (STC) contacts. **Electrical Capacity:** 0.4VA maximum @ 28V AC/DC maximum. **Contact Resistance:** 50 milliohms maximum. **Insulation Resistance:** 500 megohms minimum @ 500V DC. **Dielectric Strength:** 500V AC minimum. **Electrical Life:** 50,000 operations minimum. **Ambient Temperature:** –25°C - +70°C for toggles and –10°C app +85°C for rockers, pushbuttons, and slides.

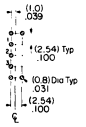
Footprints for all Models

Note: AB11 and AS11 do not have terminal 2.

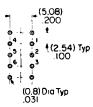
Single Pole Straight

Double Pole Straight

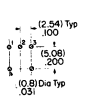
Single Pole Straight w/Brkt



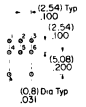
Double Pole Straight w/Brkt



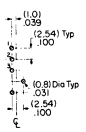
Single Pole Right Angle



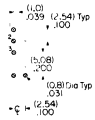
Double Pole Right Angle



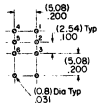
Single Pole Vertical (for rockers, slides, pushbuttons)



(for toggles)



Double Pole Vertical



Toggle Switch

Gold contacts rated: 0.4VA. **Angle of Throw:** 26°. Toggle has bright nickel finish.

Straight PC Terminals with Bracket

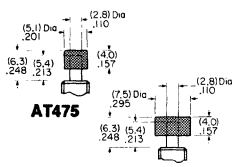
Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8400	B12AB	SPDT	on-none-on	3.50	3.01	2.66	2.34
870-8401	B13AB	SPDT	on-off-on	4.00	3.44	3.04	2.68
870-8402	B15AB	SPDT	on-none-(on)	4.00	3.44	3.04	2.68
870-8403	B18AB	SPDT	(on)-off-(on)	4.20	3.61	3.19	2.81
870-8404	B19AB	SPDT	on-off-(on)	4.20	3.61	3.19	2.81
870-8405	B22AB	DPDT	on-none-on	5.00	4.30	3.80	3.35
870-8406	B23AB	DPDT	on-off-on	5.30	4.56	4.03	3.55
870-8407	B25AB	DPDT	on-none-(on)	5.50	4.73	4.18	3.68
870-8408	B28AB	DPDT	(on)-off-(on)	5.50	4.73	4.18	3.68
870-8409	B29AB	DPDT	on-off-(on)	5.50	4.73	4.18	3.68
Right Angle PC Terminals							
870-8410	B12AH	SPDT	on-none-on	3.50	3.01	2.66	2.34
870-8411	B13AH	SPDT	on-off-on	4.00	3.44	3.04	2.68
870-8412	B15AH	SPDT	on-none-(on)	4.00	3.44	3.04	2.68
870-8413	B18AH	SPDT	(on)-off-(on)	4.20	3.61	3.19	2.81
870-8414	B19AH	SPDT	on-off-(on)	4.20	3.61	3.19	2.81
870-8415	B22AH	DPDT	on-none-on	5.00	4.30	3.80	3.35
870-8416	B23AH	DPDT	on-off-on	5.30	4.56	4.03	3.55
870-8417	B25AH	DPDT	on-none-(on)	5.50	4.73	4.18	3.68
870-8418	B28AH	DPDT	(on)-off-(on)	5.50	4.73	4.18	3.68
870-8419	B29AH	DPDT	on-off-(on)	5.50	4.73	4.18	3.68
Vertical PC Terminals							
870-8420	B12AV	SPDT	on-none-on	3.50	3.01	2.66	2.34
870-8421	B13AV	SPDT	on-off-on	4.00	3.44	3.04	2.68
870-8425	B22AV	DPDT	on-none-on	5.00	4.30	3.80	3.35
870-8426	B23AV	DPDT	on-off-on	5.30	4.56	4.03	3.55

Pushbutton Switch

Gold contacts rated: 0.4VA. **Total Travel:** .043″. **Operating force:** 260 grams.

Straight PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-9926	AB11AP	SPST	off-(on)	3.00	2.58	2.28	2.01
870-9927	AB15AP	SPDT	on-(on)	3.50	3.01	2.66	2.35
Right Angle PC Terminals							
870-8434	AB15AH	SPDT	on-(on)	3.90	3.35	2.96	2.61
Vertical PC Terminals							
870-8432	AB15AV	SPDT	on-(on)	3.90	3.35	2.96	2.61


AT475

AT496

Optional Caps

Stock No.	Mfr.'s Type	EACH 1-24	25-99	100-499	500-999
870-1201	AT475A (black)	0.16	0.14	0.12	0.11
870-1202	AT475B (white)	0.16	0.14	0.12	0.11
870-1200	AT475C (red)	0.16	0.14	0.12	0.11
870-0901	AT496A (black)	0.18	0.15	0.14	0.12
870-0902	AT496B (white)	0.18	0.15	0.14	0.12
980-0900	AT496C (red)	0.18	0.15	0.14	0.12

Rocker Switch

Gold contacts rated: 0.4 VA. **Angle of Throw:** 26°. .260″ wide black rocker. Antirotation feature.

Straight PC Terminals with Bracket

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-8436	A12KB-CA	SPDT	on-none-on	4.10	3.53	3.12	2.75
870-8439	A13KB-CA	SPDT	on-off-on	4.60	3.96	3.50	3.08
870-8442	A15KB-CA	SPDT	on-none-(on)	4.60	3.96	3.50	3.08
870-8445	A18KB-CA	SPDT	(on)-off-(on)	4.80	4.13	3.65	3.22
870-8448	A19KB-CA	SPDT	on-off-(on)	4.80	4.13	3.65	3.22
870-8451	A22KB-CA	DPDT	on-none-on	5.60	4.82	4.26	3.75
870-8454	A23KB-CA	DPDT	on-off-on	5.90	5.07	4.48	3.95
870-8457	A25KB-CA	DPDT	on-none-(on)	6.10	5.25	4.64	4.09
870-8460	A28KB-CA	DPDT	(on)-off-(on)	6.10	5.25	4.64	4.09
870-8463	A29KB-CA	DPDT	on-off-(On)	6.10	5.25	4.64	4.09
Right Angle PC Terminals							
870-8466	A12KH-CA	SPDT	on-none-on	4.10	3.53	3.12	2.75
870-8469	A13KH-CA	SPDT	on-off-on	4.60	3.96	3.50	3.08
370-8472	A15KH-CA	SPDT	on-none-(on)	4.60	3.96	3.50	3.08
870-8475	A18KH-CA	SPDT	(on)-off-(on)	4.80	4.13	3.65	3.22
870-8478	A19KH-CA	SPDT	on-off-(on)	4.80	4.13	3.65	3.22
870-8481	A22KH-CA	DPDT	on-none-on	5.60	4.82	4.26	3.75
870-8484	A23KH-CA	DPDT	on-off-on	5.90	5.07	4.48	3.95
870-8487	A25KH-CA	DPDT	on-none-(on)	6.10	5.25	4.64	4.09
870-8490	A28KH-CA	DPDT	(on)-off-(on)	6.10	5.25	4.64	4.09
870-8493	A29KH-CA	DPDT	on-off-(on)	6.10	5.25	4.64	4.09
Vertical PC Terminals							
870-8496	A12KV-CA	SPDT	on-none-on	4.10	3.53	3.12	2.75
870-8499	A13KV-CA	SPDT	on-off-on	4.60	3.96	3.50	3.08
870-8551	A22KV-CA	DPDT	on-none-on	5.60	4.82	4.26	3.75
870-8514	A23KV-CA	DPDT	on-off-on	5.90	5.07	4.48	3.95

Slide Switch

Gold contacts rated: 0.4VA. **Total Travel:** .098″. **Operating Force:** 260 grams.

Straight PC Terminals with Bracket

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH 1-24	25-99	100-499	500-999
870-9301	AS11AB	SPST	on-none-off	2.65	2.28	2.01	1.78
870-9302	AS12AB	SPDT	on-none-on	2.80	2.41	2.13	1.88
870-9303	AS13AB	SPDT	on-off-on	3.20	2.75	2.43	2.14
870-9306	AS24AB	SP3T	on-on-on	5.00	4.30	3.80	3.35
870-9304	AS22AB	DPDT	on-none-on	4.00	3.44	3.04	2.68
870-9305	AS23AB	DPDT	on-off-on	4.55	3.91	3.46	3.05
Right Angle PC Terminals							
870-9307	AS11AH	SPST	on-none-off	2.65	2.28	2.01	1.78
870-9308	AS12AH	SPDT	on-none-on	2.80	2.41	2.13	1.88
870-9309	AS13AH	SPDT	on-off-on	3.20	2.75	2.43	2.14
870-9312	AS24AH	SP3T	on-on-on	5.00	4.30	3.80	3.35
870-9310	AS22AH	DPDT	on-none-on	4.00	3.44	3.04	2.68
870-9311	AS23AH	DPDT	on-off-on	4.55	3.91	3.46	3.05
Vertical PC Terminals							
870-9314	AS12AV	SPDT	on-none-on	2.80	2.41	2.13	1.88
870-9315	AS13AV	SPDT	on-off-on	3.20	2.75	2.43	2.14
870-9316	AS22AV	DPDT	on-none-on	4.00	3.44	3.04	2.68
870-9317	AS23AV	DPDT	on-off-on	4.55	3.91	3.46	3.05

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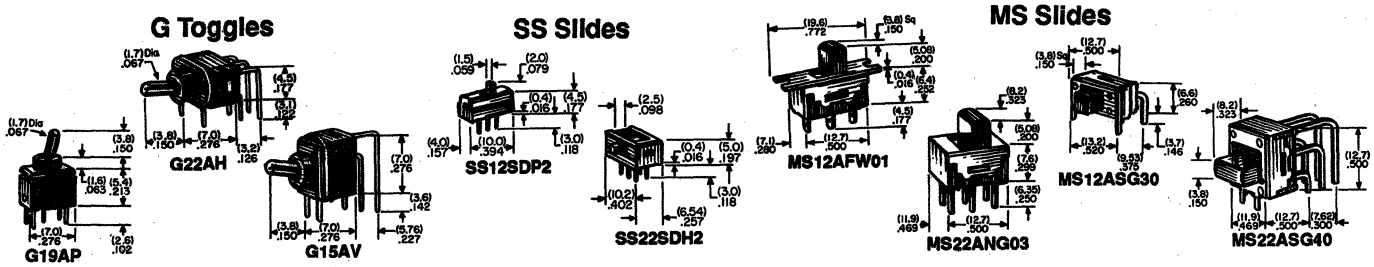


G Series Toggles & Pushbuttons

Micro-subminiature, PCB mountable, antistatic, washable, patented Sliding Twin Crossbar (STC) contact mechanism, plus molded-in, epoxy sealed terminals with .100″ × .100″ spacing. **Electrical Capacity:** 0.4VA maximum @ 28V AC/DC maximum. **Contact Resistance:** 80 milliohms maximum. **Dielectric Strength:** 500V AC minimum. **Electrical Life:** 100,000 operations minimum for on-none-on and on-off-on and 50,000 operations minimum for other circuits. **Ambient Temperature:** – 25°C ≈ + 70°C.

Toggles

Angle of Throw: 28°. **Operating Force:** 95 grams for momentary and 122 grams for maintained.

Straight PC Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-6028	G12AP	SPDT	on-none-on	3.20	2.75	2.43	2.14
870-6029	G13AP	SPDT	on-off-on	3.70	3.18	2.81	2.48
870-6030	G15AP	SPDT	on-none-(on)	3.70	3.18	2.81	2.48
870-6031	G18AP	SPDT	(on)-off-(on)	3.90	3.35	2.96	2.61
870-6032	G19AP	SPDT	on-off-(on)	3.90	3.35	2.96	2.61
870-6043	G22AP	DPDT	on-none-on	4.60	3.96	3.50	3.08
870-6044	G23AP	DPDT	on-off-on	4.90	4.21	3.72	3.28
870-6045	G25AP	DPDT	on-none-(on)	5.10	4.39	3.88	3.42
870-6046	G28AP	DPDT	(on)-off-(on)	5.10	4.39	3.88	3.42
870-6047	G29AP	DPDT	on-off-(on)	5.10	4.39	3.88	3.42

Right Angle PC Terminals

870-6033	G12AH	SPDT	on-none-on	3.60	3.10	2.74	2.41
870-6034	G13AH	SPDT	on-off-on	4.10	3.53	3.12	2.75
870-6035	G15AH	SPDT	on-none-(on)	4.10	3.53	3.12	2.75
870-6036	G18AH	SPDT	(on)-off-(on)	4.30	3.70	3.27	2.88
870-6037	G19AH	SPDT	on-off-(on)	4.30	3.70	3.27	2.88
870-6048	G22AH	DPDT	on-none-on	5.20	4.47	3.95	3.48
870-6049	G23AH	DPDT	on-off-on	5.50	4.73	4.18	3.68
870-6050	G25AH	DPDT	on-none-(on)	5.70	4.90	4.33	3.82
870-6051	G28AH	DPDT	(on)-off-(on)	5.70	4.90	4.33	3.82
870-6052	G29AH	DPDT	on-off-(on)	5.70	4.90	4.33	3.82

Vertical PC Terminals

870-6038	G12AV	SPDT	on-none-on	3.60	3.10	2.74	2.41
870-6039	G13AV	SPDT	on-off-on	4.10	3.53	3.12	2.75
870-6040	G15AV	SPDT	on-none-(on)	4.10	3.53	3.12	2.75
870-6041	G18AV	SPDT	(on)-off-(on)	4.30	3.70	3.27	2.88
870-6042	G19AV	SPDT	on-off-(on)	4.30	3.70	3.27	2.88
870-6053	G22AV	DPDT	on-none-on	5.20	4.47	3.95	3.48
870-6054	G23AV	DPDT	on-off-on	5.50	4.73	4.18	3.68
870-6055	G25AV	DPDT	on-none-(on)	5.70	4.90	4.33	3.82
870-6056	G28AV	DPDT	(on)-off-(on)	5.70	4.90	4.33	3.82
870-6057	G29AV	DPDT	on-off-(on)	5.70	4.90	4.33	3.82

MS Series Slides

Compact subminiature, epoxy sealed solder lug or PC terminals. **Electrical Capacity:** 6A @ 125V AC or 3A @ 250V AC for silver and 0.4A @ 28V AC/DC for gold. **Contact Resistance:** 10 milliohms maximum (silver) 20 milliohms maximum (gold). **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** 25,000 operations minimum (silver) and 50,000 operations minimum (gold). **Total Travel:** .087″ for on-none-on and .138″ for on-off-on. **Ambient Temperature:** – 10°C ≈ + 70°C. UL and CSA approved.

Flange Mount with Solder Lug Terminals/Silver

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH 1-24	25-99	100-499	500-999
870-9930	MS12AFW01	SPDT	on-none-on	2.60	2.24	1.98	1.74
870-9931	MS13AFW01	SPDT	on-off-on	3.00	2.58	2.28	2.01
870-9932	MS22AFW01	DPDT	on-none-on	4.70	4.04	3.57	3.15
870-9933	MS23AFW01	DPDT	on-off-on	5.20	4.47	3.95	3.48

Straight PC Terminals/Gold

870-9934	MS12ANG03	SPDT	on-none-on	2.94	2.53	2.23	1.97
870-9935	MS13ANG03	SPDT	on-off-on	3.34	2.87	2.54	2.24
870-9936	MS22ANG03	DPDT	on-none-on	5.38	4.63	4.04	3.60
870-9937	MS23ANG03	DPDT	on-off-on	5.88	5.06	4.47	3.94

Right Angle PC Terminals/Gold

870-9938	MS12ASG30	SPDT	on-none-on	3.32	2.86	2.52	2.22
870-9939	MS13ASG30	SPDT	on-off-on	3.72	3.20	2.83	2.49
870-9940	MS22ASG30	DPDT	on-none-on	6.02	5.18	4.58	4.03
870-9941	MS23ASG30	DPDT	on-off-on	6.52	5.61	4.96	4.37

Vertical PC Terminals/Gold

870-9942	MS12ASG40	SPDT	on-none-on	3.32	2.86	2.52	2.22
870-9943	MS13ASG40	SPDT	on-off-on	3.72	3.20	2.83	2.49
870-9944	MS22ASG40	DPDT	on-none-on	6.02	5.18	4.58	4.03
870-9945	MS23ASG40	DPDT	on-off-on	6.52	5.61	4.96	4.37

SS Series Slides

Micro-subminiature, logic level, PCB mounting, double molded thermoset base and thermoplastic housing, shorting contacts, insert molded terminals. **Electrical Capacity:** 0.1A @ 30V DC. **Contact Resistance:** 20 milliohms maximum **Dielectric Strength:** 500V AC minimum. **Electrical Life:** 10,000 operations minimum. **Total travel:** .079″. **Ambient Temperature:** – 10°C ≈ + 60°C.

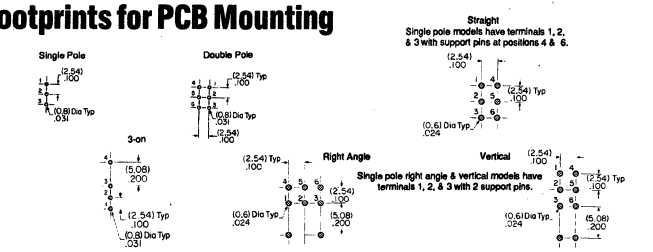
Top Actuated

Stock No.	Mfr.'s Type	Pole Throw	Circuit	EACH 1-24	25-99	100-499	500-999
870-6003	SS12SDP2	SPDT	on-none-on	0.80	0.69	0.61	0.54
870-9928	SS14SDP2	SP3T	on-on-on	1.20	1.03	0.91	0.80
870-6007	SS22SDP2	DPDT	on-none-on	1.00	0.86	0.76	0.67

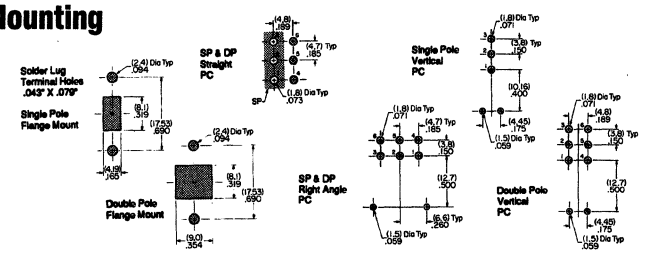
Side Actuated

870-6002	SS12SDH2	SPDT	on-none-on	0.80	0.69	0.61	0.54
870-9929	SS14SDH2	SP3T	on-on-on	1.20	1.03	0.91	0.80
870-6006	SS22SDH2	DPDT	on-none-on	1.00	0.86	0.76	0.67

Footprints for PCB Mounting



Mounting



Pushbuttons

Pretravel: .035″. **Overtravel:** .008″. **Total Travel:** .043″. **Operating Force:** 200 grams.

Straight PC Terminals

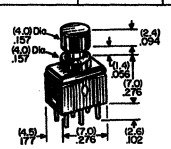
Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	EACH 1-24	25-99	100-499	500-999
870-9319	GB15AP	SPDT	on-(on)	3.70	3.18	2.81	2.48
870-9320	GB25AP	DPDT	on-(on)	5.10	4.39	3.88	3.42

Right Angle PC Terminals

870-9321	GB15AH	SPDT	on-(on)	4.10	3.53	3.12	2.75
870-9322	GB25AH	DPDT	on-(on)	5.70	4.90	4.33	3.82

Vertical PC Terminals

870-9323	GB15AV	SPDT	on-(on)	4.10	3.53	3.12	2.75
870-9324	GB25AV	DPDT	on-(on)	5.70	4.90	4.33	3.82



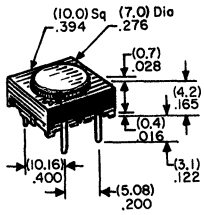
Optional Caps

Stock No.	Mfr.'s Type	EACH 1-24	25-99	100-499	500-999
870-9325	AT4063A (black)	0.15	0.13	0.11	0.10
870-9326	AT4063B (white)	0.15	0.13	0.11	0.10
870-9327	AT4063C (red)	0.15	0.13	0.11	0.10

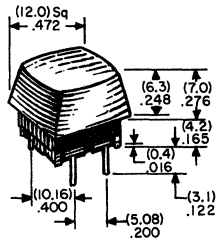
JB Series

JB Series. Sealed dome contact mechanism & low profile. SPST contacts w/strapped terminals allow X-Y coding on 1-sided PCB. **Resistive Load:** 50mA @ 24V DC. **Contact Resistance:** 50 milliohms max. **Dielectric Strength:** 250V AC min. **Electrical Life:** 5,000,000 operations minimum. **Total travel:** .010". **Operating Force:** 180 grams. **Contact Bounce:** 0.1 millisecond max. **Ambient Temp.:** – 25°C through + 70°C. **Circuit ( ) = mom.:** off-(on). **Pole Throw:** SPST.

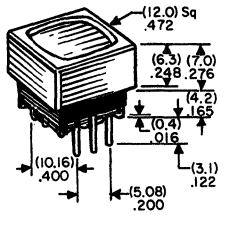
Stock No.	Mfr.'s Type	Description	EACH 1-24	25-99	100-499	500-999
870-6058	JB15FP	Flat Blue Button, Nonilluminated	1.00	0.86	0.76	0.67
870-6061	JB15KP-1A	Black Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6062	JB15KP-1B	White Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6063	JB15KP-1C	Red Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6064	JB15KP-1E	Yellow Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6065	JB15KP-1F	Green Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6066	JB15KP-1G	Blue Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6067	JB15KP-1H	Gray Sculptured, Nonilluminated	1.25	1.07	0.95	0.84
870-6071	JB15KP-2A	Black Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6072	JB15KP-2B	White Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6073	JB15KP-2C	Red Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6074	JB15KP-2E	Yellow Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6075	JB15KP-2F	Green Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6076	JB15KP-2G	Blue Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6077	JB15KP-2H	Gray Square, Nonilluminated	1.40	1.20	1.06	0.94
870-6080	JB15LP-3CC	Red Square, Illuminated	2.80	2.41	2.13	1.88
870-6081	JB15LP-3EE	Yellow Square, Illuminated -	2.80	2.41	2.13	1.88
870-6082	JB15LP-3FF	Green Square, Illuminated	2.80	2.41	2.13	1.88



JB15FP



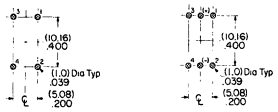
JB15KP-1C



JB15LP-3CC

Note: Square caps (coded 2 & 3) are the same shape & dimensions; they are illustrated by the photo of JB15LP-3CC.

PCB Footprints



LED Specifications

	Red	Yellow	Green
Forward Peak Current	30mA	20mA	20mA
Continuous Fwd Current	20mA	15mA	15mA
Forward Voltage	2.0V	1.9V	1.95V
Reverse Peak Voltage	5V	5V	5V
Current Reduction	0.40mA	0.27mA	0.27mA
Rated above 25°C	/°C	/°C	/°C

JF Series

JF Series. Keypad switch with extremely low profile and completely sealed dome contact. SPST contacts with strapped terminals allow X-Y coding on 1-sided PCB. Nonilluminated & Illuminated models. **Resistive Load:** 50mA @ 24V DC. **Contact Resistance:** 50 milliohms maximum. **Dielectric Strength:** 250V AC minimum. **Electrical Life:** 500,000 operations minimum. **Total Travel:** .031" with sculptured actuator, .016" with flush actuator. **Operating Force:** 200 grams with sculptured actuator; 350 grams with flush actuator. **Contact Bounce:** 0.1 millisec. max. **Ambient Temp.:** – 25°C ≈ 70°C (illum.) and – 25°C ≈ + 85°C (nonillum.).

Nonilluminated Models with Square Black Housing

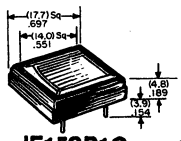
Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	Description	EACH 1-24	25-99	100-499	500-999
870-9331	JF15SP1C	SPST	off-(on)	Square Red Actuator	2.20	1.89	1.67	1.47
870-9332	JF15SP1D	SPST	off-(on)	Square Orange Actuator	2.20	1.89	1.67	1.47
870-9333	JF15SP1F	SPST	off-(on)	Square Green Actuator	2.20	1.89	1.67	1.47
870-9334	JF15SP1G	SPST	off-(on)	Square Blue Actuator	2.20	1.89	1.67	1.47
870-9335	JF15SP1H	SPST	off-(on)	Square Gray Actuator	2.20	1.89	1.67	1.47
870-9341	JF15SP2C	SPST	off-(on)	Round Red Actuator	2.20	1.89	1.67	1.47
870-9342	JF15SP2D	SPST	off-(on)	Round Orange Actuator	2.20	1.89	1.67	1.47
870-9343	JF15SP2F	SPST	off-(on)	Round Green Actuator	2.20	1.89	1.67	1.47
870-9344	JF15SP2G	SPST	off-(on)	Round Blue Actuator	2.20	1.89	1.67	1.47
870-9345	JF15SP2H	SPST	off-(on)	Round Gray Actuator	2.20	1.89	1.67	1.47

Nonilluminated Models with Round Black Housing

870-9351	JF15CP2C	SPST	off-(on)	Round Red Actuator	2.10	1.81	1.60	1.41
870-9352	JF15CP2D	SPST	off-(on)	Round Orange Actuator	2.10	1.81	1.60	1.41
870-9353	JF15CP2F	SPST	off-(on)	Round Green Actuator	2.10	1.81	1.60	1.41
870-9354	JF15CP2G	SPST	off-(on)	Round Blue Actuator	2.10	1.81	1.60	1.41
870-9355	JF15CP2H	SPST	off-(on)	Round Gray Actuator	2.10	1.81	1.60	1.41

Spot Illuminated Models with Rectangular Black Housing

870-9401	JF15RP1C-C	SPST	off-(on)	Square Red Actuator & Red LED	3.50	3.01	2.66	2.34
870-9405	JF15RP1D-E	SPST	off-(on)	Square Orange Actuator & Yellow LED	3.50	3.01	2.66	2.34
870-9409	JF15RP1F-F	SPST	off-(on)	Square Green Actuator & Green LED	3.50	3.01	2.66	2.34
870-9425	JF15RP2G-C	SPST	off-(on)	Round Blue Actuator & Red LED	3.50	3.01	2.66	2.34
870-6429	JF15RP2H-E	SPST	off-(on)	Round Gray Actuator & Yellow LED	3.50	3.01	2.66	2.34
870-9418	JF15RP2C-F	SPST	off-(on)	Round Red Actuator & Green LED	3.50	3.01	2.66	2.34
870-9434	JF15RP3D-C	SPST	off-(on)	Sculptured Orange Actuator & Red LED	3.65	3.14	2.77	2.45
870-9438	JF15RP3F-E	SPST	off-(on)	Sculptured Green Actuator & Yellow LED	3.65	3.14	2.77	2.45
870-9442	JF15RP3G-F	SPST	off-(on)	Sculptured Blue Actuator & Green LED	3.65	3.14	2.77	2.45



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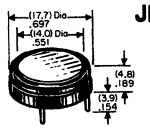

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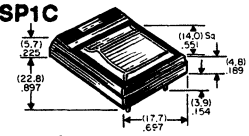
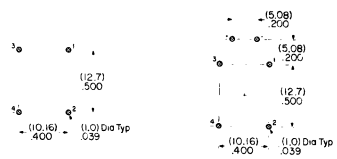


JF15RP3C-C

PCB Footprints

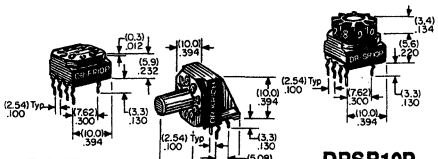


LED Specifications

	Red	Yellow	Green
Forward Peak Current	40mA	40mA	40mA
Continuous Fwd Current	30mA	30mA	30mA
Forward Voltage	1.7V	2.2V	2.2V
Reverse Peak Voltage	4V	4V	4V
Current Reduction	0.67mA	0.67mA	0.67mA
Rate Above 25°C	/°C	/°C	/°C

Note: All actuators (1, 2, & 3) are available in all five colors (C, D, F, G, & H).

DR Series



TRUTH TABLES

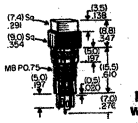
Actuator Positions	Terminal Number (Output)	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
16 Hexadecimal Positions																	
10 Decimal Positions																	
● = ON																	
R Real Coded Model Numbers: DRFR, DRKR, DRSR, & DRAR	1	●		●		●		●		●		●		●		●	
	2		●	●			●	●			●	●			●	●	
	4				●	●	●	●					●	●	●	●	
	8								●	●	●	●	●	●	●	●	●
C Complement Coded Model Numbers: DRFC, DRKC, DRSC, & DRAC	1	●		●		●		●		●		●		●		●	
	2	●	●			●	●			●	●			●	●		
	4	●	●	●	●					●	●	●	●				
	8	●	●	●	●	●	●	●	●								

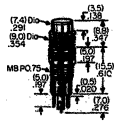
DR Series. Binary-coded DIP rotaries with sealed body, various circuits and screwdriver, shaft or dial actuation. **Switching Rating:** 100mA @ 5V DC. **Nonswitching Rating:** 100mA @ 50V DC. **Contact Resistance:** 80 milliohms max. (circuit); 30 milliohms max. (contact point). **Dielectric Strength:** 250V AC min. **Electrical Life:** 20,000 detent operations min. **Operating Torque:** 120g - 260g. **Ambient Temperature:** – 40°C ≈ + 75°C.

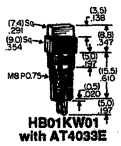
Stock No.	Mfr.'s Type	Actuator	Coding & Terminals (added info on table at right)	EACH 1-24	25-99	100-499	500-999
870-6008	DRFR10P	Screwdriver	Real/Decimal/Straight PC	3.00	2.58	2.28	2.01
870-6009	DRFR16P	Screwdriver	Real/Hexadecimal/Straight PC	3.00	2.58	2.28	2.01
870-6010	DRFR10H	Screwdriver	Real/Decimal/Right Angle	3.20	2.75	2.43	2.14
870-6011	DRFR16H	Screwdriver	Real/Hexadecimal/Right Angle	3.20	2.75	2.43	2.14
870-6012	DRKR10P	Shaft	Real/Decimal/Straight PC	3.30	2.84	2.51	2.21
870-6013	DRKR16P	Shaft	Real/Hexadecimal/Straight PC	3.30	2.84	2.51	2.21
870-6014	DRKR10H	Shaft	Real/Decimal/Right Angle	3.50	3.01	2.66	2.34
870-6015	DRKR16H	Shaft	Real/Hexadecimal/Right Angle	3.50	3.01	2.66	2.34
870-6016	DRSR10P	Dial	Real/Decimal/Straight PC	3.45	2.97	2.62	2.31
870-6017	DRSR16P	Dial	Real/Hexadecimal/Straight PC	3.45	2.97	2.62	2.31
870-6018	DRFC10P	Screwdriver	Complement/Deci/Straight PC	3.00	2.58	2.28	2.01
870-6019	DRFC16P	Screwdriver	Complement/Hexa/Straight PC	3.00	2.58	2.28	2.01
870-6020	DRFC10H	Screwdriver	Complement/Deci/Right Angle	3.20	2.75	2.43	2.14
870-6021	DRFC16H	Screwdriver	Complement/Hexa/Right Angle	3.20	2.75	2.43	2.14
870-6022	DRKC10P	Shaft	Complement/Deci/Straight PC	3.30	2.84	2.51	2.21
870-6023	DRKC16P	Shaft	Complement/Hexa/Straight PC	3.30	2.84	2.51	2.21
870-6024	DRKC10H	Shaft	Complement/Deci/Right Angle	3.50	3.01	2.66	2.34
870-6025	DRKC16H	Shaft	Complement/Hexa/Right Angle	3.50	3.01	2.66	2.34
870-6026	DRSC10P	Dial	Complement/Deci/Straight PC	3.45	2.97	2.62	2.31
870-6027	DRSC16P	Dial	Complement/Hexa/Straight PC	3.45	2.97	2.62	2.31

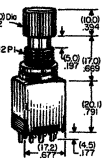
15

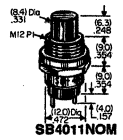
Pushbutton Switches

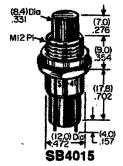


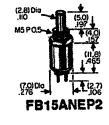












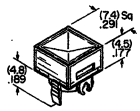
These pushbutton switches include the FB and HB super-subminiatures, the SB subminiatures and DLB standard size. Together they offer a range of ratings from 0.1A for HB Series to 5A for DLB Series. DLB, SB and FB devices are also available with gold contacts for 0.4VA rating. All are constructed to satisfy a variety of applications. DLB and HB switches are illuminated

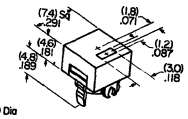
HB Series

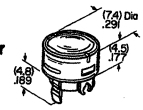
Super-subminiature with LED full or spot illum. Front panel relamp. Front panel threaded mount. Dual, sliding silver contacts. Momentary and alternate action circuits with latchdown. Molded-in terminals. **Resistive Load:** 0.1A max. @ 30V AC/DC. **Contact Resist.:** 50 milliohms max. **Dielec. Strength:** 500V AC min. **Elec. Life:** 50,000 operations min. **Travel:** .118". **Oper. Force:** 350g. **Ambient Temp.:** – 20°C to + 50°C.

Switches and Snap-on Caps (Match switch and cap shapes; order lamps separately).

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	Description	EACH 1-24	25-49	50-99	100-249
870-0866	HB15SKW01	SPDT	on-(on)	Square Shroud	3.80	3.61	3.42	3.23
870-0867	HB16SKW01	SPDT	on-on	Square Shroud	4.20	3.99	3.78	3.57
870-0872	AT4031C	Cap	Square	Red	0.65	0.62	0.58	0.55
870-0873	AT4031E	Cap	Square	Yellow	0.65	0.62	0.58	0.55
870-0874	AT4031F	Cap	Square	Green	0.65	0.62	0.58	.055
870-2005	AT4052A	Cap	Square	Black, Spot Illum'd	0.75	0.71	0.67	0.64
870-0868	HB15CKW01	SPDT	on-(on)	Round Shroud	3.80	3.61	3.42	3.23
870-0869	HB16CKW01	SPDT	on-on	Round Shroud	4.20	3.99	3.78	3.57
870-0875	AT4032C	Cap	Round	Red	0.65	0.62	0.58	0.55
870-0876	AT4032E	Cap	Round	Yellow	0.65	0.62	0.58	0.55
870-0877	AT4032F	Cap	Round	Green	0.65	0.62	0.58	0.55
Indicators and Snap-on Caps (Match indicator and cap shapes; order lamps separately).								
870-0870	HB01KW01		Indicator	Square Shroud	2.10	1.99	1.89	1.78
870-0888	AT4033C	Cap	Square	Red	0.65	0.62	0.58	0.55
870-0889	AT4033E	Cap	Square	Yellow	0.65	0.62	0.58	0.55
870-0890	AT4033F	Cap	Square	Green	0.65	0.62	0.58	0.55
870-0871	HB02KW01		Indicator	Round Shroud	2.10	1.99	1.89	1.78
870-0891	AT4034C	Cap	Round	Red	0.65	0.62	0.58	0.55
870-0892	AT4034E	Cap	Round	Yellow	0.65	0.62	0.58	0.55
870-0893	AT4034F	Cap	Round	Green	0.65	0.62	0.58	0.55
LEDs and Lamping Tool								
870-0894	AT616C	LED		Red	0.80	0.76	0.72	0.68
870-0895	AT616E	LED		Yellow	0.80	0.76	0.72	0.68
870-0896	AT616F	LED		Green	0.80	0.76	0.72	0.68
870-8789	AT111			Lamping Tool	0.25	0.24	0.22	0.21

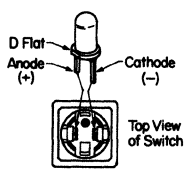




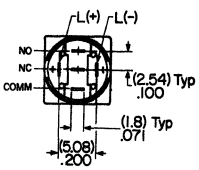


AT616 LED Specifications

	Red	Yellow	Green
Forward Peak Current	30mA	20mA	30mA
Continuous Fwd. Current	24mA	16mA	24mA
Forward Voltage	2.04V	1.88V	2.02V
Reverse Peak Voltagee	5V	5V	5V
Current Reduction	0.40mA	0.26mA	0.40mA
Rate Above 25°C	/°C	/°C	/°C



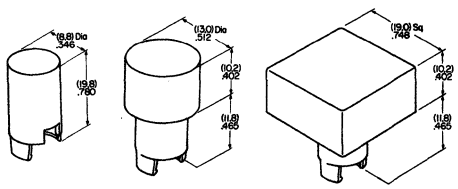
LED Orientation: D-flat opposite Black Dot



Terminals:

DLB Series

Standard size with full face illumination. Rear panel threaded mounting. DPDT with momentary and alternate action. Staked-in terminals. **Resistive Load:** 5A max. @ 125V AC (silver). **Contact Resistance:** 10 milliohms max. **Dielectric Strength:** 1,500V AC min. **Electrical Life:** 10,000 operations min. **Total Travel:** .196". **Operating Force:** 1,300g (mom.) and 1,200g (alternate). **Ambient Temp.:** – 10°C to + 50°C.



Switches and Snap-on Caps (Order lamps separately).

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	Description	EACH 1-24	25-49	50-99	100-249
870-8200	DLB2141W01	DPDT	on-(on)	Switch only	7.00	6.30	5.95	5.25
870-8201	DLB2145W01	DPDT	on-on	Switch only	7.00	6.30	5.95	5.25
870-0851	AT417B	Cap	.346" Dia.	White	0.70	0.63	0.59	0.52
870-0852	AT417C	Cap	.346" Dia.	Red	0.70	0.63	0.59	0.52
870-0854	AT417D	Cap	.346" Dia.	Amber	0.70	0.63	0.59	0.52
870-8785	AT418E	Cap	.512" Dia.	Yellow	0.80	0.72	0.68	0.60
870-8237	AT418F	Cap	.512" Dia.	Green	0.80	0.72	0.68	0.60
870-8786	AT418G	Cap	.512" Dia.	Blue	0.80	0.72	0.68	0.60
870-8229	AT419B	Cap	.748" Sqr.	White	0.90	0.81	0.76	0.67
870-8226	AT419C	Cap	.748" Sqr.	Red	0.90	0.81	0.76	0.67
870-8228	AT419D	Cap	.748" Sqr.	Amber	0.90	0.81	0.76	0.67
AT604 Incandescent Lamp								
870-0855	AT604-6V	Lamp	Incandescent	6 volt	1.20	1.08	1.02	0.90
870-8300	AT604-14V	Lamp	Incandescent	14 volt	1.20	1.08	1.02	0.90
870-8305	AT604-28V	Lamp	Incandescent	28 volt	1.20	1.08	1.02	0.90

AT604 Incandescent Lamp Specifications

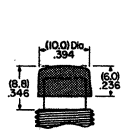
	6 Volt	14 Volt	28 Volt
Fwd. Peak Current	200mA	80mA	40mA
Endurance	1,000 hrs.	750 hrs.	1,000 hrs.

SB Series and FB Series

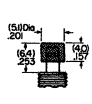
SB Series. Rugged, low cost subminiature with 3 amp rating. Rear panel threaded mounting. NO = Normally Open and NC = Normally Closed. **Resistive Load:** 3A @ 125V AC (silver). **Contact Resistance:** 10 milliohms max. **Dielectric Strength:** 1,000V AC min. **Elec. Life:** 10,000 operations min. **Travel:** .088" for SB4011s and .127" for SB4015. **Operating Force:** 500g (SB4011), 700g (SB4015). **Ambient Temp.:** – 10°C to + 70°C.

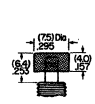
FB Series. Super-subminiature, momentary, rear panel mounting pushbutton switch. Epoxy sealed solder lug/PC terminals. **Resistive Load:** 500mA @ 125V AC with silver contacts. **Contact Resistance:** 30 milliohms max. **Dielectric Strength:** 1,000V AC min. **Electrical Life:** 50,000 operations min. **Total Travel:** .065". **Operating Force:** 220 grams average. **Ambient Temperature:** -10°C to + 70°C.

Slip-on Cap for SB Switch



Slip-on Caps for FB Switch





SB Series Switches and Optional Slip-on Cap

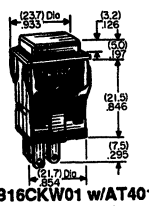
Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	Description	EACH 1-24	25-99	100-499	500-999
870-0790	SB4011NOM	SPST	off-(on)	Black Plunger	2.65	2.28	2.01	1.78
870-0791	SB4011NCM	SPST	on-(off)	Black Plunger	2.65	2.28	2.01	1.78
870-0779	SB4015M	SPST	off-on	Black Plunger	3.25	2.79	2.47	2.18
870-8780	AT422A	Cap	.394" Dia.	Black	0.20	0.17	0.15	0.13
870-8781	AT422B	Cap	.394" Dia.	White	0.20	0.17	0.15	0.13
870-8782	AT422C	Cap	.394" Dia.	Red	0.20	0.17	0.15	0.13
—	—	—	—	—	—	—	—	—

FB Series Switches and Optional Slip-on Caps

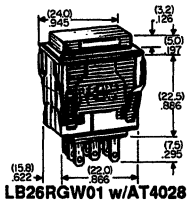
Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	Description	EACH 1-24	25-99	100-499	500-999
870-0905	FB15ANEP2	SPST	off-(on)	—	2.22	1.91	1.69	1.49
870-1201	AT475A	Cap	.201" Dia.	Black	0.16	0.14	0.12	0.11
870-1202	AT475B	Cap	.201" Dia.	White	0.16	0.14	0.12	0.11
870-1200	AT475C	Cap	.201" Dia.	Red	0.16	0.14	0.12	0.11
870-0901	AT496A	Cap	.295" Dia.	Black	0.18	0.15	0.14	0.12
870-0902	AT496B	Cap	.295" Dia.	White	0.18	0.15	0.14	0.12
870-0900	AT496C	Cap	.295" Dia.	Red	0.18	0.15	0.14	0.12

LB Series

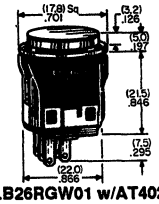
LB Series. Standard size, snap-in mounting. Bright, full surface illumination. Front panel relamping and cap changing. Stainless steel clips for secure mounting and wide range of panel thicknesses: .039″ - .157″. Latchdown for indication of circuit status. Snap-action contact mechanism. Combination solder lug and .110″ quick connect, epoxy sealed terminals. **Resistive Load:** 3A max. @ 125/250V AC for silver contacts (gold contacts available rated 0.4VA max. @ 28V AC/DC max.). **Contact Resistance:** 50 milliohms maximum. **Dielectric Strength:** 1,500V AC minimum. **Electrical Life:** 100,000 operations minimum. **Total Travel:** .118″ for momentary and .094″ for alternate action. **Operating Force:** 450 grams. **Ambient Temperature:** – 15°C - + 50°C. Panel sealed model available and meets IP 65 of IEC 529 specifications.
Caps and lamps must be ordered separately.



LB16CKW01 w/AT4014



LB26RGW01 w/AT4028

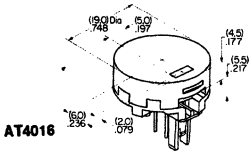


LB26RGW01 w/AT4028

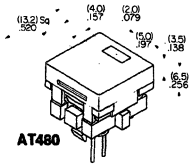
Switches and Indicators (Order caps and lamps separately.)

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = mom.	Bezel and Cap Shape	EACH 1-24	25-49	50-99	100-249
870-8790	LB15SKW01	SPDT	on-(on)	Square	5.00	4.75	4.50	4.25
870-8791	LB16SKW01	SPDT	on-on	Square	6.10	5.79	5.49	5.18
870-8792	LB25SKW01	DPDT	on-(on)	Square	6.30	5.98	5.67	5.35
870-8793	LB26SKW01	DPDT	on-on	Square	7.40	7.03	6.66	6.29
870-8794	LB15CKW01	SPDT	on-(on)	Round	5.00	4.75	4.50	4.25
870-8795	LB16CKW01	SPDT	on-on	Round	6.10	5.79	5.49	5.18
870-8796	LB25CKW01	DPDT	on-(on)	Round	6.30	5.98	5.67	5.35
870-8797	LB26CKW01	DPDT	on-on	Round	7.40	7.03	6.66	6.29
870-8798	LB15RKW01	SPDT	on-(on)	Rectangular	5.00	4.75	4.50	4.25
870-8799	LB16RKW01	SPDT	on-on	Rectangular	6.10	5.79	5.49	5.18
870-8800	LB25RKW01	DPDT	on-(on)	Rectangular	6.30	5.98	5.67	5.35
870-8801	LB26RKW01	DPDT	on-on	Rectangular	7.40	7.03	6.66	6.29
870-8802	LB01KW01	Indicator	—	Square	2.90	2.75	2.61	2.46
870-8803	LB02KW01	Indicator	—	Round	2.90	2.75	2.61	2.46
870-8804	LB03KW01	Indicator	—	Rectangular	2.90	2.75	2.61	2.46

Spot Illumination with LED



AT4016



AT480

Specifications for LED in Spot Illuminated Cap

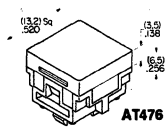
	Red	Yellow	Green
Forward Peak Current	10mA	20mA	30mA
Continuous Fwd Current	8mA	16mA	24mA
Forward Voltage	1.9V	1.9V	2.0V
Reverse Peak Voltage	5V	4V	5V
Current Reduction	0.13mA	0.27mA	0.40mA
Rate Above 25°C	/°C	/°C	/°C

Caps for Spot Illumination with LED

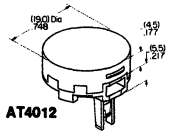
Stock No.	Mfr.'s Type	Bezel and Cap Shape	Black Cap LED Color	EACH 1-24	25-49	50-99	100-249
870-8831	AT480CA	Square	Red LED	2.00	1.90	1.80	1.70
870-8832	AT480EA	Square	Yellow LED	2.00	1.90	1.80	1.70
870-8833	AT480FA	Square	Green LED	2.00	1.90	1.80	1.70
870-8834	AT4016CA	Round	Red LED	2.00	1.90	1.80	1.70
870-8835	AT4016EA	Round	Yellow LED	2.00	1.90	1.80	1.70
870-8836	AT4016FA	Round	Green LED	2.00	1.90	1.80	1.70

Note: Spot illuminated caps supplied with LED assembled. Not for use with indicators.

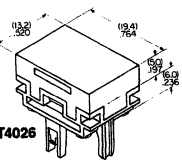
Incandescent Lamp AT607



AT476



AT4012



AT4026

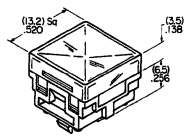
AT607 Incandescent Lamp Specifications

Voltage	5V AC	12V AC	28V AC
Current	115mA	60mA	24mA
Endurance in Hours	7,000	7,000	7,000

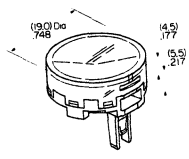
Caps for Incandescent Lamp AT607

Stock No.	Mfr.'s Type	Bezel and Cap Shape	Cap Color	EACH 1-24	25-49	50-99	100-249
870-8816	AT476B	Square	White	1.00	0.95	0.90	0.85
870-8817	AT476C	Square	Red	1.00	0.95	0.90	0.85
870-8818	AT476E	Square	Yellow	1.00	0.95	0.90	0.85
870-8819	AT476F	Square	Green	1.00	0.95	0.90	0.85
870-8820	AT476G	Square	Blue	1.00	0.95	0.90	0.85
870-8821	AT4012B	Round	White	1.00	0.95	0.90	0.85
870-8822	AT4012C	Round	Red	1.00	0.95	0.90	0.85
870-8823	AT4012E	Round	Yellow	1.00	0.95	0.90	0.85
870-8824	AT4012F	Round	Green	1.00	0.95	0.90	0.85
870-8825	AT4012G	Round	Blue	1.00	0.95	0.90	0.85
870-8826	AT4026B	Rectangular	White	1.00	0.95	0.90	0.85
870-8827	AT4026C	Rectangular	Red	1.00	0.95	0.90	0.85
870-8828	AT4026E	Rectangular	Yellow	1.00	0.95	0.90	0.85
870-8829	AT4026F	Rectangular	Green	1.00	0.95	0.90	0.85
870-8830	AT4026G	Rectangular	Blue	1.00	0.95	0.90	0.85

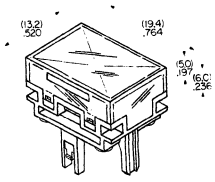
LED AT614



AT478



AT4014



AT4028

AT614 Single Element LED Specifications

	Red	Yellow	Green
Forward Peak Current	50mA	50mA	50mA
Continuous Fwd Current	40mA	40mA	40mA
Forward Voltage	1.75V	2.35V	2.35V
Reverse Peak Voltage	4V	4V	4V
Current Reduction	0.67mA	0.67mA	0.67mA
Rate Above 25°C	/°C	/°C	/°C

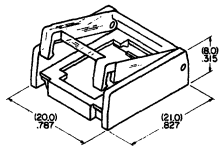
Caps for LED AT614

Stock No.	Mfr.'s Type	Bezel and Cap Shape	Color	EACH 1-24	25-49	50-99	100-249
870-8837	AT478C	Square	Red	1.00	0.95	0.90	0.85
870-8838	AT478E	Square	Yellow	1.00	0.95	0.90	0.85
870-8839	AT478F	Square	Green	1.00	0.95	0.90	0.85
870-8840	AT4014C	Round	Red	1.00	0.95	0.90	0.85
870-8841	AT4014E	Round	Yellow	1.00	0.95	0.90	0.85
870-8842	AT4014F	Round	Green	1.00	0.95	0.90	0.85
870-8843	AT4028C	Rectangular	Red	1.00	0.95	0.90	0.85
870-8844	AT4028E	Rectangular	Yellow	1.00	0.95	0.90	0.85
870-8845	AT4028F	Rectangular	Green	1.00	0.95	0.90	0.85

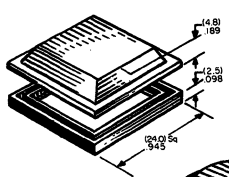
Lamps and Optional Accessories

Stock No.	Mfr.'s Type	Description	EACH 1-24	25-49	50-99	100-249
870-8805	AT607-5V	5-volt Lamp*	1.00	0.95	0.90	0.85
870-8806	AT607-12V	12-volt Lamp*	1.00	0.95	0.90	0.85
870-8807	AT607-28V	28-volt Lamp*	1.50	1.43	1.35	1.28
870-8808	AT614C	Red LED	1.00	0.95	0.90	0.85
870-8809	AT614E	Yellow LED	1.00	0.95	0.90	0.85
870-8810	AT614F	Green LED	1.00	0.95	0.90	0.85
870-8811	AT499	Square Protective Guard	1.20	1.14	1.08	1.02
870-8812	AT4057	Rec. Protective Guard	1.20	1.14	1.08	1.02
870-8813	AT4001	Square Splash Cover	1.00	0.95	0.90	0.85
870-8814	AT4002	Round Splash Cover	1.00	0.95	0.90	0.85
870-8815	AT4011	Rec. Splash Cover	1.00	0.95	0.90	0.85

*Incandescent



AT499



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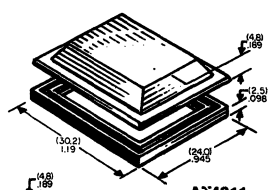

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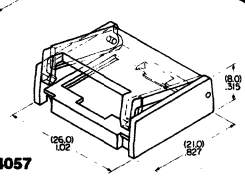

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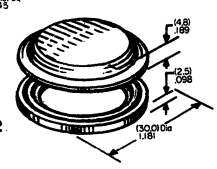
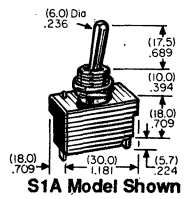
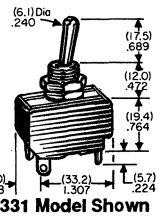


AT4002

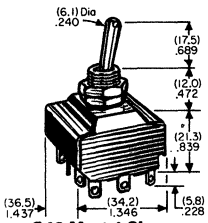
Standard Size Toggle Switches



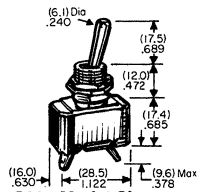
S1A Model Shown



S331 Model Shown



S42 Model Shown



S301 Model Shown

S Series. Standard size & high capacity toggle & rocker switches. **Variations:** 1 - 4 pole; 5A - 50A range of electrical capacities; bushing, flush panel, and subpanel mounting; solder lug, screw and .250″ quick connect terminals. Many devices UL and CSA approved. Terminal hardware provided with screw terminals. Bright chrome bat lever finish. 12mm bushings. Bushing hardware provided. Bushings on watertight models (AW) have .295″ threaded length. **S732 body:** 1.496″ W x 2.362″ L x 1.535″ H.

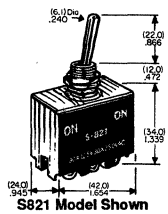
Solder Lug Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit ( ) = momentary	Resistive Load 125VAC	Resistive Load 250VAC	Inductive 125VAC	EACH 1-24	EACH 25-49	EACH 50-99
870-9203	S1A	SPST	on-none-off	15A	6A	8A	2.62	1.99	1.60
870-9206	S2A	SPDT	on-none-on	15A	6A	8A	3.25	2.47	2.08
870-9209	S3A	SPDT	on-off-on	15A	6A	8A	3.25	2.47	2.08
	S305	SPDT	on-none-(on)	15A	6A	8A	4.66	3.54	2.98
870-9228	S308	SPDT	(on)-off-(on)	15A	6A	8A	5.02	3.82	3.21
870-9229	S331	DPST	on-none-off	25A	25A	10A	4.31	3.28	2.76
870-9231	S332	DPDT	on-none-on	25A	15A	10A	5.13	3.90	3.28
870-9233	S333	DPDT	on-off-on	25A	15A	10A	5.13	3.90	3.28
	S335	DPDT	on-none-(on)	15A	6A	8A	6.18	4.70	3.96
	S338	DPDT	(on)-off-(on)	15A	6A	8A	7.00	5.32	4.48
870-9218	S32	3PDT	on-none-on	25A	9A	10A	8.58	6.52	5.49
870-9219	S33	3PDT	on-off-on	25A	9A	10A	8.58	6.52	5.49
870-9220	S42	4PDT	on-none-on	25A	9A	10A	9.46	7.19	6.05
870-9221	S43	4PDT	on-off-on	25A	9A	10A	9.46	7.19	6.05
Screw Terminals									
870-9223	S301T	SPST	on-none-off	15A	6A	10A	3.85	2.93	2.46
870-9225	S302T	SPDT	on-none-on	15A	6A	10A	4.14	3.15	2.65
870-9227	S303T	SPDT	on-off-on	15A	6A	10A	4.14	3.15	2.65
870-9230	S331T	DPST	on-none-off	15A	15A	10A	5.13	3.90	3.28
870-9232	S332T	DPDT	on-none-on	15A	15A	10A	5.94	4.51	3.80
870-9234	S333T	DPDT	on-off-on	15A	15A	10A	5.92	4.50	3.79
Quick Connect Terminals									
870-9205	S1F	SPST	on-none-off	15A	6A	8A	2.62	1.99	1.68
870-9208	S2F	SPDT	on-none-on	15A	6A	8A	3.25	2.47	2.08
870-9211	S3F	SPDT	on-off-on	15A	6A	8A	3.25	2.47	2.08
870-9215	S6F	DPDT	on-none-on	20A	10A	8A	4.57	3.47	2.92
Watertight & Solder Lug Terminals									
870-9204	S1AW	SPST	on-none-off	15A	6A	200W	4.93	3.75	3.16
870-9207	S2AW	SPDT	on-none-on	15A	6A	200W	5.56	4.23	3.56
870-9210	S3AW	SPDT	on-off-on	15A	6A	200W	5.56	4.23	3.56
870-9212	S8AW	SPDT	(on)-off-(on)	15A	6A	200W	6.27	4.77	4.01
870-9214	S6AW	DPDT	on-none-on	20A	10A	—	6.88	5.23	4.40

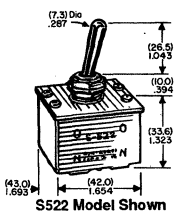
High Capacity Toggle Switches

Screw Terminals

Stock No.	Mfr.'s Type	Pole Throw	Circuit	Resistive Load 125VAC	Resistive Load 250VAC	Inductive 125VAC	EACH 1-24	EACH 25-49	EACH 50-99
870-9240	S821	DPST	on-none-off	30A	30A	—	12.75	9.69	8.16
870-9237	S532	DPDT	on-none-on	30A	15A	15A	13.40	10.18	8.58
870-9239	S732	DPDT	on-none-on	50A	30A	25A	33.00	25.08	21.12
870-9238	S533	DPDT	on-off-on	30A	15A	15A	13.90	10.56	8.90
870-9235	S522	3PDT	on-none-on	30A	15A	15A	24.85	18.89	15.90
870-9236	S523	3PDT	on-off-on	30A	15A	15A	25.65	19.49	16.42



S821 Model Shown

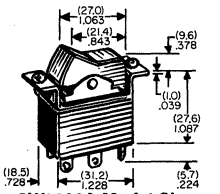


S522 Model Shown

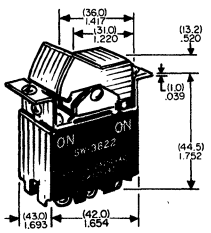
Standard Size & High Capacity Rocker Switches

Solder Lugs on SW3000s and Screw Terminals on SW 3800s

Stock No.	Mfr.'s Type	Pole Throw	Circuit	Resistive Load 125VAC	Resistive Load 250VAC	Inductive 125VAC	EACH 1-24	EACH 25-49	EACH 50-99
870-9243	SW3001A	SPST	on-none-off	15A	6A	10A	3.10	2.79	2.63
870-9244	SW3012	SPDT	on-none-on	6A	—	—	2.90	2.61	2.46
870-9245	SW3002A	SPDT	on-none-on	15A	6A	10A	3.50	3.15	2.97
870-9246	SW3003A	SPDT	on-off-on	15A	6A	10A	3.70	3.33	3.14
870-9247	SW3006A	DPDT	on-none-on	20A	10A	10A	5.40	4.86	4.59
870-9249	SW3822	DPDT	on-none-on	30A	30A	—	14.00	12.60	11.90
870-9248	SW3007A	DPDT	on-off-on	15A	6A	10A	5.60	5.04	4.76
870-9250	SW3823	DPDT	on-off-on	30A	30A	—	16.20	14.58	13.77



SW3006A Model Shown



SW3822 Model Shown

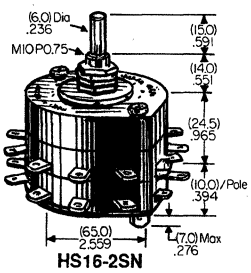
Standard Size and High Capacity Rotaries

15

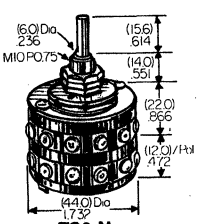
Rotary Switches are available in a variety of families from 6 Amp devices to large 30 Amp rotaries. Available in 1-12 positions and 1-6 pole, in shorting and nonshorting circuits. Optional knbos available. .250″ solder lugs on HS. Hardware provided with screw terminals on TS and PS models.
Suffix Codes: N: Nonshorting Circuit and D-Flat Shaft SN: Shorting Circuit and D-Flat Shaft.

Standard Size & High Capacity Rotaries

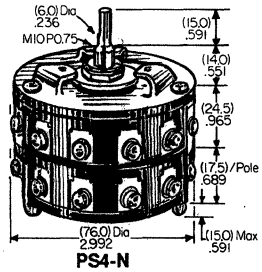
Stock No.	Mfr.'s Type	Pole	Adjustable Settings	Terminals	Resistive Load 125VAC	Resistive Load 250VAC	EACH 1-24	EACH 25-49	EACH 50-99
870-9251	HS16-1N	SP	2,3...11	1 COMM 11 LOAD	12A	6A	10.80	9.72	9.18
870-9252	HS16-1SN	SP	2,3...11	1 COMM 11 LOAD	12A	6A	10.80	9.72	9.18
870-9253	HS16-2N	DP	2,3...11	2 COMM 22 LOAD	12A	6A	16.00	14.40	13.60
870-9254	HS16-2SN	DP	2,3...11	2 COMM 22 LOAD	12A	6A	16.00	14.40	13.60
870-9255	HS16-3N	3P	2,3...11	3 COMM 33 LOAD	12A	6A	22.20	19.98	18.87
870-9256	HS16-3SN	3P	2,3...11	3 COMM 33 LOAD	12A	6A	22.20	19.98	18.87
870-9257	HS16-4N	4P	2,3...11	4 COMM 44 LOAD	12A	6A	29.40	26.46	24.99
870-9258	HS16-4SN	4P	2,3...11	4 COMM 44 LOAD	12A	6A	29.40	26.46	24.99
870-9259	HS16-5N	5P	2,3...11	5 COMM 55 LOAD	12A	6A	37.60	33.84	31.96
870-9260	HS16-5SN	5P	2,3...11	5 COMM 55 LOAD	12A	6A	37.60	33.84	31.96
870-9261	HS16-6N	6P	2,3...11	6 COMM 66 LOAD	12A	6A	46.80	42.12	39.78
870-9262	HS16-6SN	6P	2,3...11	6 COMM 66 LOAD	12A	6A	46.80	42.12	39.78
870-9265	PS1-N	SP	2,3...11	1 COMM 11 LOAD	30A	30A	26.00	23.40	22.10
870-9266	PS2-N	DP	2,3...11	2 COMM 22 LOAD	30A	30A	40.00	36.00	34.00
870-9267	PS3-N	3P	2,3...11	3 COMM 33 LOAD	30A	30A	54.00	48.60	45.90
870-9268	PS4-N	4P	2,3...11	4 COMM 44 LOAD	30A	30A	72.00	64.80	61.20
870-9269	TS1-N	SP	2,3...11	1 COMM 11 LOAD	6A	6A	17.30	15.57	14.70
870-9270	TS2-N	DP	2,3...11	2 COMM 22 LOAD	6A	6A	32.40	29.16	27.54
870-9271	TS3-N	3P	2,3...11	3 COMM 33 LOAD	6A	6A	47.50	42.75	40.37
870-9272	TS4-N	4P	2,3...11	4 COMM 44 LOAD	6A	6A	62.00	55.80	52.70



HS16-2SN



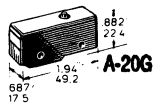
TS2-N

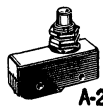


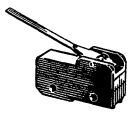
PS4-N

Switches

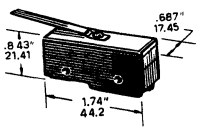
Large capacity (20-amp); excellent vibration resistance; quick-break contacts. Steady-State Break Current (non-inductive, resistive); 20A @ 125/250VAC, 10A @ 500VAC, 5A @ 600VAC, 0.4A @ 125VDC, 0.2A @ 250VDC. Screw terminals. **Body Size:** 1.937 × 0.687 × 0.882″ (49.2 × 17.45 × 22.4mm).



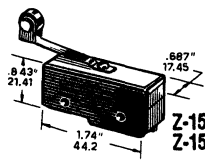




Stock No.	Mfr.'s Type	Actuator Type	Operating Force‡	Pre-travel	Over-travel	EACH		
						1-24	25-49	50-99
829-1700	A-20G-B7-K	Plunger	22.0	.051″	.010″	6.92	6.57	5.88
829-1702	A-20GL-B7-K	Leaf spring	9.0	.343″	.063″	7.98	7.58	6.78
829-1704	A-20GQ-B7-K	Panel mtg. plunger	22.0	.051″	.220″	13.68	12.99	11.63
829-1706	A-20GV-B7-K	Long hinge lever	2.5	.626″	.157″	8.56	8.13	7.27
829-1708	A-20GV2-B7-K	Hinge roller lever	3.2	.472″	.094″	10.50	9.97	8.92



Z-15GL



Z-15GL2
Z-15GW

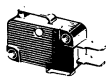
Type Z General-Purpose Basic Snap-Action Switches

High precision (15 amp). Breaking capacity. Steady state break current (non-inductive; resistive) 15 amp @ 125/250VAC, 3A @ 500VAC, .04A @ 125VDC, .02A @ 250VDC. **Body Size:** 1.94 × .687 × .843″ (49.2 × 17.5 × 21.4mm).

Stock No.	Mfr.'s Type	Actuator Type	Operating Force+	Pre-travel	Terminal	EACH		
						1-24	25-49	50-99
829-1804	Z-15GL-B7-K	Leaf Spring	5	.157″	Screw	6.25	5.93	5.31
829-1808	Z-15GL2-B7-K	Roller Leaf Spring	5	.157″	Screw	7.40	7.03	6.29
829-1810	Z-15GW2-B7-K	Hinge Roller Lever	10	.012″	Screw	8.12	7.71	7.30
829-1820	Z-15GW22-B7-K	Short Hinge Roller Lever	5	.106″	Screw	8.12	7.71	7.30

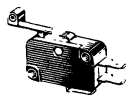
Type V Miniature Basic Switches

Long-life, low-cost, snap-action switch. Makes and breaks 15A @ 250VAC, 15A @ 8VDC, .6A @ 125VAC, .3A @ 250VDC. Operating force of 14.1 oz. **Body Size:** 1.09 × .41 × .85″ (27.7 × 10.4 × 21.6mm). QC terminals.

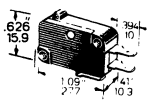


V15G1

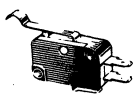
V15G3



V15G6



V15G

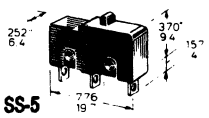


V15G4

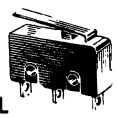
V15G5

Stock No.	Mfr.'s Type	Actuator Type	EACH		
			1-24	25-49	50-99
829-1906	V15G1-1C26-K	Short Lever	2.11	1.90	1.68
829-1908	V15G-1C26-K	Pin Plunger	2.40	1.73	1.53
829-1910	V15G3-1C26-K	Long Lever	2.11	1.90	1.68
829-8513	V15G4-1C26-K	Slim. Roller Lever	2.00	1.80	1.60
829-1914	V15G6-1C26-K	Long Roller Lever	2.35	2.11	1.88
829-1916	V15G5-1C26-K	Short Roller Lever	2.35	2.11	1.88

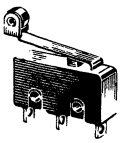
Type SS Subminiature Basic Switches



SS-5



SS5GL



SS-5GL2

Compact, low-cost snap-action switch offers large contact capacity, long service life, high vibration and shock resistance, and easy installation. Makes and breaks 3A at 250VAC, 5A at 125VAC. Rated 0.4A @ 115VDC, 0.2A @ 230VDC. **Inrush current:** 20A NC, 10A NO. **Operating Frequency:** 400 operations per minute mechanically. **Operating Force:** 6 oz. maximum. **Pre-travel:** 0.157″ max. except *0.020″. **Overtravel:** 0.031″ minimum except *0.009″. **Contact separation:** 0.020″. **Ambient temperature:** −13 to +185°F. **Dielectric strength:** 1000VAC for 1 minute across noncontinous terminals. Solder style terminals. **Body Size:** 0.77 × 0.370 × 0.252″ (19.7 × 9.4 × 6.4mm). **Mounting centers:** 0.374″ (9.5mm).

Stock No.	Mfr.'s Type	Actuator Type	EACH		
			1-24	25-49	50-99
829-2000	SS-5	Pin plunger*	2.00	1.80	1.60
829-2002	SS5GL	Standard Lever	2.34	2.11	1.87
829-2004	SS-5GL2	Roller Lever	2.61	2.35	2.09

Model D2F Subminiature Basic Switch

Permits direct soldering to PC board. Quick reverse-action mechanism with 2 leaf springs assures long life. Construction resistant to flux wicking. Solder/PCB termination. Basic OF type, standard contact form. **Rated voltage:** 125VAC, 3A (resistive); 30VDC, 2A (resistive). **Operating Speed:** 1 to 500mm/sec. (at pin plunger). **Contact Resistance:** 30MΩ maximum (initial). **Insulation Resistance:** 100MΩ minimum (at 500VDC). **Ambient Temperature:** Operating, −25°C to +65°C. **Size:** 6H × 12.8W × 5.8D mm. **Weight:** 0.5g.

D2F-L

Stock No.	Mfr.'s Type	Actuator Type	EACH		
			1-24	25-49	50-99
829-4001	D2F	Pin Plunger	1.10	1.04	.93
829-4002	D2F-L	Hinge Lever	1.22	1.10	.97

15

B3F-1000
B3F-1020
B3F-1100
B3F-1002

B3F-1050
B3F-1052

B3F-9100

B3F-4000
B3F-4100
B3F-4105
B3F-5000

B3F-5150
B3F-5151

B3F-3120

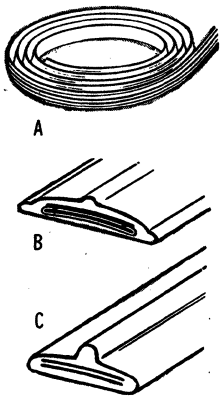
B3F-3150

Type B3F Mechanical Keyswitches

Flux tight mechanical keyswitch with snap action short keystroke with positive feedback. 50mA @ 24VDC resistive load switching capacity. 100 mOhm max. initial contact resitance. **Insulation Resistance:** 100 mOhm @ 250VDC. Ideal for applications such as audio, office and communications equipment, measuring instruments, TV, VTRs and etc.

Stock No.	Mfr.'s Type	Switch Height × Pitch	Ground Terminal	Plunger	Operating Force	Size	EACH		
							1-24	25-49	50-99
829-5000	B3F-1000	.17″ × .26″	No	Flat	3.5 oz.	.24″ × .24″	.31	.29	.27
829-5005	B3F-1020	.20″ × .26″	No	Flat	3.5 oz.	.24″ × .24″	.31	.29	.27
829-5010	B3F-1050	.29″ × .26″	No	Projected	3.5 oz.	.24″ × .24″	.31	.29	.27
829-5015	B3F-1100	.17″ × .26″	Yes	Flat	3.5 oz.	.24″ × .24″	.31	.29	.27
829-5020	B3F-1002	.17″ × .26″	No	Flat	5.3 oz.	.24″ × .24″	.31	.29	.27
829-5025	B3F-1052	.29″ × .26″	No	Projected	5.3 oz.	.24″ × .24″	.31	.29	.27
829-5030	B3F-4000	.17″ × .49″	No	Flat	4.6 oz.	.47″ × .47″	.44	.41	.39
829-5035	B3F-4100	.17″ × .49″	Yes	Flat	4.6 oz.	.47″ × .47″	.44	.41	.39
829-5040	B3F-4005	.17″ × .49″	No	Flat	9.2 oz.	.47″ × .47″	.40	.38	.36
829-5045	B3F-4105	.17″ × .49″	Yes	Flat	9.2 oz.	.47″ × .47″	.57	.48	.45
829-5050	B3F-5000	.17″ × .49″	No	Flat	4.6 oz.	.47″ × .47″	.52	.49	.46
829-5055	B3F-5150	.29″ × .47″	Yes	Projected	4.6 oz.	.47″ × .47″	.52	.49	.46
829-5060	B3F-5151	.29″ × .47″	Yes	Projected	4.6 oz.	.47″ × .47″	1.82	1.72	1.63
829-5065	B3F-9100	.29″ × .47″	No	Red LED	4.6 oz.	.47″ × .47″	1.82	1.72	1.63
829-5070	B3F-3120	.15″	Yes	Flat	3.5 oz.	.24″ × .24″	.40	.38	.36
829-5075	B3F-3150	.24″	Yes	Projected	3.5 oz.	.24″ × .24″	.44	.41	.39

Controflex Ribbon Switches



Type 131-A: 3/4″ wide, 3/16″ thick. Light grey, 40 oz., nominal finger pressure. Lead wires 18″ long. 18/2 wire. Fasten with vinyl adhesive #105 or mount with Contamold Channel #106. Heat-sealed sleeve terminals. **(Fig. B)**

Type 121-BP: 9/16″ wide, 5/32″ thick. Light green, 8 oz., nominal finger pressure. Jacket-seal terminations. Lead wires 18″ long. 22/2 wire. For indoor and outdoor use. Fasten with vinyl adhesive #105 or use Contamold Channel #104. **(Fig. C)**

Type 141-BPH: 9/16″ wide, 1/4″ thick. White, 8 oz., nominal finger pressure. Same as Type 121-BP except with 1/8″ high bead for actuation. Fasten with #105 vinyl adhesive/sealant or mount with Contamold Channel #104. **(Fig. C)**

Do-It-Yourself Switch Material: Supplied in 50′ lengths. Can be cut to any length desired. Terminated with the use of #103 terminals and sealed with vinyl adhesive #105 or use #104/106 mounting channels.

Type 102-A: Grey, 40 oz. 3/4″ wide, 3/16″ thick. Uses #106 mounting channel. **(Fig.'s A,B)**

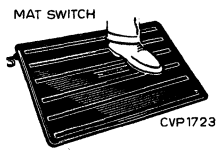
Type 102-B: Yellow, 12 oz. 3/4″ wide, 3/16″ thick. Uses #106 mounting channel. **(Fig.'s A,B)**

Type 102-BP: Light green, 8 oz. 9/16″ wide, 5/32″ thick. Uses #104 mounting channel. **(Fig.'s A,C)**

Type 102-BHP: White, 8 oz. 9/16″ wide, 5/32″ thick. Uses #104 mounting channel. **(Fig.'s A,C)**

Stock No.	Mfr.'s Type	Length	Weight	EACH		
				1-9	10-24	25-Up
966-1080	131-A	1′	3 oz.	8.20	7.38	6.55
966-1081	131-A	2′	6 oz.	11.15	8.90	8.87
966-1082	131-A	5′	15 oz.	20.23	18.07	16.00
966-1070	121-BP	1′	2 oz.	8.35	7.53	6.70
966-1071	121-BP	2′	4 oz.	12.15	11.28	9.87
966-1072	121-BP	5′	10 oz.	21.85	20.28	17.75
966-1075	141-BPH	1′	4 oz.	8.92	8.28	7.25
966-1076	141-BPH	2′	8 oz.	12.30	11.42	10.00
966-1077	141-BPH	5′	20 oz.	22.23	20.64	18.06
966-1086	102-A	50′	3.75 lbs.	114.76	106.57	93.25
966-1087	102-B	50′	3.75 lbs.	128.69	119.50	104.56
966-1088	102-BP	50′	3 lbs.	141.61	131.50	115.06
966-1089	102-BPH	50′	3 lbs.	150.92	140.14	122.62

Controflex Switching Mats

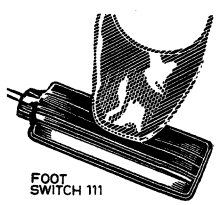


$\frac{23''}{584.2}$ L x $\frac{17''}{431.8}$ W x $\frac{3/32''}{2.38}$ T

Olive colored, pure vinyl heat-sealed mats with 22/2 lead wires, 6′ long (48″ for CPV-623). Activate with 5 lbs. nominal foot pressure. For use in entrance ways, stair treads and other areas for monitoring. Use exposed or concealed under carpeting. 3/32″ thick.

Stock No.	Mfr.'s Type	Dimensions	Weight	EACH		
				1-9	10-24	25-Up
966-1005	CPV-623	6 × 23″	1 lb.	14.46	13.43	11.75
966-1010	CPV-1723	17 × 23″	1 3/4 lbs.	29.15	26.76	23.35
966-1015	CPV-2335	23 × 25″	2 1/4 lbs.	60.46	56.80	49.12

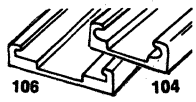
111 Controflex Foot Switch



Rugged 100W ribbon foot switch (momentary, normally open) sealed in weatherproof molded flat pad. 2 × 5″, 1/2″ thick. Tape or cement to floor. Includes 6′ U.L. approved cord. **Weight:** 8 oz.

966-1060. Model 111. **1-9** .....**EACH 11.35**
10-24 .....**EACH 10.23**
25-Up.....**EACH 9.10**

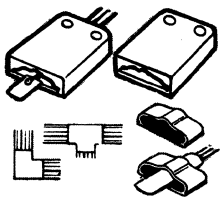
Contamold Mounting Channels



Fits Controflex ribbon switches. Switch slides in from one end. 104 Series is .688″ wide, .27″ high. 106 Series is .875″ wide, .25″ high. 106-S 6″ pan head self-tapping screws for the Contamold channels are 5/8″ long.

Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-24	25-Up
966-0104	104	3′	4.23	3.93	3.67
966-1104	104	6′	7.42	6.78	6.33
966-0106	106	3′	4.21	3.85	3.60
966-1106	106	6′	7.73	7.07	6.60

Molded Terminal Sets



Neat appearance. Quick connecting sealable terminations. Set includes one dead and one live end with tongue connectors and 18″ lead wires. Seal with #105 adhesive/sealant. The "T" and "L" fittings connect types "A" and "B" switch material by means of self-contained tongue connectors.

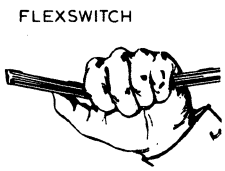
Stock No.	Mfr.'s Type	Color	EACH		
			1-9	10-24	25-Up
966-2000	103-A	Grey	5.92	5.50	5.13
966-2005	103-B	Yellow	5.92	5.50	5.13
966-2010	103-BP	Green	5.61	5.21	4.81
966-2015	103-BPH	White	5.61	5.21	4.81
966-2020	103-TA	Grey	3.23	3.00	2.80
966-2025	103-TB	Yellow	3.23	3.00	2.80
966-2030	103-LA	Grey	3.23	3.00	2.80
966-2035	103-LB	Yellow	3.23	3.00	2.80

#105 Vinyl Adhesive/Sealant

Clean Mastic, quick-drying sealant. A 5 oz. tube is adequate to bond 30′ of ribbon switch. Coat switch thoroughly and hold in place for 3-4 hours to assure firm set.

Stock No.	Mfr.'s Type	Quantity	EACH		
			1-9	10-24	25-Up
966-2040	105	5 oz. tube	9.84	9.14	8.13

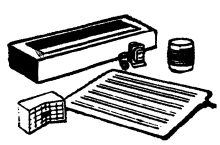
180-S Flex Switch



Sealed ribbon switch makes contact when flexed or squeezed. Quick and easy to install. Trouble-free sensing for virtually millions of cycles. Sensitivity is 8 oz. at 2″ bending moment or 8 oz. finger squeeze. 9/16″ wide, 8″ long. Rated at 1A res. 117VAC, 2A at 28VDC.

966-1083. Model 180-S. **1-9** .....**EACH 8.28**
10-24.....**EACH 7.38** **25-Up** .....**EACH 6.55**

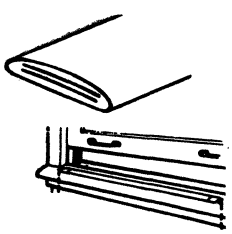
TS-1 Annunciator Kit



Chime signal for entrance ways to shops, homes, offices, etc. Kit contains CVP-1723 switching mat (17 × 23″), plug-in impulse power pack, 25′ lead wire, and installation instructions. **Weight:** 4 3/4 lbs.

966-2050. Model TS-1. **1-9** .....**EACH 69.23**
10-24.....**EACH 64.28** **25-Up** .....**EACH 56.86**

151-BBW Window Sill Alarm Switch



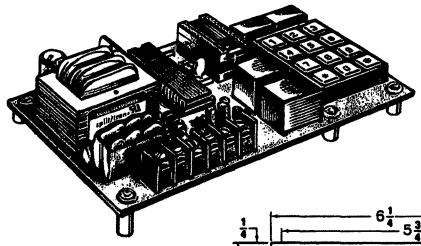
9/16″ wide, 5/32″ thick. White, 8 oz. nominal finger pressure. Jacket seal terminations. 12″ long lead wires at both ends, 22/2 wire. Fasten with vinyl adhesive #105. **Weight:** 2 oz. per 24″.

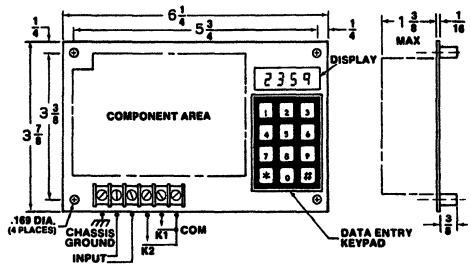
Stock No.	Mfr.'s Type	Length	EACH		
			1-9	10-24	25-Up
966-2055	151-BBW	36″	19.23	17.85	15.62
966-2060	151-BBW	48″	23.00	21.35	18.69

Other Lengths Available Upon Request.

Model #4950 7 Day Programmable Event Controller

- ► Up to 8 Events Per Day
- ► No Batteries Required for Clock Backup
- ► 2 Programmable Sets of Contacts
- ► LED Display
- ► Keypad Program Entry
- ► Time of Day and Day of Week Programmable

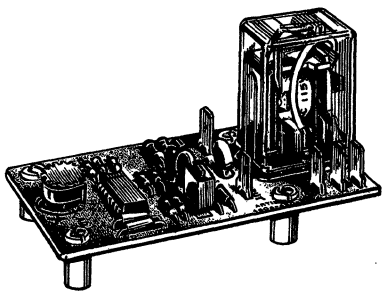




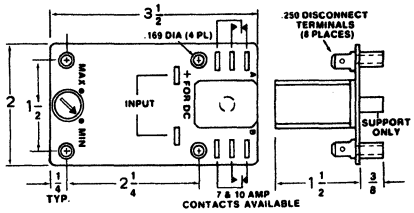
The 4950 is a Programmable Contoller which permits 2 sets of contacts to be turned on or off up to 56 times during a 7 day period with a maximum of 8 events per day. Once a pattern is programmed, the 4950 will operate on a continual basis, even during the absence of operating voltage. **Operating Voltage:** 95-135 VAC, 50/60 Hz. **Operating Temp.:** 0°C to 70°C. **Accuracy:** ±1 minute per month. **Output:** 2 form C SPDT individually programmable, rated at 5 A 120 VAC. 1/8 HP, 120 AC, 240 AC. **Construction:** Open PC board with screen terminals for power and output wiring. Other Voltages Available On Special Order.

519-5210. Type 4950 ..... **EACH 144.28**

Model #4604 Interval Timer



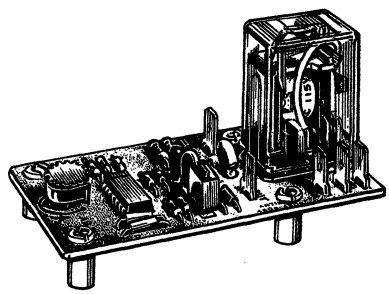
- ► Low Cost
- ► Open Board Construction
- ► Digital Circuitry
- ► 7 Ampere, DPDT Output
- ► Fixed or Adjustable Timing



This interval timer combines the accuracy and reliability of digital circuitry with a relay output. Applying operating voltage will energize the output relay for a present time period. Input voltage must be present for a duration that exceeds the timing period. The relay will be energized only once for each application of power. A board-mounted potentiometer sets the adjustable timing interval. Adjustable timing ranges at 7 amp output.

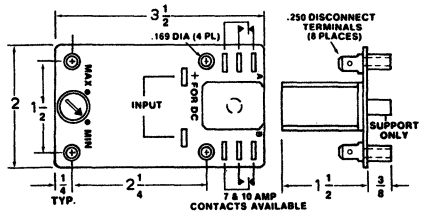
Stock No.	Mfr.'s Type	Volts	Time Range	EACH		
				1-9	10-24	25-49
519-5211	4604A-3-C-2	24 DC	1-30 Sec.	**29.18**	**27.10**	**25.29**
519-5212	4604A-3-C-3	24 DC	2-100 Sec.	**29.18**	**27.10**	**25.29**
519-5213	4604A-3-C-4	24 DC	10-500 Sec.	**29.18**	**27.10**	**25.29**
519-5214	4604A-8-C-2	120 AC	1-30 Sec.	**29.18**	**27.10**	**25.29**
519-5215	4604A-8-C-3	120 AC	2-100 Sec.	**29.18**	**27.10**	**25.29**
519-5216	4604A-8-C-4	120 AC	10-500 Sec.	**29.18**	**27.10**	**25.29**

4605 Delay-On Make Timer



- ► Low Cost
- ► Open Board Construction
- ► Digital Circuitry
- ► 7 Ampere, DPDT Output
- ► Fixed or Adjustable Timing

This delay timer combines the accuracy and reliability of digital circuitry with a DPDT relay output. When voltage is applied, the 4605 starts timing with relay de-energized. When the preset time period has elapsed, the 4605 energizes the output relay. The relay remains energized as long as input voltage is applied. Open board construction, 7 amp output, adjustable timing range via internal potentiometer.

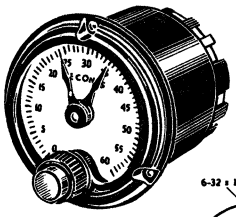


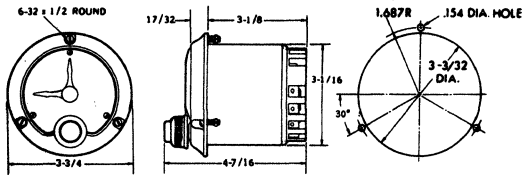
Stock No.	Mfr.'s Type	Volts	Time Range	EACH		
				1-9	10-24	25-49
519-5217	4605A-3-C-2	24 DC	1-30 Sec.	**29.18**	**27.10**	**25.29**
519-5218	4605A-3-C-3	24 DC	2-100 Sec.	**29.18**	**27.10**	**25.29**
519-5219	4605A-3-C-4	24 DC	10-500 Sec.	**29.18**	**27.10**	**25.29**
519-5220	4605A-8-C-2	120 AC	1-30 Sec.	**29.18**	**27.10**	**25.29**
519-5221	4605A-8-C-3	120 AC	2-100 Sec.	**29.18**	**27.10**	**25.29**
519-5222	4605A-8-C-4	120 AC	10-500 Sec.	**29.18**	**27.10**	**25.29**

Warranty

Artisan Controls Corporation warrants its products for a period of one year against defects in workmanship or materials. Please contact the Allied facility nearest you for the proper Return Material Authorization number when returning units that are within this warranty period. Any goods returned without an RMA number will be refused. Customer shall incur all shipping expenses.

Push-Button Reset Interval Timer





- Integral Push-Button
- Automatic Reset
- Heavy Duty Contacts Handle High Inrush Currents
- Proven Long Life Mechanism
- High Accuracy

Thoroughly proven in tough industrial applications. During the timing cycle a black pointer indicates the timing progress. Time setting can be changed while timer is running. **Minimum Setting:** two dial divisions ± 0.5% of full scale. **Repeat Accuracy:** ± 0.5% of full scale. **Dial:** fully enclosed, black on white, high visibility dial with 300° scale protected by plastic dome. **Reset:** less than 1/2 second reset time. **Power Input:** 4.75 volt-amperes at rated voltage, 60 Hz. **Load Contacts:** ratings with non-inductive load; 15 amps at 125 volts; 10 amps at 250 volts, SPDT snap-action load contacts are silver-cadmium oxide. **Terminals:** screwlug terminal block. **Motor:** Cramer permanent-magnet motor, quick start, synchronous operation, no coasting on removal of power. **Clutch:** positive, no-slip, 60 tooth ratchet, long mechanical life and high accuracy.

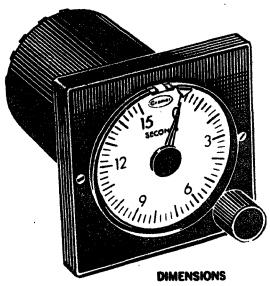
Stock No.	Mfr.'s Type	Time Ranges	Dial Divisions	EACH			
				1-24	25-49	50-99	100-Up
765-0640	241-60S-10000	60 sec.	1.0 sec.	128.30	113.64	106.06	99.43
765-0641	241-5M-10001	5 min.	5.0 sec.	128.30	113.64	106.06	99.43
765-0642	241-15M-10002	15 min.	15.0 sec.	128.30	113.64	106.06	99.43
765-0643	241-30M-20001	30 min.	30.0 sec.	128.30	113.64	106.06	99.43
765-0644	241-60M-10003	60 min.	1.0 min.	128.30	113.64	106.06	99.43
765-0645	241-5H-10004	5 hours	5.0 min.	128.30	113.64	106.06	99.43
765-0646	241-24H-10005	24 hours	30.0 min.	128.30	113.64	106.06	99.43

402 Series Reset Timers

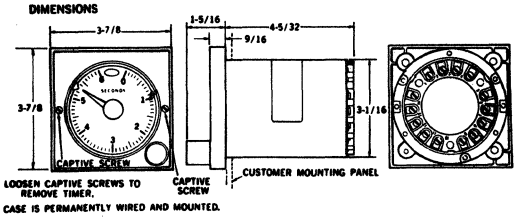
- Plug-in For Instant Time Range Interchangeability and Simplified Maintenance
- Can be Used For Interval or Delay Timing
- Includes Pilot Light and Progress Indicator
- Modern Square Bezel Provides Up-To-Date Panel Design
- Unique Damping Method Eliminates Bounce
- U.L. Recognized

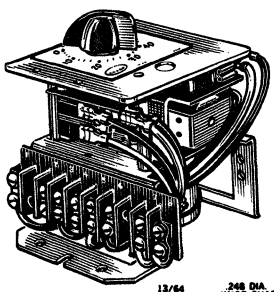
Synchronous motor-driven general purpose reset timers have wiring contacts that are externally accessible on the 14-position terminal block at the rear of the timer housing. **Min. Setting:** 1 dial division. **Operating Voltage:** 115VAC, 220VAC, ± 10%. **Operating Frequency:** 50 and 60 Hz, ± 5%. **Repeat Accuracy:** ± 0.4% of full scale when motor and clutch are energized simultaneously. **Dial:** fully enclosed, white dial with black figures. 320° scale. Setting pointer red, on dial periphery, knob adjustable. Progress pointer red, on center of dial. **Reset Time:** 500 M.S. **Setting:** friction, with 4 to 1 ratio. **Switch Ratings:** load and instantaneous switches, snap-action SPDT, rated 10 amps resistive at 125/250VAC, 1/2 amp at 250VDC. 1/4 amp at 250VDC, 1/3 HP at 125/250VAC. **Power Input:** Motor 3.0 watts; clutch 5 watts; at rated voltage, 60 Hz. **Operating Temperature Range:** – 20°C to + 55°C. **Housing:** plug-in molded polycarbonate incorporates built-in gaskets to seal out dust. Terminal block of polycarbonate is permanently sealed to the housing. **Bezel:** ZAMAC II, finished with flat black enamel. **Weight:** 2.0 lbs.

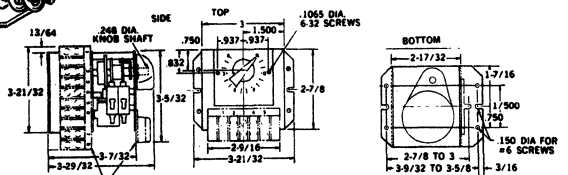
Stock No.	Mfr.'s Type	Time Ranges	Dial Divisions	EACH			
				1-24	25-49	50-99	100-Up
765-0647	402-6S-10006	6 sec.	0.10 sec.	157.85	139.78	130.46	122.31
765-0648	402-15S-20002	15 sec.	0.25 sec.	157.85	139.78	130.46	122.31
765-0649	402-30S-10007	30 sec.	0.50 sec.	157.85	139.78	130.46	122.31
765-0650	402-60S-10008	60 sec.	1.00 sec.	157.85	139.78	130.46	122.31
765-0651	402-5M-10009	5 min.	5.00 sec.	157.85	139.78	130.46	122.31
765-0652	402-60M-10010	60 min.	1.0 min.	157.85	139.78	130.46	122.31
765-0653	402-5H-10011	5 hours	5.0 min.	157.85	139.78	130.46	122.31



DIMENSIONS







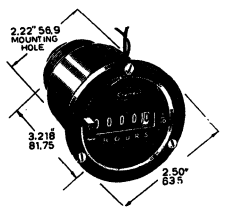
ALTERNATE POSITIONS FOR 5 OR 8 CONTACT TERMINALS MARKER STRIP.

472 Series Reset Timers

- Permits Momentary or Sustained Contact Control
- Can Be Used For Interval or Delay Timing
- Three Switches, Motor and Clutch Wired To 8-Place Terminal Block
- U.L. Approved
- Better Than 1% Accuracy

The 472-E is a most flexible timer and a good choice for test purposes where the control circuits are not finalized, or as a basic stock timer. This timer can be operated from a sustained or momentary contact switch. In the latter case, the solenoid actuated switch can energize a load during the time period in an interval timer application. Features cam actuated switches that allow programmed timing, reduce switch actuator over-travel and greatly extend switch life. A unique differential clutch, employing hardened gears, assures reliable, long-life operation. Mounts to front or rear of control panel. **Operating Voltage:** 115VAC ± 10%. **Operating Frequency:** 50 Hz, ± 5%. **Power Consumption:** Motor, 2.5 watts AC at rated voltage; clutch, 4.0 watts AC at rated voltage. **Operating Temperature Range:** – 20°C to + 55°C. **Reset Time:** full scale reset within 1/2 second. **Switch Rating:** 10 amp resistive at 125VAC. 1/3 HP at 125VAC.

Stock No.	Mfr.'s Type	Time Ranges	Dial Divisions	EACH			
				1-24	25-49	50-99	100-Up
765-0654	472-15S-10018	1-15 seconds	1 second	120.20	106.42	99.33	93.12
765-0655	472-30S-10019	2-30 seconds	1 second	120.20	106.42	99.33	93.12
765-0656	472-60S-10020	4-60 seconds	2 seconds	120.20	106.42	99.33	93.12
765-0657	472-5M-10021	20 seconds-5 min.	15 seconds	120.20	106.42	99.33	93.12
765-0658	472-15M-10022	1-15 minutes	1 minute	120.20	106.42	99.33	93.12
765-0659	472-30M-10023	2-30 minutes	1 minute	120.20	106.42	99.33	93.12
765-0660	472-60M-10024	4-60 minutes	2 minutes	120.20	106.42	99.33	93.12
765-0661	472-5H-10025	20 min. - 5 hours	15 minutes	120.20	106.42	99.33	93.12
765-0662	472-24H-10026	96 min. - 24 hours	1 hour	120.20	106.42	99.33	93.12



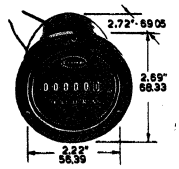
Push-Button Reset Elapsed Time Indicators

Series 636. High accuracy motor with pushbutton mechanism for instant reset to zero. M 5-digit register. Mounts in 2.22" dia. panel hole. Black, high-impact styrene housing. Continuous duty cycle. **Power Dissipation:** 2.7 watts. Unit is 3.2187" deep with 2.5" dia. round bezel. For 115 volts, 60 Hz AC. **Shpg. Wt.:** 3/4 lb. **Total Count:** 765-0636 — 9999.9 seconds; 765-0638 — 9999.9 minutes; 765-0639 — 9999.9 hours.

Stock No.	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
765-0636	636.X.E100	71.15	61.00	56.93	53.37
765-0638	636.X.L100	71.15	61.00	56.93	53.37
765-0639	636.X.S100	71.15	61.00	56.93	53.37

Non-Reset Elapsed Time Indicators

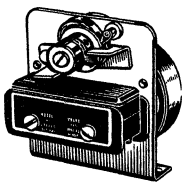
Series 635. Black, high-impact housing. Continuous duty cycle. 2.7 watts dissipation power. High accuracy motor with 6-digit register; large numerals on 1" wheels. Mounts in 2.22" dia. panel hole. Unit is 2.7187" deep, with 2.69" dia. bezel. **Total Count:** 765-0632 — 99,999.9 minutes; 765-0634 — 99,999.9 hours. U.L. listed. For 115 volts, 60 Hz AC. **Shpg. Wt.:** 3/4 lb. **635G,** 2 1/2" Round.

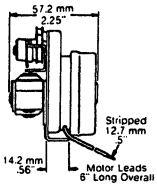


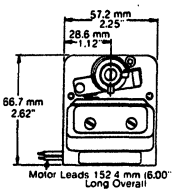
Stock No.	Mfr.'s Type	EACH			
		1-24	25-49	50-99	100-Up
765-0632	635-GL10	36.35	31.14	29.06	27.25
765-0634	635-GS100	36.35	31.14	29.06	27.25

15

90 Series Delay Timers



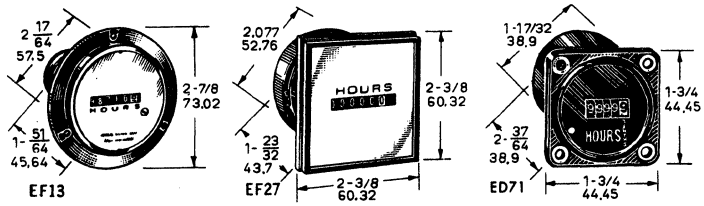




The 90 Series is a basic time delay timer designed for remote surface mounting where infrequent adjustment of the time delay setting is anticipated. It features automatic reset upon removal of power. These timers are designed for applications that do not require high repeat accuracy, fast reset or long time cycles. Isolated SPDT load switch rated at 10 amps. **Wiring:** Motor, 6-inch leads; switch, screw terminals. 120 VAC, UL and CSA approved.

Stock No.	Mfr.'s Type	Max. Setting	Min. Setting	EACH 1-9	EACH 10-24	EACH 25-Up
815-1009	90-6S	6 sec.	1/2 sec.	43.00	39.90	37.41
815-1010	90-15S	15 sec.	1 1/2 sec.	43.00	39.90	37.41
815-1011	90-30S	30 sec.	3 sec.	43.00	39.90	37.41
815-1012	90-60S	60 sec.	6 sec.	43.00	39.90	37.41

Non-Reset Elapsed Time Indicators

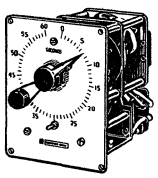


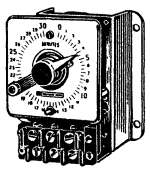
Wide variety of meters for use where accurate time readings are required. All are synchronous-motor driven. Round or square bezel. Panel mount and rear mount available. Non-resetable, readout is digital with a range of five figures plus tenths; in hours and tenths, †minutes and tenths or *4 figures and tenths. Units are 120VAC, 60Hz. **Operating temperature:** – 12°C to + 55°C.

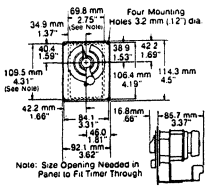
120 Volts AC 60 Hz

Stock No.	Mfr.'s Type	Bezel In.	Depth In.	Dia. In.	Max. W Motor Rating	Leads	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-74
815-0110	EF1333†	2 7/8 rd.	1 51/64	2 17/64	2.5	6"	30.00	27.90	26.10	24.60
815-0112	EF1335	2 7/8 rd.	1 51/64	2 17/64	2.5	6"	30.00	27.90	26.10	24.60
815-0118	EF2733†	2 3/8 sq.	1 23/32	2 5/64	5.0	6"	30.00	27.90	26.10	24.60
815-0120	EF2735	2 3/8 sq.	1 23/32	2 5/64	5.0	6"	34.62	32.14	30.00	28.13
815-0180	ED7112*	1 3/4 sq.	2 37/64	1 17/32	2.5	11 1/4"	64.50	59.99	56.11	52.89

TDAB and TDAF Series Timers


TDAF SERIES TIMER

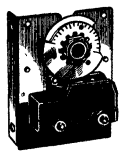

TDAB SERIES TIMER

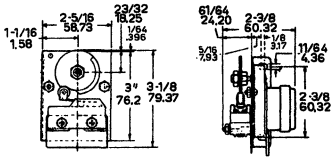


The TDAB and TDAF timers are rugged, high precision time delay timers. They feature automatic reset and an infinite-resolution clutch. The TDAF is designed for panel mounting while the TDAB is designed for back or surface mounting. On both units, wiring connections are made on the screw type terminal block. Both have isolated SPDT load switch rated at 15 amps, 120 VAC. UL and CSA approved.

Stock No.	Mfr.'s Type	Time Cycle	Dial Division	EACH 1-9	EACH 10-24	EACH 25-Up
815-1019	TDAB-6S	6 sec.	1/10 sec.	100.00	93.00	87.00
815-1020	TDAB-15S	15 sec.	1/4 sec.	100.00	93.00	87.00
815-1022	TDAB-60S	60 sec.	1 sec.	100.00	93.00	87.00
815-1023	TDAB-5M	5 min.	5 sec.	100.00	93.00	87.00
815-1024	TDAB-15M	15 min.	15 sec.	100.00	93.00	87.00
815-1026	TDAB-60M	60 min.	60 sec.	100.00	93.00	87.00
815-1027	TDAF-6S	6 sec.	1/10 sec.	100.00	93.00	87.00
815-1028	TDAF-15S	15 sec.	1/4 sec.	100.00	93.00	87.00
815-1030	TDAF-60S	60 sec.	1 sec.	100.00	93.00	87.00
815-1031	TDAF-5M	5 min.	5 sec.	100.00	93.00	87.00
815-1032	TDAF-15M	15 min.	15 sec.	100.00	93.00	87.00
815-1034	TDAF-60M	60 min.	60 sec.	100.00	93.00	87.00

Series RG21, Single Switch

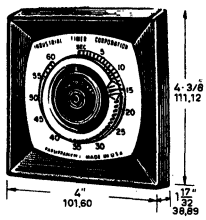




Designed to run continuously, repeating a set cycle of make-break switching operations as long as the motor is energized. This unit may be applied to operations requiring only a single time cycle. The unit's timing motor drives the cam to actuate a SPDT snap-action switch in a definite make-break sequence at predetermined speeds. Switch cams adjustable from minimum notch of 7° to a maximum notch of 169° (±3°). Cam Shaft Speed for One Complete Revolution (360°): RG21-093: 1 minute; RG21-096: 15 minutes; RG21-098: 60 minutes. 120V, 60 Hz. U.L. recognized and CSA listed.

Stock No.	Mfr.'s Type	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-74
815-0190	RG21-093	45.00	41.85	39.15	36.90
815-0194	RG21-096	45.00	41.85	39.15	36.90
815-0198	RG21-098	45.00	41.85	39.15	36.90

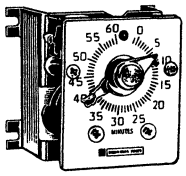
Type MPB Interval Timers

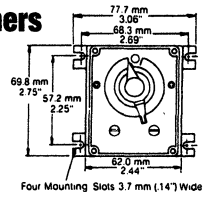


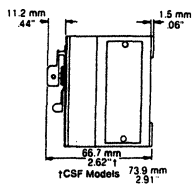
Depressing pushbutton in center of selector ring engages synchronous motor and closes SPDT snap action isolated load switch. At end of cycle, timer automatically resets to zero and opens load switch. Contacts rated 15 amps non-inductive at 115 volts, 60 Hz AC. Double load operation possible. Specify timing range desired. **Shpg. wt.:** 3 lbs.

Stock No.	Mfr.'s Type	Time Setting Max.	Time Setting Min.	EACH 1-9	EACH 10-24	EACH 25-49
815-0324	MPB15M	15 min.	15 sec.	50.23	46.72	43.71
815-0328	MPB60M	60 min.	60 sec.	50.23	46.72	43.71

SF and CSF Series Timers



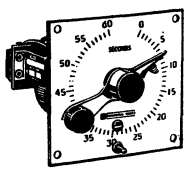


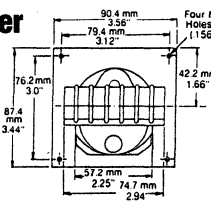


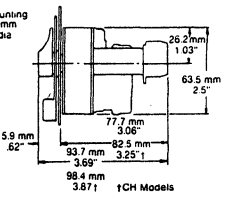
These standard time delay timers are designed for remote surface mounting where infrequent adjustment of the time delay setting is anticipated. The SF timers are in the 6, 15, and 30 second ranges and use a clutch motor. The CSF timers operate in ranges of 1 minute and above and use an external clutch to provide fast reset. Both units feature automatic reset upon removal of power, and isolated SPDT load switch. The CSF also features a motor control switch to protect the motor at the end of the time cycle. **Repeat Accuracy:** SF— ± 1%; CSF— ± 1.5%. 10 amp load switch contacts, screw terminal wiring, 120 VAC. UL and CSA approved.

Stock No.	Mfr.'s Type	Time Cycle	Dial Division	EACH 1-9	EACH 10-24	EACH 25-Up
815-1001	SF-6S	6 sec.	1/10 sec.	57.00	53.01	49.59
815-1002	SF-15S	15 sec.	1/4 sec.	57.00	53.01	49.59
815-1003	SF-30S	30 sec.	1/2 sec.	57.00	53.01	49.59
815-1004	CSF-1M	1 min.	1 sec.	65.00	60.45	56.55
815-1005	CSF-5M	5 min.	5 sec.	65.00	60.45	56.55
815-1006	CSF-15M	15 min.	15 sec.	65.00	60.45	56.55
815-1007	CSF-30M	30 min.	30 sec.	65.00	60.45	56.55
815-1008	CSF-60M	60 min.	1 min.	65.00	60.45	56.55

H and CH Series Timer







The H and CH series are standard time delay timers designed for panel mounting. They are designed for applications that require medium repeat accuracy and reset time and that may require the operator to change the time delay cycle. The H timers cover the 6, 15, and 30 second time ranges and have a clutch motor. The CH timers are available in 1, 3 and 5 minute time ranges and feature and external clutch to enable fast reset. It also features a motor control switch to protect the motor at the end of the time cycle. Both have isolated SPDT load switch rated at 10 amps, screw terminal block wiring, 120 VAC. UL and CSA approved.

Stock No.	Mfr.'s Type	Time Cycle	Dial Division	EACH 1-9	EACH 10-24	EACH 25-Up
815-1013	H-6S	6 sec.	1/10 sec.	59.50	55.34	51.77
815-1014	H-15S	15 sec.	1/4 sec.	59.50	55.34	51.77
815-1015	H-30S	30 sec.	1/2 sec.	59.50	55.34	51.77
815-1016	CH-1M	1 min.	1 sec.	69.75	64.87	60.68
815-1017	CH-3M	3 min.	3 sec.	69.75	64.87	60.68
815-1018	CH-5M	5 min.	5 sec.	69.75	64.87	60.68

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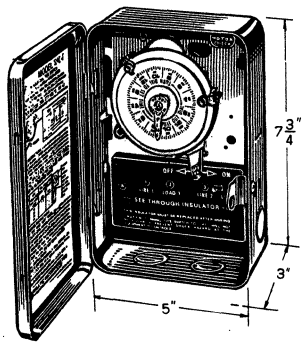
T100 and T170 24 Hour Time Switches

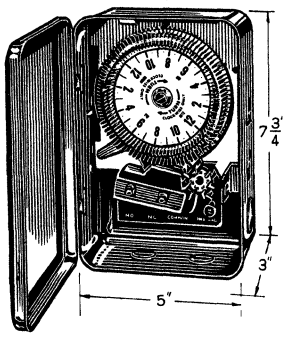


T100 Century Series. 1-12 on-off operations per day depending on the number of trippers added. Rated at 40 amps. Tungsten rated to carry inrush surge 10 times normal amperage without sticking. Self-cleaning contacts. Furnished with one "on" and one "off" tripper.

T170 Skipper Series. 1-10 operations per day. All specifications same as T100 Series with added skip feature. Skipper screws may be inserted into proper holes in Day dial to omit operation on that day. Equipped with one "skipper" tripper (also serves as "on" tripper), one "off" tripper and 3 skipper screws. Both models U.L. and CSA approved. **Shipping Weight:** 2 3/4 lbs.

Stock No.	Mfr.'s Type	Volts AC	Action	ON Time		OFF Time		EACH	
				Min.	Max.	Min.	Max.	1-9	10-Up
818-0101	T101	125	SPST	1 hr.	23 hrs.	1 hr.	23 hrs.	55.95	43.68
818-0102	T104	208-277	DPST	1 hr.	23 hrs.	1 hr.	23 hrs.	64.90	50.70
818-0103	T171	125	SPST	1 hr.	20 hrs.	1 hr.	23 hrs.	79.80	62.31
818-0104	T174	208-277	DPST	1 hr.	20 hrs.	1 hr.	23 hrs.	89.20	69.68
818-0105	156T1978A	Extra Set of Trippers for T100						1.25	1.10

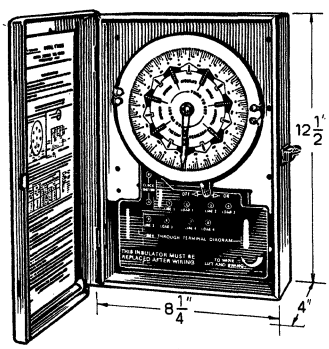
T1975 Supervisor Time Switch



Semi-permanently attached 96 trippers provide 1-48 "on" or "off" periods of 15 minutes each, every 24 hours. They slide in and out of dial for fast, accurate setting. **Minimum On Time:** 15 minutes. **Maximum On Time:** 23 hours, 45 minutes. Skipper dial allows for omission of operation on certain days. **Switch Rating:** 20 amps. 120-480 VAC. 1/2 HP motor rating. U.L. and CSA approved. **Shipping weight:** 2 3/4 lbs.

Stock No.	Mfr.'s Type	Motor Voltage	Switch Action	EACH	
				1-9	10-Up
818-0106	T1975	125VAC	SPDT	120.00	93.75

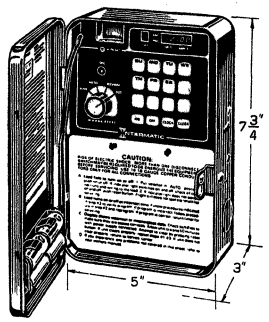
T7400B and T7800B Seven Day Dial Time Switches



Seven sets of trippers supplied with each switch for a different "on-off" program for each day of the week. **Minimum On Time:** 3 1/2 hours. **Minimum Off Time:** 3 1/2 hours. **For switching circuits not on line voltage:** all models have separate terminals for clock motor. Steel case, gray finish. **Contact Ratings:** 40 amps per pole, 2 HP. U.L. and CSA listed. **Shipping Weight:** 8 lbs.

Stock No.	Mfr.'s Type	Volts	Switch Action	EACH	
				1-9	10-Up
818-0107	T7401B	125VAC	4PST	122.15	95.40
818-0108	T7801B	125VAC	2NO-2NC	122.15	95.40

ET715C and ET718C Electronic Seven Day Time Switches



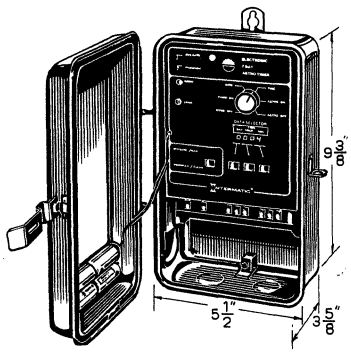
ET715C. 28 On and Off set points which may be set at any time during a 7 day period in one minute increments. Day Repeat feature allows you to repeat days by turning the time switch to Set position, pushing the day to be scheduled, then pushing the "on" keypad. Follow by pushing day whose schedule is to be repeated.

ET718C. Same features as above plus capability of automatically turning up to 4 loads on and off according to preset weekly schedule. All loads will be turned on and off at the same time as programmed in the time switch.

Both have a 24 hour battery back-up system from 4 AA nickel-cadmium rechargeable batteries. Upon power resumption batteries recharge in 8 hours. 120VAC, 60 Hz, 2.5 watts. **Shipping Weight:** 2.7 lbs.

Stock No.	Mfr.'s Type	Timing Operation ON Time/OFF Time		EACH	
		Min.	Max.	1-9	10-Up
818-0109	ET715C	1 Min.	6 days, 23 hrs., 59 min.	245.25	188.66
818-0110	ET718C	1 Min.	6 days, 23 hrs., 59 min.	267.70	205.92

ET800CR Programmable Astronomic Time Switch



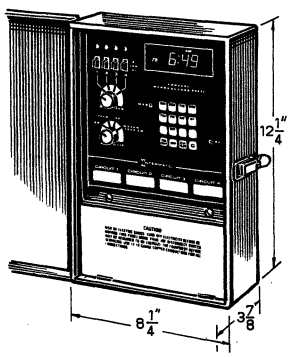
Accurately tracks, on a yearly schedule, sunset and sunrise times to ensure that lighting loads are off during daylight hours. In addition, there's programming flexibility for fixed "ON" and/or fixed "OFF" times on a 7-Day repeating schedule. Lighting can be turned "ON" at dusk and "OFF" at a different pre-selected time each night.

During power outages, a rechargeable nickel cadmium battery backup protects time of day and program information for up to a 24 hour long power outage.

The ET800 Series electronic time switches are housed in a heavy gauge steel, raintight enclosure with a locking clasp. 2PDT switch. Type ET816CR, U.L. and CSA approved. Type ET833CR, U.L. approved. **Shipping Weight:** 2.7 lbs.

Stock No.	Mfr.'s Type	Clock Supply Volts, 60 Hz	Amps Per Pole	EACH	
				1-9	10-Up
818-0112	ET816CR	120VAC	5	281.10	219.61
818-0113	ET833CR	277VAC	10	292.00	228.12

ET7400 4 Circuit Time Switch



Independent scheduling and cycling control for 4 circuits. A total of 320 set points. Assignable in any combination to on times, off times, daylight saving time dates and holidays. Solid state memory protection circuit without need for batteries. 6.5 watts maximum for all output relays energized. Dry contacts. U.L. and CSA pending. **Shipping Weight:** 3 lbs.

Stock No.	Mfr.'s Type	Clock Supply Volts, 60 Hz	Switch Action	EACH	
				1-9	10-Up
818-0111	ET7415C	117VAC	SPDT, 16A (each pole)	763.90	596.79

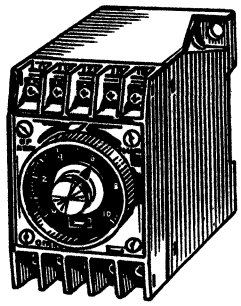
Solid State Timers

H3B Series. 16 ranges (.05 sec. to 100 hrs.) and 4 output modes in a single unit. 8-pin, 11-pin, or screw terminal connection. SPDT or DPDT outputs. Starts, reset, and gate inputs on 11-pin and screw terminal models. "RUN" and "OUTPUT" indication on all units.

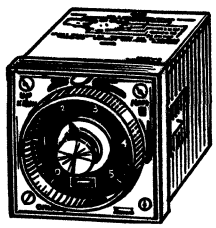
H3CA Series. Digital setting. Universal power (24-240 VAC, 12-240 VDC). 8 operation modes. Range of 0.1 sec. to 999 hrs. in single unit. Same connection options, indicators, and outputs as H3BA Series. Bar graph elapsed time indication.

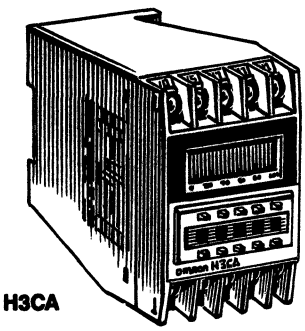
Stock No.	Mfr.'s Type	Connection	Output	Description	EACH
834-3000	H3BA-120AC	11-Pin	DPDT	4 Output Modes	43.00
834-3001	H3BA-24DC	11-Pin	DPDT	4 Output Modes	43.00
834-3002	H3BA-FA-120AC	Frt. Screw	SPDT	4 Output Modes	49.00
834-3003	H3BA-FA-24DC	Frt. Screw	SPDT	4 Output Modes	48.00
834-3004	H3BA-8H-120AC	8-Pin	2, SPDT	On Delay Only	45.00
834-3005	H3BA-8H-24DC	8-Pin	2, SPDT	On Delay Only	45.00
834-3006	H3BA-8-120AC	8-Pin	DPDT	On Delay Only	43.00
834-3007	H3BA-8-24DC	8-Pin	DPDT	On Delay Only	43.00
834-3008	H3BF-8-120AC	8-Pin	DPDT	Sep. On, Off Delay	49.00
834-3009	H3BF-8-24DC	8-Pin	DPDT	Sep. On, Off Delay	49.00
834-3010	H3CA-A	11-Pin	SPDT	8 Output Modes	71.00
834-3011	H3CA-FA	Frt. Screw	SPDT	8 Output Modes	75.00
834-3012	H3CA-8H-120AC	8-Pin	2, SPDT	On Delay Only	65.00
834-3013	H3CA-8H-24DC	8-Pin	2, SPDT	On Delay Only	65.00
834-3014	H3CA-8-120AC	8-Pin	DPDT	On Delay Only	64.00
834-3015	H3CA-8-24DC	8-Pin	DPDT	On Delay Only	64.00

Other voltages available upon special request from factory.

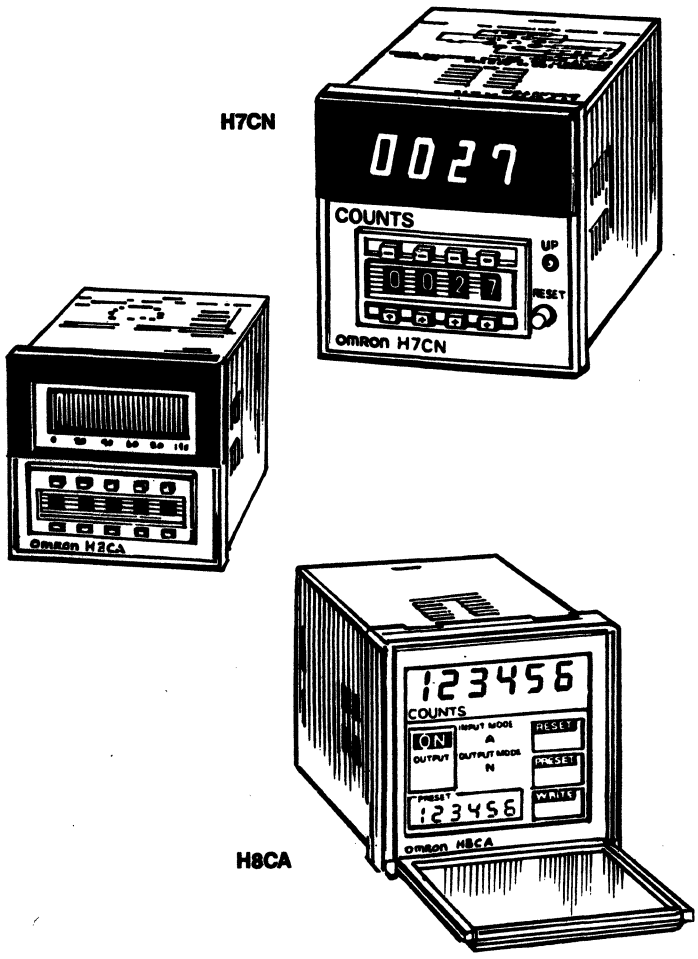


H3BA





H3CA



H7CN

H8CA

Solid State Counters

H7CN. 4 digit setting and readout. Std. and high speed (5 kcps) models available. 8-pin in socket connection. Up, down, and reversible units available all with end of count "UP" light and front reset. All units have contact and solid state input. 100-240 VAC and 12-48 VDC supply voltage.

H8CA. Combination timer and counter. 6 digit display. 24-240 VAC and 12-110 VDC units. 10 year battery backup. Counter reversible with 3 input modes and 4 output modes. Timer has 4 output modes and range from 0.01 sec. to 99999.9 hrs. Contact (30 cps speed) and solid state (1 kcps speed) inputs available in voltage or non-voltage form. 11-pin socket connection. Output indication on all models.

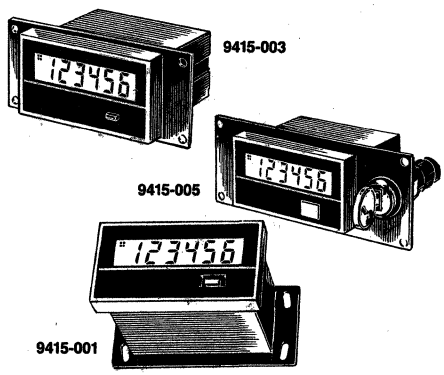
Stock No.	Mfr.'s Type	Output	Description	EACH
834-3016	H7CN-XLN-AC	Contact: SPST-No	Up Count, 30CPS Max.	120.00
834-3017	H7CN-XLN-DC	Contact: SPST-No	Up Count, 30CPS Max.	120.00
834-3018	H7CN-YLN-AC	Contact: SPST-No	Down Count, 30CPS Max.	120.00
834-3019	H7CN-YLN-DC	Contact: SPST-No	Down Count, 30CPS Max.	120.00
834-3020	H7CN-ALN-AC	Contact: SPST-No	Rev. Command Input, 30CPS	120.00
834-3021	H7CN-ALN-DC	Contact: SPST-No	Rev. Command Input, 30CPS	120.00
834-3022	H7CN-BLN-AC	Contact: SPST-No	Rev. Indiv. Input, 30CPS	120.00
834-3024	H7CN-XHNS-AC	Open Collector	Up Count, 5KCPS	120.00
834-3025	H7CN-XHNS-DC	Open Collector	Up Count, 5KCPS	120.00
834-3026	H7CN-YHNS-AC	Open Collector	Down Count, 5KCPS	120.00
834-3027	H7CN-YHNS-DC	Open Collector	Down Count, 5KCPS	120.00
834-3028	H8CA-AL	Contact: SPDT	No-Volt Input, 30CPS, AC	125.00
834-3029	H8CA-AH	Contact: SPDT	No-Volt Input, 5KCPS, AC	125.00
834-3030	H8CA-DL	Contact: SPDT	No-Volt Input, 30CPS, DC	125.00
834-3031	H8CA-DH	Contact: SPDT	No-Volt Input, 5KCPS, DC	125.00
834-3032	H8CA-ALS	Open Collector	No-Volt Input, 30CPS, AC	125.00
834-3033	H8CA-AHS	Open Collector	No-Volt Input, 5KCPS, AC	125.00
834-3034	H8CA-DLS	Open Collector	No-Volt Input, 30CPS, DC	125.00
834-3035	H8CA-DHS	Open Collector	No-Volt Input, 5KCPS, DC	125.00
834-3036	H8CA-ALV	Contact: SPDT	Volt Input, 30CPS, AC	125.00
834-3037	H8CA-AHV	Contact: SPDT	Volt Input, 5KCPS, AC	125.00
834-3038	H8CA-DLV	Contact: SPDT	Volt Input, 30 CPS, DC	125.00
834-3039	H8CA-DHV	Contact: SPDT	Volt Input, 5KCPS, DC	125.00
834-3041	H8CA-AHVS	Open Collector	Volt Input, 5 KCPS, AC	125.00
834-3042	H8CA-DLVS	Open Collector	Volt Input, 30CPS, DC	125.00
834-3043	H8CA-DHVS	Open Collector	Volt Input, 5KCPS, DC	125.00

15

Electronic

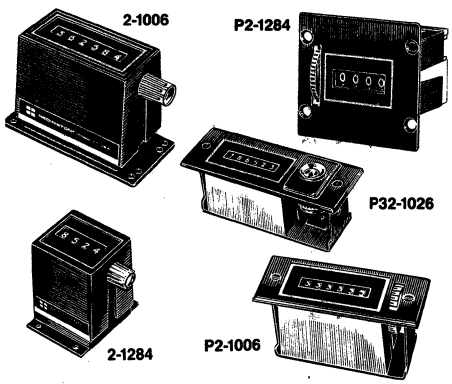
Series 9306. 6-digit bright red LED display, 200-hr. memory, internal 12VDC supply, 115VAC, 50/60 Hz. Quadrature feature allows totalizer to add or subtract from switch or sensor inputs. Fits 2.677″ square opening.

Series 9415. Large .45″ LCD 6-digit display, 6-240V (AC/DC) switch or sensor inputs, interchangeable with most electromechanical counters, convenient pushbutton reset, rated at 2400 CPM with sensor input, 1200 CPM with switch input.



Stock No.	Mfr.'s Type	Mount	Reset	EACH*		
				1-4	5-9	10-Up
620-9415	9415-001	Base	Pushbutton	147.50	136.15	126.43
620-9416	9415-003	Panel	Pushbutton	158.50	121.92	113.21
620-9417	9415-005	Panel	Lock/Key	169.50	156.46	145.29

* Call Allied for Quantity Pricing over 10 pieces.



Electric Impulse

Series 100. Premium quality, 6-digit electromechanical counter, heavy-duty rectifier, transient protection design, convenient reset, 1000 CPM capability. Designed for 115VAC, 50/60 Hz operations.

Series 128. 4-digit electromechanical, heavy-duty rectifier, transient protected, up to 1000 CPM, reset capability, 115VAC, 50/60 Hz, for limited space.

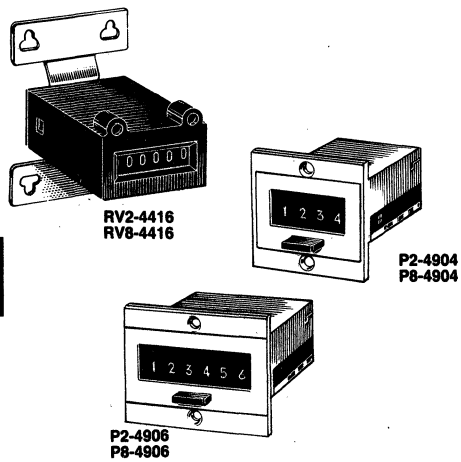
Stock No.	Mfr.'s Type	Mount	Reset	EACH		
				1-4	5-9	10-24
620-0072	2-1006-115AC	Base	Knob	65.25	60.23	55.93
620-0076	P2-1006-115AC	Panel	T. Wheel	70.95	65.49	60.81
620-0165	P32-1026-115AC	Panel	Lock/Key	95.50	88.15	81.86
620-0028	2-1284-115AC	Base	Knob	48.00	44.31	41.14
620-0032	P2-1284-115AC	Panel	T. Wheel	50.50	46.62	43.29

Electric Impulse

Series R-300. (Not shown) 6-digit resettable counter with flush mount look. Counts up to 1000 CPM. Maintains a high degree of accuracy. 115VAC, 50/60 Hz. Fits 1.985 × 1.00″ opening.

Stock No.	Mfr.'s Type	EACH		
		1-4	5-9	10-24
620-1510	R2-3106-115AC	65.50	60.46	56.14
620-1500	R8-3206-24DC	58.50	54.00	50.14

Call Allied For Quantity Pricing Over 25 Pieces.



Electric Impulse

Series 4416. Low-cost, 6-digit miniature, simple base mount, not resettable (prevents tampering), 115VAC, 50/60 Hz or 24DC, 1.362 × .776 × 2.81″. Dual mount for behind panel/base mounting. Interchangeable with most vending and OEM counters.

Series 4904 and 4906. Low cost, 4-or-6-digit, panel mount, pushbutton reset, 115VAC, 50/60 Hz or 24VDC. Fits 1.461 × 1.00″ (4904) or 2.00 × 1.00″ (4906) opening. Interchangeable with Durant 4-and-6-digit MEQ Series. Replaces Redington PR-3704 and PR-3706 models.

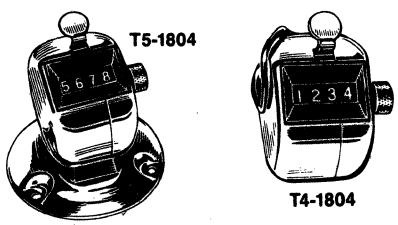
Stock No.	Mfr.'s Type	EACH*		
		1-4	5-9	10-24
620-9418	RV2-4416-115VAC	14.25	13.15	12.21
620-9419	RV8-4416-24VDC	14.25	13.15	12.21
620-9420	P2-4904-115VAC	27.50	25.38	23.57
620-9421	P8-4904-24VDC	25.50	23.53	21.85
620-9422	P2-4906-115VAC	34.00	31.38	29.14
620-9423	P8-4906-24VDC	31.75	29.30	27.21

* Call Allied for Quantity Pricing over 25 pieces.

Hand-Operated

Series 4-1804 (Hand Tally) or 5-1804 (Desk Tally). Knob reset. 4-figure. Chrome-plated steel case. 1¾ × 1¾″. Fits hand. 2¼″ dia. base.

Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-24
620-0082	T4-1804	Hand	15.45	14.68	13.91
620-0083	T5-1804	Desk	18.54	17.61	16.69



Electronic

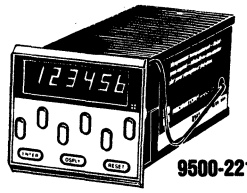
Series 9300. 4-digit .56″ LED display, pushbutton preset, switch/sensor inputs, 115/230VAC, 50/60 Hz. SPDT relay output actuates at preset figure. Automatic recycle/overrun modes built in. Fits 2 11/16″ square opening.

Series 9326. 6-digit .56″ LED display, preset and output control—dual on 9326. Quadrature feature for up/down counting from 1 to 2 sensor inputs, internal 12VDC supply. 115/230VAC, 50/60 Hz. SPDT relay and transistor outputs standard. Adjustable timed outputs up to 3 sec. on latching mode. Fits 2.677 × 5.354″ opening.

Series 9520. Low-cost, microprocessor-based, 6-digit LED display; infinite, nonvolatile memory; easy operation and dust protection with membrane switches. Replaces electromechanical predetermining counters. Fits 50mm square opening. Operates with 115VAC count pulse. 115VAC operation.

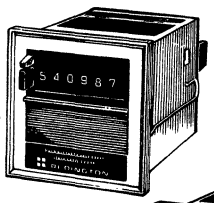
9326-002

9300-003



9500-221

Stock No.	Mfr.'s Type	Mount	Reset	EACH		
				1-4	5-9	10-24
620-9300	9300-003	Panel	Pushbutton	385.00	370.19	352.13
620-9326	9326-002	Panel	Remote	510.00	490.38	466.46
620-9500	9520-221	Panel	Pushbutton	180.00	173.07	164.63



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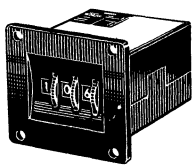
B8-5806



P2-1063
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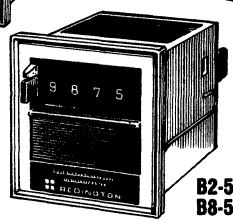


B2-5804
B8-5804

Electric Impulse

Series 5804 and 5806. Electromechanical additive 4- or 6-digit, easy preset, pushbutton reset, 115VAC, 50/60 Hz or 24VDC. SPDT 5A switch output actuates at preset figure. Fits 2.165″ square opening.

Series 1063. Subtractive 3-digit, bidirectional thumbwheel preset, 115VAC, 50/60 Hz or 24VDC. SPDT 3A switch output actuates after countdown. Output mode remains until new cycle starts. Fits 2.31 × 1.63″ opening.

Stock No.	Mfr.'s Type	Reset	EACH		
			1-4	5-9	10-24
620-9426	B2-5804-115AC	Pushbutton	129.50	119.53	111.00
620-9427	B8-5804-24DC	Pushbutton	118.75	101.49	94.24
620-9428	B2-5806-115AC	Pushbutton	142.50	131.53	122.14
620-9429	B8-5806-24DC	Pushbutton	135.00	124.61	115.71
620-9430	P2-1063-115AC	—	70.50	65.07	60.43
620-9431	P8-1063-24DC	—	67.00	61.85	57.43

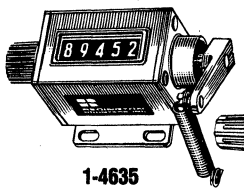
Mechanical

Series 46. Low-cost, 5-digit, long-life, knob reset. Counts as RH lever is stroked with with top coming action (4645 with top going action). 2 1/2 × 1 1/2 × 1 9/16″.

Series 20. Medium duty 5-digit, knob reset, 2 5/8 × 1 1/4 × 1 3/8″. Use with hand or reciprocating motion.

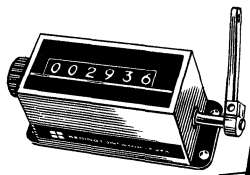
Series 29. Economical, heavy-duty 6-digit. RH lever, top coming action, 100 million count life, 5 9/16 × 3/16 × 2 1/16″. Replaces Durant 'H' and Veeder-Root 1667.

Series 22. 5-digit direct-drive rotary, compact, right shaft, left knob reset, 2 5/8 × 1 1/2 × 1 3/8″. Counts on top coming rotation.



1-4635

1-2035



1-2936

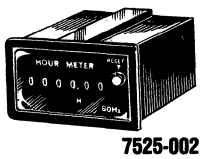
1-2235

Stock No.	Mfr.'s Type	EACH		
		1-4	5-9	10-24
620-2435	1-4635	27.50	22.45	21.28
620-2445	1-4645	29.50	22.45	21.28
620-2035	1-2035	31.75	29.31	27.21
620-0012	1-2936	66.75	56.26	52.24
620-2235	1-2235	31.75	29.31	27.21

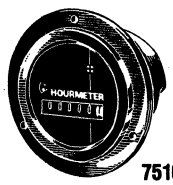
Hourmeters

Series 7510-002. 5-digit; (9999.9 Hours); panel mount; non-reset; 3-hole flange mounting; 2.54″ dia. bolt circle.
Series 7510-008. 5-digit; (9999.9 Hours); panel mount; non-reset; 3-hole flange mounting: 2.54″ dia. bolt circle.
Series 7510-004. 6-digit; (99999.9 Hours); panel mount; non-reset; 3-hole flange mounting; 2.42″ dia. bolt circle.
Series 7525-002. 6-digit; (9999.99 Hours); bracket mount; reset; rectangle mount, 1.14 × 2.05″ cutout required.
Series 7526-002. 6-digit; (99999.9 Hours); bracket mount; non-reset; rectangular mount, 1.14 × 2.05″ cutout required.

7510-002
7510-008



7525-002



7510-004

7526-002

Stock No.	Mfr.'s Type	Input	EACH		
			1-4	5-9	10-24
620-9424	7510-002	115VAC/60 Hz	32.75	30.23	28.07
620-9425	7510-008	12-24VDC	32.75	30.23	28.07
620-9440	7510-004	115VAC/60 Hz	32.75	30.23	28.07
620-9441	7525-002	115VAC/60 Hz	50.50	46.61	43.29
620-9442	7526-002	115VAC/60 Hz	39.25	36.23	33.64

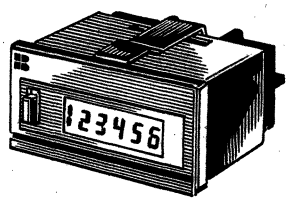
Totalizers, Hourmeters, and Tachometers

7600 Totalizing Counter
Operating Life: 7 years at 1800 counts/minute. **Count Input:** Non-voltage—low-impedance device required. **Voltage:** 0-2 DC—low level; 5-30 DC—high level. **Solid State Input:** Minimum .5mS "ON", .5mS "OFF". **Reset:** Minimum 20mS. **Switch Contact:** Minimum 16.7mS "ON", 16.7mS "OFF".*

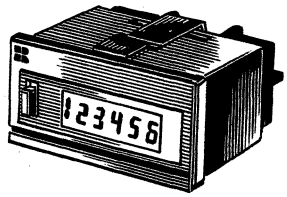
7620 Hourmeter
Count Input: Non-voltage—low impedance device required. **Voltage:** 0-2 DC—low level; 5-30 DC—high level. **Operating Life:** 10 years minimum of continuous duty. Decimal point blinks when input signal is applied.*

7630 Tachometer
Reads in terms of number, length, volume, and revolutions per minute. **Speed:** Maximum revolutions—4 fig., 1000 RPS; 5 fig., 10,000 RPM. **Count Input:** 4 fig., solid state and contact; 5 fig., voltage only. **Operating Life:** 7 years continuous duty.*

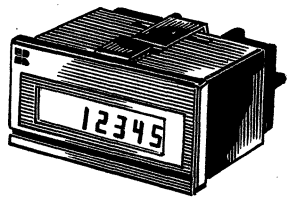
***NOTE:** All models front mounts with a clamp, held by a thumb screw.*



7600 TOTALIZER



7620 HOURMETER

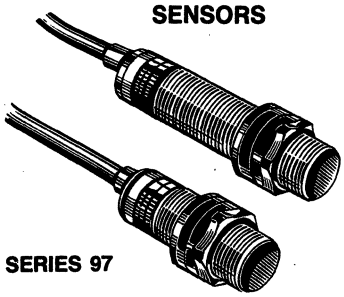


7630 TACHOMETER

Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-24
620-7600	7600-7KO	7 Fig., 1000 CPS. Dry contact and solid state +	37.00	34.15	31.71
620-7601	7600-730	7 Fig., 30 CPS. Dry contact and solid state +	37.00	34.15	31.71
620-7602	7600-731DC	7 Fig., 30 CPS. 5-30 VDC +	37.00	34.15	31.71
620-7603	7600-6KO	6 Fig., 1000 CPS. Dry contact and solid state ±	39.00	36.00	33.43
620-7604	7600-630	6 Fig., 30 CPS. Dry contact and solid state ±	39.00	36.00	33.43
620-7605	7600-631DC	6 Fig., 30 CPS. 5-30 VDC ±	39.00	36.00	33.43
620-7606	7620-6T0	99999.9 Hrs. Dry contact ±	43.00	39.69	36.86
620-7607	7620-6T1DC	99999.9 Hrs. 5-30 VDC ±	43.00	39.69	36.86
620-7608	7620-7T0	999999.9 Hrs. Dry contact ±	43.00	39.69	36.86
620-7609	7620-7T1DC	999999.9 Hrs. 5-30 VDC +	43.00	39.69	36.86
620-7610	7630-5R1DC	5 Fig., 10,000 RPM. 5-30 VDC Input	48.00	44.31	41.14
620-7611	7630-4RO	4 Fig., 1000 RPS. Dry contact Input	48.00	44.31	41.14

+ Remote reset only. ± Manual and remote reset.

Photoelectric Switches/Controls



Series 97. AC or DC tubular plastic photoelectric sensors available in diffuse or reflective models. Standard 18mm diameter threaded barrel, up to 6.5 ft. sensing distance with reflective model.

SERIES 98. AC or DC modular plastic photoelectric controls NEMA 4, swivel mounting, with 360° rotation. 6-ft. long cable output; up to 30-ft. sensing distance.

Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-24
620-7612	97DC-NPN-DS	Diffusive, light on/off	60.00	55.38	51.43
620-7613	97DC-NPN-RS	Reflective, light on/off	60.00	55.38	51.43
620-7614	97AC-SCR-DL	Diffuse, light on	73.00	67.38	62.57
620-7615	97AC-SCR-RL	Reflective, light on	73.00	67.38	62.57

Inductive Proximity Sensors

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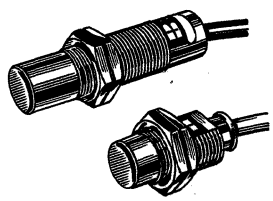
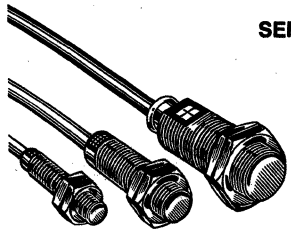
Series 96. AC or DC inductive proximity sensors, plated brass tubular threaded design. LED indicator on all size models, 8mm to 30mm diameter. 6-ft. PVC lead wires.


SERIES 96



Stock No.	Mfr.'s Type	Description	EACH		
			1-4	5-9	10-24
620-9604	96DC-NPN-080S	RG 1mm, shielded, 10-40 VDC	73.00	61.09	56.72
620-9605	96DC-NPN-120S	RG 2mm, shielded, 10-40 VDC	73.00	61.09	56.72
620-9606	96DC-NPN-180S	RG 5mm, shielded, 10-40 VDC	73.00	61.09	56.72
620-9607	96DC-NPN-300S	RG 10mm, shielded, 10-40 VDC	73.00	61.09	56.72
620-9608	96AC-SCR-120S	RG 2mm, shielded, 45-260 VAC	88.00	78.94	73.68
620-9602	96AC-SCR-180S	RG 5mm, shielded, 45-260 VAC	88.00	78.94	73.68
620-9609	96AC-SCR-300S	RG 10mm, shielded, 45-260 VAC	88.00	78.94	73.68

800 Series

Programmable Electronic Totalizer

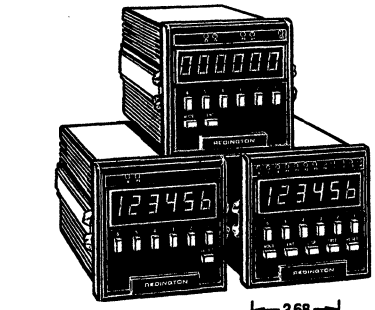
The Model 80 is easily programmable from the front panel offering complete flexibility in applications such as counting parts, cycles, strokes, and length of units. A large LED display with programmable decimal point allows the unit to multiply count inputs (e.g., count units and display dozens). Different count start values can be programmed through the writing feature. There is no loss of data when power is lost. Add/subtract or quadrature are standard input functions in all units. These features and benefits allow the Model 80 to be used in a multitude of in-plant and O.E.M. applications.
8006-001. 6 digit totalizer with programmable decimal point memory, add/subtract and quadrature.
620-9820. 8006-001 ..... **EACH 190.00**
8006-002. 6 digit totalizer with programmable decimal point memory, prescaler, writing, add/subtract and quadrature.
620-9825. 8006-002 ..... **EACH 195.00**

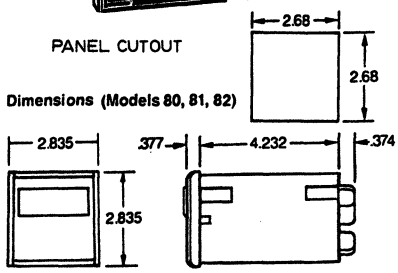
Programmable Predetermining Counters

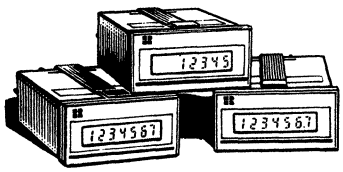
The Model 81 predetermining counter is characterized by a large LED display. Accompanied by ease of programming from the front panel, the Model 81 is in a class by itself. Up to four preset levels allows the user to program four separate output functions. Batching operations can be easily monitored. Prescaling, writing, programmable decimal point, and add/subtract or quadrature input modes round out this versatile counter. There is no loss of data when power is lost. Ideally suited for packaging, batching, cut-to-length, blending, coil winding, and container filling applications.
8116-001. 6 digit with programmable decimal point, memory, 1 level preset, prescaling, writing, batch count, standard output,add/subtract and quadrature.
620-9830. 8116-001 ..... **EACH 285.00**
8126-001. 6 digit with programmable decimal point, memory, 2 level preset, prescaling, writing, batch count, standard output, add/subtract and quadrature.
620-9835. 8126-001 ..... **EACH 295.00**
8146-001. 6 digit with programmable decimal point, memory, 4 level preset, prescaling, writing, batch count, standard output, add/subtract and quadrature.
620-9840. 8146-001 ..... **EACH 325.00**

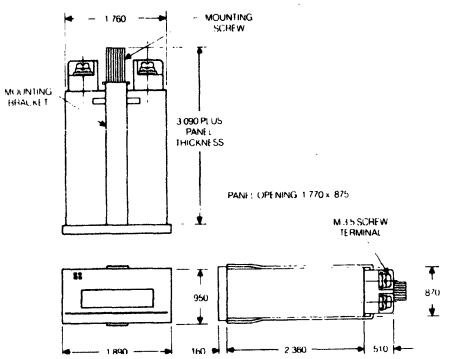
Programmable Electronic Tachometer/Rate Meter

The Model 82 is easily programmable from the front panel. In addition to monitoring RPMs over a variety of inputs, the Model 82 can serve as a rate meter (inches, feet, or yards per minute) in monitoring production line speeds and rates. The large LED display and decimal point selection along with dual presets and prescaling allow the Model 82 to be utilized in a variety of process applications.
8206-001. 6 digit with no preset.
620-9845. 8206-001 ..... **EACH 270.00**
8206-002. 6 digit with programmable decimal point, prescaler but with no preset.
620-9850. 8206-002 ..... **EACH 275.00**
8226-001. 6 digit with programmable decimal point, prescaler and 2 level preset.
620-9855. 8226-001 ..... **EACH 285.00**









7600 Series

Hourmeters

Durably constructed and with self-powered LCD reliable operation, 76 Hourmeter is ideal for recording operating time for any application requiring time accumulation for maintenance scheduling, warranty program monitoring or computing of fees. It can be used on air conditioning installations, lighting systems, power generators and all types of business machines. Its miniature size is highly compatible for control panel use. Reliability, accuracy and virtually no maintenance makes this hourmeter a perfect choice for O.E.M. or high volume applications.
Figures: .20" high LCD type, 7 figure model.
Reset: Remote, contact or solid state.
Count Input: 6-240 VDC or 24-240 VAC.
Operating Life: 10 yrs. min. of continuous operation.
Temperature: – 10°C to + 55°C.
Power Source: Lithium battery.
Weight: 3.2 ounces.
620-9720. 7621-71ADC ..... **EACH 56.00**

Tachometers

The 767 Tachometer provides a cost-effective way to measure speed and production rate indication on any machine or process. Compact and accurate, it is ideally suited for readouts in production, laboratory, maintenance and field applications, to improve efficiency and performance. Whether your need is in terms of number per minute, length per minute, volume per minute or revolutions per minute, whatever your measuring instumentation, the 76 Tachometer is easily adaptable to meet any industrial speed measuring application.
Figures: .20" high LCD type, 5 figures (0 to 10,000 rpm or 0 to 10,000 rps.) **Input Speed:** 10 kcps. **Count Input:** 4.5-30 VDC input, variety of encoders, sensors and/or switches acceptable. Contact Redington. **Model 7631** can be programmed by customer to accept variety of inputs. **Temperature:** – 10°C to + 55°C. **Power Source:** 5-24 VDC. **Weight:** 3.2 ounces.
620-9740. 7631-5PIDC ..... **EACH 85.00**

Totalizing Counters

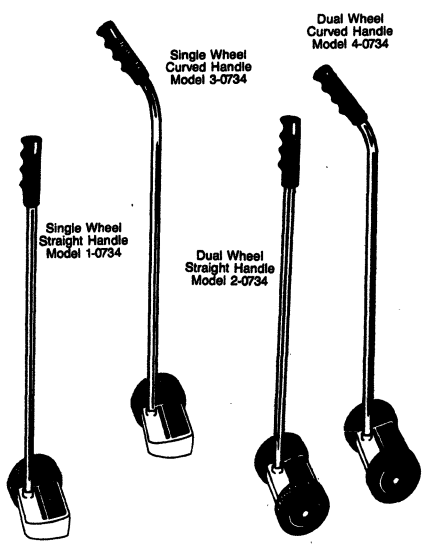
It's compact size and minimum space requirements makes the 76 Totalizing Counter perfectly suited for use on control panels, instrumentation assemblies, business machines, computers, laboratory testing equipment — virtually any type of automated operation where low cost, accurate and long-lived continuous counting is required. With its self-contained power source and 7 year operating life, maintenance is minimal.
Figures: .20" high LCD type, 7 figure model. **Reset:** remote, contact or solid state. **Pulse Speed:** 1200 cpm. **Count Input:** 6-240 VDC or 24-240 VAC. **Operating Life:** 7 yrs. **Temperature:** – 10°C to + 55°C. **Power Source:** Lithium battery. **Weight:** 3.2 ounces.
620-9700. 7601-72ADC ..... **EACH 53.00**

Redi-Measure®

Linear Measuring Wheels

► **One Person Operation** — Records continuously as the operator walks.
► **Accurate Recording** — Operator can read measurements directly in feet and inches.
► **Add and Subtract Directly** — Operating in forward direction adds distance, reversing direction will subtract.
► **Full View Display** — Large four figure display allows operator easy reading.
► **No Tap Rewinding** — Easy push button reset back to zero.
► **Versatility** — Measures straight and curved flat surfaces both horizontally and vertically.
It's convenient, accurate and it saves you time and money. Measure surfaces horizontally, vertically, around corners, any area shape. Proven stability, durable construction, and maintenance-free performance make it the professional's choice.

Specifications
Housing: Glass filled Lexan.
Crystal: Engineered plastics.
Wheels: Rubber (black).
Wheel Shafts: 5/16" stainless steel.
Bearing: Self lubricating bronze.
Handle: Anodized aluminum.
Grip: Vinyl (black) pistol type, optional eyelet.
Weight: 2 lbs. single wheel; 2½ lbs. dual wheel.
Size: 39" fully extended, 26" storage.
Counter Capability: Measures up to 1000 ft. (max.). Three figures, white on black indicating feet; one figure, black on white indicating inches.
Reset Capability: Push button reset back to zero.
Color: Redington Blue.
620-9800. 1-0734 ..... **EACH 39.00**
Single wheel; straight handle
620-9805. 3-0734 ..... **EACH 41.00**
Single wheel; curved handle
620-9810. 2-0734 ..... **EACH 49.00**
Dual wheel; straight handle
620-9815. 4-0734 ..... **EACH 51.00**
Dual wheel; curved handle



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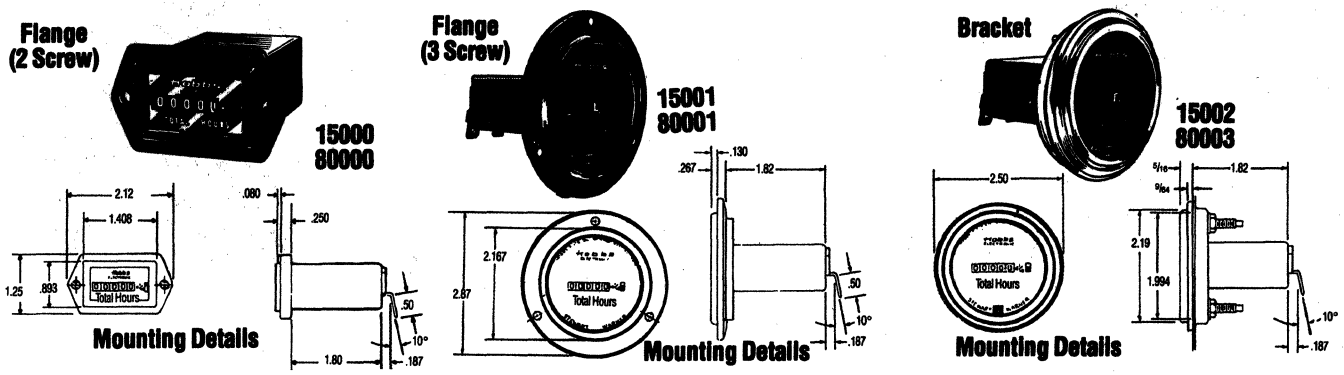
Direct Current Diochron 111 Electronic Hour Meters and Electromechanical Hour Meters

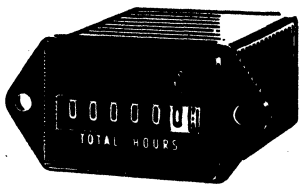


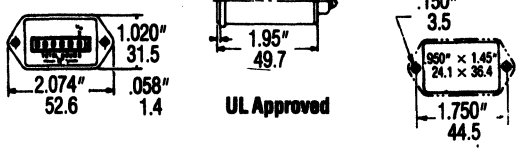
The new Diochron 111 Hour Meter is the ultimate in reliable measurement of elapsed time. A visible record of total running time right on the equipment is vital for scheduled maintenance and helps reduce down-time. Diochron 111 features the latest in electronics with a custom integrated circuit and a proven, ruggedized, read out mechanism. Diochron 111 records up to 9,999.9 hours and automatically recycles at zero. This series was specifically designed for use on construction, material handling and farm equipment and has broad acceptance on aircraft and marine applications as well as electronic applications where direct current is available. **Specifications.** Accurate within ± 1% over entire voltage range; stable within ± 1% between 0°F and 140°F; electronic units unaffected by temperatures from – 25°F to 185°F. Electromechnical units are unaffected by temperatures from – 65°F to 160°F; typical short duration, high voltage transients; alternator load dump—125V for 100 milliseconds; reverse polarity; vibration from 7 to 500 Hz at 5g; three feet of water. Voltage ranges on electronic units. **Warranty:** Electronic units—2 years or 5000 hrs.; electromechanical units 1 year or 2000 hrs.

Stock No.	Mfr.'s Type	Description	Volts	EACH		
				1-9	10-24	25-49
611-5000	15000	Electromechanical Version	4-40VDC	**32.03**	**26.75**	**23.52**
611-5001	15001	Electromechanical Version	4-40VDC	**44.96**	**35.03**	**25.62**
611-5002	15002	Electromechanical Version	4-40VDC	**48.80**	**36.91**	**24.28**
611-8000	80000	Electronic	12-24DC	**59.02**	**44.63**	**33.77**
611-8001	80001	Electronic	12-24DC	**65.43**	**49.44**	**37.38**
611-8003	80003	Electronic	12-24DC	**67.55**	**51.04**	**38.59**

Type 1000 Elapsed Time Meter

This alternating current elapsed time meter is for recording operating time for leasing, maintenance, testing and warranty programs. Motor and frame are integrated into one substructure. Small in size yet rugged and durable for long life. Features polycarbonate, shock resistant, tamper proof case. Records up to 99,999.9 hours—automatic recycle at zero. White numerals indicate hours, black numerals indicate 10ths of hours. Motor is single phase, synchronous and permanently lubricated. Screw type termination and ± 1% accuracy. **Voltage:** 120VAC (Range: ± 10%). **Frequency:** 60 hertz. **Power rating:** 3 watts. **Temp.:** – 65°F to + 154°F. Specially designed for use on computers, business machines, control panels, lighting systems, generators, compressors, pumps and more. **Wt.:** 3 oz.





611-1005. 1-9 .....**EACH 20.26**
10-24.....**EACH 17.85** **25-Up** .....**EACH 17.05**

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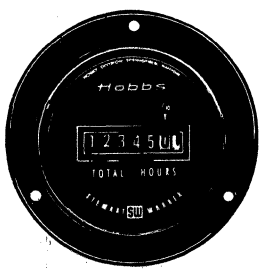
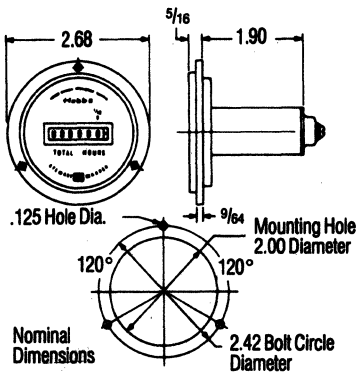


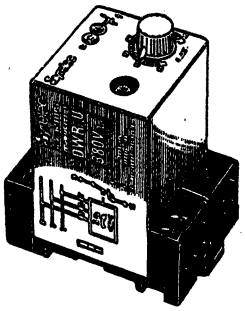


Series 20000 Alternating Current Elapsed Time Meter

U.L. listed, CSA certified. Deluxe meters with screw termination have a power rating of 3.0 watts. Records up to 100,000 hours with automatic recycle at zero. White numerals indicate hours. Black numerals indicate 10ths of hours. Single phase, synchronous motor is permanently lubricated. Shock resistant and tamper proof polycarbonate case. **Operating Temperature:** – 65°F to + 154°F. **Accuracy:** ± 1%. **Weight:** 3 oz.

Stock No.	Mfr.'s Type	VAC	Hz	EACH		
				1-9	10-24	25-49
611-2016	20016	120	50	**45.12**	**34.90**	**25.41**
611-2017	20017	120	60	**45.12**	**34.90**	**25.41**
611-2018	20018	240	50	**48.80**	**36.91**	**29.25**
611-2019	20019	240	60	**48.80**	**36.91**	**29.25**

Phase Control Relay Model PWRU



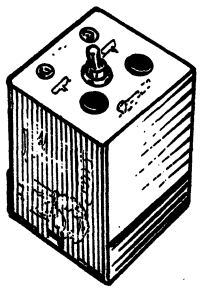
► **Monitors:**
— Phase Sequence
— Loss of any phase even if induced voltage reaches 95% of nominal voltage.
— Under and over voltage
► **LED Relays Status Indicator**
► **SPDT 10 Amp Relay Output**

If the phase sequence and the symmetry of the three phase power supply is correct, the output relay is energized. The relay will also stay energized if the value of the three phase voltages remains within + 10% of the value displayed by the top mounted potentiometer. **Mounting:** P-8 pin Plug-in; D-DIN- Rail; L-11 pin Plug-in.

Stock No.	Mfr.'s Type	Voltage	EACH
793-5009	PWRU	3 x 220 VAC	50.00
793-5010	DWRU	3 x 220 VAC	51.25
793-5011	LWRU	3 x 220 VAC	50.00

JR/JRS Series

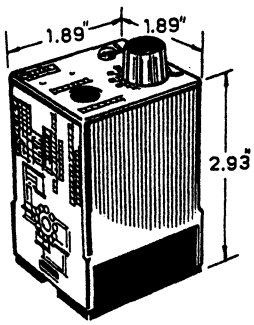
► **Duplex Alternating Control**
► **SPDT or DPDT Control Relay**
► **10 Amp Rated**
► **Externally Controlled**



The electronic alternating relay is designed to replace mechanical style devices used in control applications requiring a duplexing or alternating action of the control circuit to operate pumps, compressors, etc. This is achieved by activating a control switch which is common to one side of the input control voltage. The output contact of the relay(s) change state when this switch is opened (on de-energization of the control circuit). When the control initiate switch is actuated and released or opened, the relay will change state. The next time the initiate switch is actuated, it will change back to its original state. Two red LEDs located on the top of the dust-resistant enclosure provide the status of the relay. The JRS Series offers a three position switch to select normal operation (alternating) or manual selection of lead or lag load.

Stock No.	Mfr.'s Type	Description	EACH
793-2008	LJR2	11 Pin Plug In, DPDT, 110 VAC	37.75
793-2009	PJR	8 Pin Plug In, SPDT, 110 VAC	37.75
793-5528	LJRS2	11 Pin Plug In, DPDT w/Switch, 110 VAC	42.75
793-5529	PJRS	8 Pin Plug In, SPDT w/Switch, 110 VAC	42.75

NRU Series Liquid Level Control Pump Up
NR Series Liquid Level Control Pump Down



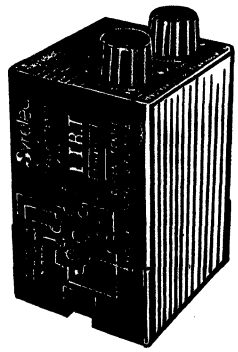
► **LED Relay Indicator**
► **8-Pin Plug-In Style**
► **Pump Up Control**
► **4.7KΩ to100KΩ Sensitivity**

Control of conductive liquids (tap water, sea water, sewage, chemical solutions, coffee, ice cream, etc.).
The relay is energized when the level falls below the low level probe. It de-energizes when the high level probe is reached. The NRU will also control a single level. In this case, a single probe is used, and the relay operates when that probe is not immersed..
In either case, a common electrode is needed if the container is nonconductive.

Stock No.	Mfr.'s Type	Description	EACH
793-2011	PNR	8 Pin Plug in, 110 VAC, Pump Down	34.00
793-2012	PNRU	8 Pin, Plug in, 110 VAC, Pump Up	36.00

Current Control Relays IR.T and IAR.T Series

► **Automatic or Manual Control**
► **Start-up Inhibit**
► **Adjustable Hysteresis**
► **Multiple Voltages**
► **LED Relay Status Indicator**

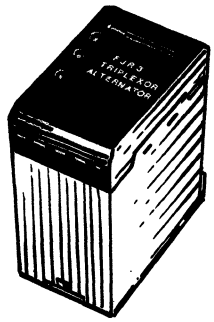


IR.T Series will monitor current ranges of 5mA up to 10A, and can be set for latching or non-latching operation. The IAR.T series monitors 5A to 100A (Peak to Peak) with the addition of a TIXP3 Current Transformer. **Specify input power for both units:** 24VDC, 24VAC, 48VAC, 110VAC, 220VAC, or 240VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5519	LIR.T	11 Pin Plug-In	53.00
793-5520	DIR.T	DIN Rail Mount	54.25
793-5521	LIAR.T/TIXP3	11 Pin Plug-In w/current transformer	70.00
793-5522	DIAR.T/TIXP3	DIN Rail Mount w/current transformer	71.25
793-5523	TIXP3	Additional current transformer	25.00

FJR3 Series

3 or 2 Stage Alternator



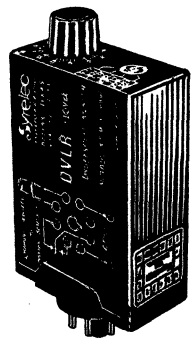
► **Triplex or Duplex Mode Selectable**
► **Compact Size**
► **SPST 5 Amp Output**

The FJR3 is primarily designed to control multi-pump systems. Three pumps can be controlled and given approx. the same amount of run time while running only the number of pumps needed. For maintenance purposes or for two pump systems, Output 3 can be locked out. **Specify input power when ordering:** 24 VAC/DC, 110VAC, 220VAC.

Stock No.	Mfr.'s Type	Description	EACH
793-5524	FJR3	DIN-Rail Mount Triplexor	120.00

VLR/OVLR Series Underspeed Monitors

► **Start-Up Inhibit Time**
► **Adjustable Time Ranges**
► **Multiple Inputs**
► **Monitors Speeds up to 300Hz**



The input information sensor for both models can be a proximity switch, voltage level, or contact closure. Start-up inhibit time on the VLR is adjustable from 0.1 to 20 seconds. The OVLR is factory set at a fixed eight seconds. Output for both models is SPDT 10A rated relay. **Specify input power for both models:** 24VAC, 24VDC, 48VAC/DC, 110VAC, or 220VAC.

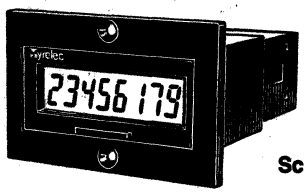
Stock No.	Mfr.'s Type	Description	EACH
793-5525	DVLR	DIN Rail Mount	47.00
793-5526	LVLR	11 Pin Plug-In	47.00
793-5527	OVLR	8 Pin Plug-In	40.00

15

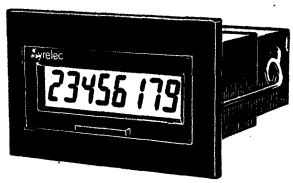
Totalizing and Elapsed Time Counters with Built-In Battery Supply

Features

- **Direct Replacement for Electromechanical Counters**
- **8 Digit Liquid Crystal Display, 8mm**
- **Custom CMOS Technology**
- **Plug-in Counting and Reset Modules**
- **Elapsed Counter 1/100 Hours**
- **Display Always Visible — No External Power Required**
- **High Speed Counting, 5 kHz Maximum (300,000 CPM)**
- **Low Speed Counting, 40 Hz Maximum (2400 CPM)**



Screw Mount



Spring Clip

The standard device equipped with jumper links located under a hatch cover on the top of the device. The selection of the low speed and high speed counting is programmed by the placement of jumpers under this cover. The remote reset is programmable to either Remote Reset or to Prevent Reset. Front reset models are available. Plug-in modules are available for both function and/or reset. Modules provide optical insulation, not needed for dry contact closure in low speed mode or high speed if low voltage DC (3-24VDC). The 6108H stores the elapsed time and every 36 seconds increments the display. Reads in 1/100 hour (display 0.00).

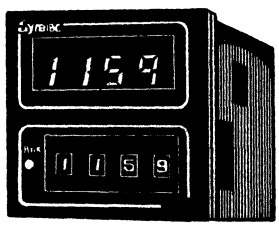
Stock No.	Mfr.'s Type	Description	EACH			
			1-9	10-24	25-49	50-99
794-1090	6108.3	Counter Thru Panel Spring Clip	51.00	47.08	43.71	40.80
794-1091	6108H.3	Timer Thru Panel Spring Clip	51.00	47.08	43.71	40.80
794-1092	6108.4	Counter Thru Panel Screw Mount	51.00	47.08	43.71	40.80
794-1093	6108H.4	Timer Thru Panel Screw Mount	51.00	47.08	43.71	40.80
794-1094	6108.3R	Same As 6108.3 But With Front Reset	51.00	47.08	43.71	40.80
794-1095	6108H.3R	Same As 6108H.3 But With Front Reset	51.00	47.08	43.71	40.80
794-1096	6108.4R	Same As 6108.4 But With Front Reset	51.00	47.08	43.71	40.80
794-1098	6000A	10-90VDC/AC Input Module	6.65	6.41	6.30	5.90
794-1099	6000B	90-240VDC/AC Input Module	6.65	6.41	6.30	5.90
794-1100	6000C	3 to 24VDC Input Module	6.65	6.41	6.30	5.90

Specifications

Supply: built-in battery does not require external power. Exceeds 8 year life. **Input Frequency:** dry contact or 6000A-6000B modules, 40 Hz DC 15 Hz AC; low voltage DC or 6000C 5 kHz. **Operations Temperature:** – 10°C to 50°C. **Storage Temperature:** – 25°C to 70°C. **Termination:** push on solder connectors, furnished. **Memory:** eight year lithium battery. **Dimensions:** Cut out, 2 × 1″. Overall, 2.36″W × 1.48″H × 3.16″D.

Up/Down Counter Model 11014P

- **LED Display, 4 Digit, .3 in. High**
- **Dual Voltage**
- **One Preset**
- **Relay Output**
- **10 year memory (EE PROM)**



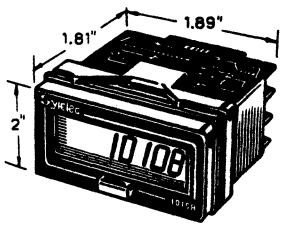
Power Supply Selection is V1:110/220 VAC
V2: 24/48 VAC
V3: 12/24 VDC

Solid State Output available on special order

Stock No.	Mfr.'s Type	Power Supply	EACH
793-5012	11014PR	V1	125.00
793-5013	11014PR	V2	125.00
793-5014	11014PR	V3	125.00

10108 Series Totalizing Counter
10108H Elapsed Time Indicator

- **8 Digit 0.3″ High LCD Display**
- **Totalizer or Elapsed Time Indicator**
- **Replaceable Battery Supply**
- **Custom CMOS Technology**



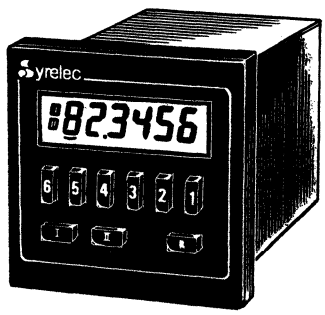
The 10108 Series consists of two models: the 10108 Totalizer and the 10108H Elapsed Time Indicator for recording time in hours and hundredths of hours (0.01 Hr). Count input or time enable can be a contact closure. NPN or PNP open collector transistor, 2 or 3 wire proximity switch, or voltage pulse 24 VDC max. In addition, a voltage converter module, p.n. 10,000, will accept voltage inputs from 6 to 240 VAC/DC. Input speed is 40 Hz (low) or up to 5 KHz (high).

Count total or time is displayed on 0.3″ high (7 mm) liquid crystal displays, LCDs. Power for the internal logic and displays is provided by two (2) Size N alkaline batteries with a projected four (4) year life. Mercury batteries, with an estimated eight (8) year life, can also be used. Two (2) of the alkaline batteries are included with each unit.

Stock No.	Mfr.'s Type	Description	EACH
793-2000	10108	Totalizing Counter	34.00
793-2001	10108H	Elapsed Time Indicator	34.00
793-2002	10,000	Converter Mod. for 10108	8.50

Model 1000PA Up and Down Counter/Chronometer

- **1500 Hour Memory, Display "On"**
- **Microprocessor Based Logic**
- **Programmable Up or Down Count/Time**
- **6 Digit Liquid Crystal Display**
- **Available As 1 or 2 Preset Models**



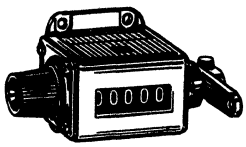
Standard features include dual voltage 115/230VAC 50/60 Hz. Two input channels accept a variety of input sensors. The 1000PA can be programmed to reset automatically, remotely and/or front panel can be programmed for single cycle or repeat cycle. It can count or time up or down. Decimal points are programmable. These units are used to control an operation to make it partially or totally automatic. The Up Chronometer (or Counter) starts at zero and times (or counts) up to the preset value and both the relay energizes and the solid state output changes state. In the single cycle mode the unit can be reset either remotely or on the front panel. In the repeat cycle mode the unit automatically resets and the output energizes for an adjustable time of 0.1 to 1.0 seconds. The Down Chronometer (or Counter) starts at the preset value and times (or counts) down to zero and the relay energizes and the solid state output changes state. The Two Preset Model operates the same as the One Preset with the exception that there are two presetable points instead of one. There are two relays and two solid state outputs, one set for each preset value. Only the final preset is time adjustable. In power loss, the LCD stays on and displays the last count or time registered for 1500 hours. When power is restored, the unit resumes the function from the point of power loss. Rear terminal lugs accept #16 AWG wire. Compact size, 2.36″W × 2.36″H × 4.10″D. Fits 2 × 2″ cutout.

Specifications
Supply: 110/220VAC, 50/60 Hz. **Output:** relay SPDT 1 amp, 250V resistive; solid state, transistor open collector 30V 40mA. **Input Voltage:** 30V maximum.

794-1088. Model 1000PA1. Single Preset. **1-9**. . . . . **EACH 149.00**
10-24 . . . . . **EACH 137.53**
25-49 . . . . . **EACH 127.71**
50-99 . . . . . **EACH 119.20**

794-1089. Model 1000PA2. Two Preset. **1-9** . . . . . **EACH 159.00**
10-24 . . . . . **EACH 146.77**
25-49 . . . . . **EACH 136.28**
50-99 . . . . . **EACH 127.20**

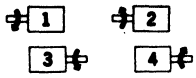
5 Figure Small Reset



High readability, accurate, versatile. Low friction, corrosion and dust resistant. Rugged, durable for inside/outside installations. Speeds in revolution drive to 1000 rpm, ratchet drive to 1000 cpm harmonic or at least 30 milliseconds to advance lever 45° for impact. Ratchet drive arcs 40° minimum. Case is 13/16″ wide, 15/16″ high, 1 1/4″ deep. Reset models for power presses, screw machines, office machines, vending equipment, agricultural machinery and measuring devices.

Stock No.	Mfr.'s Type	Fig.	EACH
687-0031	727215-001	1	45.65
687-0032	727225-001	2	45.65
687-0033	727235-001	3	45.65
687-0034	727245-001	4	45.65

6 Figure Viscounter*

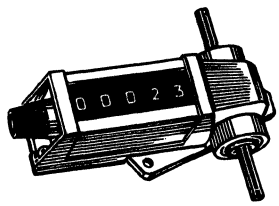


For construction equipment, brick machines, stokers, conveyors, plastic molding and extruding, power presses, production machines. High visibility, large white on black 0.345″ figures. Heavy duty construction, corrosion resistant materials. Acetal resin wheels and pinions for long life. No lubrication required. Knob reset. Speeds in ratchet drive to 500 cpm. Ratchet drive arcs 26° to 45° for Rotations 1 and 3, 42° to 67° for Rotations 2 and 4. Case is 4 3/8″ wide, 2 5/16″ high, 1 7/8″ deep.
* Trademark of Veeder-Root.

Specify Ratio When Ordering

Stock No.	Mfr.'s Type	Fig.	EACH
687-0027	166716-006	1	81.76
687-0028	166726-006	2	81.76
687-0029	166736-006	3	81.76
687-0030	166746-006	4	81.76

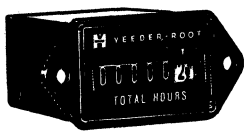
Worm Drive



For textile inspecting and measuring, paper manufacturing and rewinding operations. Right angle shaft accepts 1-foot or 1/3-meter circumference wheels for precise linear measuring of moving materials. Also used with couplings or plain shaft. Standard gear ratios for yards, meters, feet, or eighths of yards. Maximum use of acetal resin for long life and smooth operation. Speed to 2000 rpm or cpm with maximum torque of only 2 oz.-in. Figures 0.270″ high. Body is 5 3/8″ wide, 15/16″ high, 1 3/4″ deep. Base mount 5-figure knob reset.

Stock No.	Mfr.'s Type	Fig.	Ratio	EACH
687-0050	743415-003	1	1:1	164.37
687-0051	743415-005	1	3:1	164.37
687-0052	743425-003	2	1:1	164.37
687-0053	743425-005	2	3:1	164.37

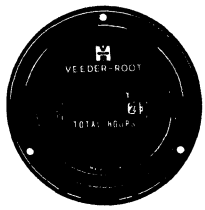
Series 7795 Hour Meters



AC Hour Meters

Specifications. Weight: 3 oz. **Case:** Polycarbonate, shock resistant tamperproof. **Capacity:** Records up to 99,999 hours — automatic recycle at zero. **Markings:** White numerals indicate hours; black numerals indicate 10ths of hours. **Motor:** Single phase, synchronous, permanently lubricated. **Voltage:** 120V ac or 240V ac (range ±10%). **Frequency:** 60 hertz. **Power Rating:** 3.0 watts. **Operating Temperature:** −65°F to +154°F (−18°C to +68°C). **Accuracy:** ±1%. **Termination:** Screw type or 7″ leads. UL listed/CSA Certified.

Stock No.	Mfr.'s Type	Mount Type	EACH
687-0200	779516-201	Round	28.00
687-0205	779526-201	Round	26.90
687-0210	779536-201	Rectangular	28.00
687-0215	779546-201	Rectangular	26.90

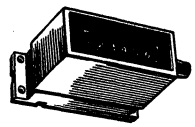


DC Hour Meters

Specifications. Weight: 2.5 oz. **Case:** Polycarbonate, shock resistant, tamperproof (2.25 cu. in.). **Capacity:** Records up to 9,999 hours — automatic recycle at zero. **Markings:** White numerals indicate hours; black numerals indicate 10ths of hours. **Motor:** Unique in-line mechanism, permanently lubricated. **Voltage:** 4-40 V dc. **Operating Temperature:** −65°F to +160°F (−18° to +71°C). **Accuracy:** ±1%. Conforms to MIL-M-3971.

Stock No.	Mfr.'s Type	Mount Type	EACH
687-0220	779555-206	Round	42.00
687-0225	779565-206	Rectangular	42.00

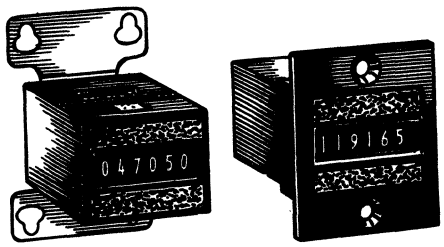
General Purpose Electric Counters



New design. New operating efficiency and accuracy at low cost. Precision wound ac coil not affected by voltage surge. No rectifier problems: No burn-outs. Balanced drive protects accuracy from shock and vibration. Heavy duty die-cast frame and case frame and case support internal parts. Clean styling combined with most readable figures available. Interchangeable with most existing general purpose counters. U.L. recognized, CSA certified. Speeds to 600 cpm. Minimum pulse timing is 50mS on-time and off-time. Case is 3 1/4″ wide, 1 3/8″ high, 2 1/2″ deep. Six figure, 115VAC. For flexibility of general purpose totalizing in a variety of industrial production and processing applications.

Stock No.	Mfr.'s Type	Mount	Reset	EACH
687-0041	744396-011	Base	Knob	76.42
687-0042	744396-211	Panel	Thumbwheel	87.20
687-0043	744396-241	Panel	Lock and key	104.80

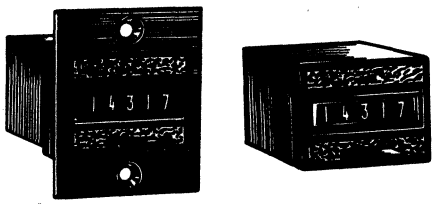
7790 Series



6 digit non-reset, miniature electrical counter provides excellent performance and reliability characteristics. Count speed is 600 CPM. UL recognized components. **Case Size:** 1.306″ side, 2.163″ deep, 1″ high.

Stock No.	Mfr.'s Type	Description	EACH
687-1000	779096-001	Base Mount, 115 VAC	15.30
687-1005	779096-201	Panel Mount, 115 VAC	16.21

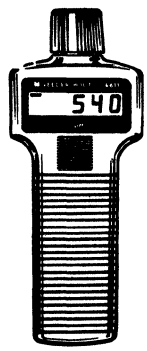
7791 Series



5 digit resettable miniature electrical counter. Outstanding reliability for OEM applications. Count speed is 600 CPM. UL recognized components. **Case Size:** 1.306″ wide, 1″ high, 2.163″ deep.

Stock No.	Mfr.'s Type	Description	EACH
687-1010	779195-201	Panel Mount, 115 VAC	22.13
687-1015	779195-401	Rear Mount, 115 VAC	20.85

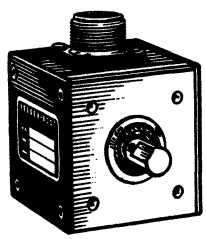
Hand-Held 1.0 RPM Tachometer



Tough and versatile, this tachometer is economical enough for every toolbox. You get both contact and non-contact measurements with a single instrument. Measures rotary or surface speeds on all types of machinery. Photoprobe is used for non-contact measurement. Where contact measurement is desired, an adaptor is used with the appropriate device, a wheel for surface speed or rubber tip for shaft rotation. Operation is simple. Just push the top mounted button and aim the light beam at the reflective strip, or contact the proper surface if the adaptor is used. The **system includes:** 1.0 RPM tachometer, reflective tape, 1.5V AA dry batteries (4), in-contact adaptor mainframe, surface speed wheel (for × 1/10 m/min.), surface speed wheel (for × 1/10 yd./min.), rubber tips, carrying case, and instruction manual.

687-0001. Model 661100-001 ..... EACH 315.63

7138 Series



Rotary Pulse Generator

- **Rugged, Magneto-Resistive Design**
- **Environmentally Sealed**
- **Stainless Steel Shaft**
- **Anodized Aluminum Housing**
- **Low Current Draw**

An incremental encoder which produces a precise number of digital pulses proportional to shaft rotation. Rugged, magneto-resistive design. Bi-directional quadrature outputs. **High pulse resolution:** 10 to 600 PPR available. 6000 RPM capability. Digital outputs are directly compatible with most programmable controllers, counters, motion controllers, and motor drives. 5 to 26 VDC input voltage range stable in temperatures from 0° to 70°C. **Shaft size:** 1/4″. 3/8″ shaft available on special order.

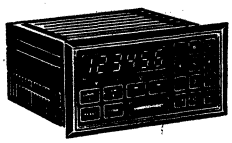
Stock No.	Mfr.'s Type	Pulses/ Rev.	EACH
687-3000	713802-010	10	198.85
687-3005	713802-100	100	198.85
687-3010	713802-120	120	198.85
687-3015	713802-500	500	198.85
687-3020	713802-600	600	198.85
687-3025	614942-001	Cable Assembly	70.28

7998 Mini-LX Totalizer

Plug-in model directly replaces the most common high-speed electromechanical counters without wiring or mounting changes. Self-contained power source. Fits standard 25 mm × 50 mm panel openings. Push-button and/or remote reset. Always-on .200″ LCD. 6 or 8 figure, 6-250 volt AC or DC; or switch closure. 300 CPM AC and switch models, 3600 CPM DC models. Receptacle for plug-in models sold separately.

Stock No.	Mfr.'s Type	Decades	Mounting	Input	Reset	EACH
687-1020	799806-211	6	Plug-in	AC/DC	Panel Remote	120.13
687-1030	799806-212	6	Panel	AC/DC	Panel Remote	120.13
687-1035	799806-222	6	Panel	Switch	Panel Remote	106.53
687-1040	799808-312	8	Panel	AC/DC	Remote Only	150.16
687-1045	799808-322	8	Panel	Switch	Remote Only	144.49

Programmable Electronic Predetermining Counter With Data Communications Interface

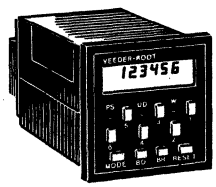


The Series 7910 is a highly versatile predetermining counter featuring programmable input factors, preset limits and output configurations. Its communications interface lets the 7910 send and receive data. Count inputs are accepted from a variety of bidirectional and unidirectional signal sources. Two individual counting registers and two presettable outputs are provided, which may be programmed to customized operating configurations. Highly visible, six digit display with programmable decimal point. Nonvolatile, solid-state memory. **Panel Cutout:** 2.7″ × 5.4″.

687-0013. 791006-210(RS-422) ..... **EACH 438.04**

687-3030. Model 791006-220(RS-232) ..... **EACH 438.04**

Series 7915 Miniature Electronic Predetermining Counter



Low-cost counters meet the needs of a variety of machine and process control applications. Models available to accept count signals from either switch/pulse input or voltage input of 6-250VAC or DC. Unique AC/DC voltage input models are ideal for replacing older electromechanical predetermining counters. Front-panel pushbuttons permit simple entry and review of preset and batch limits, and count totals. With models incorporating the prescaler feature, you can set a scale factor which greatly simplifies calibration of the sensor input to provide the correct engineering unit display on the counter. This allows the use of readily available or existing sensing devices. Six-digit LCD includes annunciators to indicate operating mode. Internal battery backup retains display and all preset and count information during absence of operating power. Rugged plastic case. Connections for both power and input signals are via industrial-duty, rear-mounted screw terminals. 115VAC/230VAC 50/60 Hz operating power. DIN-standard 50mm × 50mm panel cutout.

Stock No.	Mfr.'s Type	Input		Presets		Count Mode	Special Features			EACH
		Type	Sensor Power	Level-1	Level-2		Batch Display	Prescaler	Write	
687-0017	791506-022	P/SW	Yes	Totalizer Only		Add/Subt.	No	Yes	Yes	**142.22**
687-0018	791506-023	AC/DC	No	Totalizer Only		Add	No	Yes	Yes	**129.76**
687-1095	791506-133	AC/DC	Yes	Yes	No	Add/Subt.	Yes	Yes	Yes	**181.33**
687-0022	791506-232	P/SW	Yes	Yes	Yes	Add/Subt.	Yes	Yes	Yes	**188.13**
687-1105	791506-233	AC/DC	Yes	Yes	Yes	Add/Subt.	Yes	Yes	Yes	**188.13**

Series 7960 Totalizer

An 8-digit, programmable electronic totalizer featuring add/subtract and quadrature count modes, dual high- or low-speed count inputs, remote reset capability, stop-count control inputs, and built-in transducer power supply. Scaling feature allows display totals in units other than input units (i.e. count inches, display feet). LED display, nonvolatile memory, 115 VAC input power, program security switch, programmable decimal point.

687-0240. Model 796008-001 ..... **EACH 221.00**

Series 7961 Predetermining Counters

Type 1—A 5-digit, programmable electronic 2-level predetermining counter featuring add/subtract and quadrature count modes, two solid-state control outputs, remote and auto-reset capability, stop-count control inputs, and a built-in transducer power supply. Scaling feature allows display totals in units other than input units (i.e. count inches, display feet). LED display, nonvolatile memory, 115 VAC input power, program security switch, programmable decimal point. Can operate as a 7960 totalizer for application flexibility.

687-0250. Model 796105-201 ..... **EACH 266.34**

Type 2—Same as Type 1 with added ability to function as either an 8-decade background totalizer or a 4-decade preset batch counter.

687-0255. Model 796105-211 ..... **EACH 334.34**

Series 7962 Rate Indicator and Rate/Ratio/Time Interval Indicator

The programmable, 5-digit electronic rate indicator features add/subtract and quadrature signal input modes, two solid-state outputs for high- and low-limit alarms, and a built-in transducer power supply. Control inputs to freeze display reading or force alarm outputs off. Scaling feature allows display totals in units other than input units (i.e. input RPM, display feet per minute). Automatic 0.9 second averaging ensures accuracy—even at low-frequency inputs. LED display, nonvolatile memory, 115 VAC input power, program security switch, programmable decimal point.

687-0260. Model 796205-201 ..... **EACH 255.00**

Rate/ratio/time interval indicator is same as rate indicator with added ability to calibrate, compute and display process variables such as ratio and process time. Can also operate as a stopwatch-type elapsed timer.

687-0265. Model 796205-211 ..... **EACH 323.00**

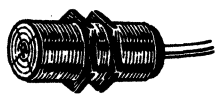
Programmable Rate and Count Controller With Data Communications Interface

The Series 7975 is ideal for industrial process applications where rate, ratio, and process time, as well as total batch quantities, must be automatically controlled or monitored. Mounts in a 2.7 × 5.4″ panel cutout. NEMA 4-rated front panel. Six-digit LED display with programmable decimal point. The rate, process time or count relating to each input source or the ratio of times or rates can be monitored on its display. Two individual input signals, obtained from separate machines or from two points on the same machine, can be monitored. Dual scaling factors allow precise calibration in conventional engineering units such as yards, feet, gallons, revolutions and more. Two control outputs actuate at user-entered preset limits. This capability provides high/low set-points for speed, time or ratio-control or predetermined count functions for equipment automation. Control outputs are capable of operating electrical or solid-state devices such as clutches, brakes, shears, motor controllers, valves, saws, etc.

687-0014. Model 797506-210 (RS-422) ..... **EACH 479.97**

687-3035. Model 797506-220 (RS-232) ..... **EACH 479.97**

Series 77853 Motion Detector



Used to detect zero speed or underspeed conditions in motors, shafts, belts and other applications where linear or rotary motion exists. A state-of-the-art replacement for zero speed switches 3.248″ (82.5mm) long. 10mm nominal sensing distance. Shielded tubular design. 93-132VAC. Normally open output function.

Stock No.	Mfr.'s Type	Adjustable Freq. Range	Max. Operating Range	EACH
687-0069	778534-611	0.1-2.5 Hz	100 Hz	**214.46**
687-0070	778534-612	2-50 Hz	8000 Hz	**215.46**

Standard Tubular Proximity Switches

Self-contained, shielded, non-contact, long-life replacement for mechanical switches in automated machinery. Electronics encapsulated in high density, threaded tubular packages. NPN (sinking) and PNP (sourcing) outputs interface with programmable controllers and counters. 2 meter (6′6″) cable. Nickel-plated brass housing and nuts.

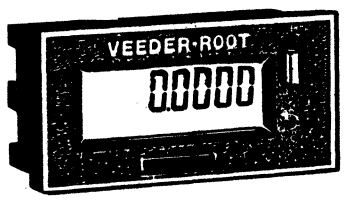
3-Wire DC Types

Stock No.	Mfr.'s Type	Dia. (mm)	Sensing Distance	Output Function	Operating Voltage	EACH
687-0061	650800-010	8	1.5mm	NPN-N.O.	5-30DC	**56.00**
687-0062	650802-010	8	1.5mm	PNP-N.O.	5-30DC	**56.00**
687-0063	651212-010	12	2.0mm	PNP-N.O.	5-30DC	**52.80**
687-0064	651810-010	18	5.0mm	NPN-N.O.	5-30DC	**53.86**
687-0065	653010-010	30	10.0mm	NPN-N.O.	5-24DC	**71.46**

2-Wire AC Types

687-0066	651210-700	12	2.0mm	NPN-N.O.	48-220AC	**56.53**
687-0067	651810-600	18	5.0mm	NPN-N.O.	90-220AC	**62.40**
687-0068	653010-210	30	10.0mm	NPN-N.O.	24-220AC	**91.20**

Series 7990 Decade 90* Tachometer/Totalizer/Running Hour Meter/Elapsed Time Indicator



Low-cost, combined unit, the Decade 90* (799008-200) is programmable as tachometer, totalizer, running hour meter, or precise elapsed time indicator. 8 digit LCD display (5 digits in tachometer mode), 0.35″ high characters. Rugged die-cast metal housing, sealed, meets NEMA 4 standards. **Power:** 3 volt Lithium battery. Fits 2.6″ × 1.3″ panel cutout, 1″ depth. Model 799008-100 is available without the tachometer mode. Accessories include three snap-on modules, a panel adapter and panel adapter with key-lock reset. Panel adapters retrofit popular electro-mechanical general purpose totalizers. The Screw Terminal Module provides for the convenience of screw terminal connection. The High Voltage AC/DC Input Module features the above, plus provides for input of AC or DC signal of 25 to 270 volts. The TRIAC Input Module features the above, plus provides for AC-type, solid state input devices such as TRIAC switching devices.

Stock No.	Mfr.'s Type	Description	EACH
687-3040	799008-100	Totalizer/Running Hour Meter/Elapsed Time Indicator	**62.33**
687-3045	799008-200	Tachometer/Totalizer/Running Hour Meter/Elapsed Time Indicator	**78.20**
687-3050	328992-010	Screw Terminal Module	**13.60**
687-3055	328992-020	High Voltage AC/DC Input Module	**19.20**
687-3060	328992-030	TRIAC Input Module	**19.20**
687-3065	328992-110	Panel Adapter, Key Lock Reset	**10.20**
687-3070	328992-120	Panel Adapter	**3.40**

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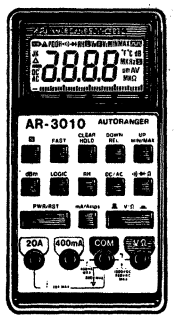
Model AR-3000/AR-3010/AR-3100/AR-3200



Model AR-3000
The AR-3000 series are highly-advanced, state-of-the-art autoranging digital multimeters, which additionally include a 40-segment analog bargraphs and automatic data hold capabilities. All three meters offer Auto power off, continuity beeper, diode test ranges, range hold to disable autoranging when desired, relative measurement mode, Min/Max memories, dBm measurement mode, logic monitor mode with variable thresholds, and 20 amps continuous current measurement capability. Also included is Fast display mode which allows the display to update every 50ms instead of the normal 300ms. **Specifications. DCV Range:** 400mV, 4V, 40V, 400V, 1000V. **ACV Range:** 4V, 40V, 400V, 750V. **ACA and DCA Range:** 40mA, 400mA, 20A. **Resistance Range:** 400Ω, 4KΩ, 40KΩ, 400KΩ, 4MΩ, (20MΩ), 20MΩ. **Diode Test:** Display reads approximate forward voltage of diode. **Audible Continuity:** Buzzer sounds if conductance is less than 10 ohms. **DBM Measurement:** – 20 DBM to + 60 DBM (600 ohm ref.). **Display:** 4000 count, .65″, 3¼ digit LCD with ″LOBAT″. **Power:** 9V battery (NEDA 1604); 360 hours typical. **Dimensions:** 6.4″H x 3.25″W x .4″D. **Weight:** 12.5 oz.
952-3000. AR-3000 .5% Accuracy ..... **EACH 129.95**

Models AR-3010/AR-3100
Same as above with Range Alert for use searching circuitry for a specific, settable level or range of levels, and activates an audible alarm when the set level is located.
952-3010. AR-3010 .5% Accuracy ..... **EACH 149.95**
AR-3100. Same as AR-3010 in drop proof case.
952-3100. AR-3100 .5% Accuracy ..... **EACH 189.95**

Model AR-3200
Same as AR-3100 in drop proof and contamination proof case.
952-3200. AR-3200. ..... **EACH 229.95**

Model AR-150W

The AR-150W DMM offers true AC power measurements in a drop proof case. Highly accurate (.5%) DMM measures AC/DC Volts, AC/DC Amps, resistance, true AC power, and provides audible continuity and diode test functions. **Specifications. DCV Range:** 0.1mV-1000V. **ACV Range:** 0.1mV-750V. **DCA Range:** 0.1mA-20A. **ACA Range:** 0.1mA-20A. **Resistance:** 0.1 ohm to 20M ohms. **Watts (True Power):** 1W-5500W (47-65 Hz). **Display:** 3½ digit LCD. **Power:** One 006P battery. One year warranty.

952-0150. AR-150W ..... **EACH 249.95**

Model 460D

This highly accurate hand-held LCR meter with dissipation factor is an essential tool for incoming quality control, engineering labs, manufacturing, and educational schools. It has features normally found on bench type meters costing several hundred to several thousand dollars. This unit reads the leakage of a capacitor and internal resistance of an inductor. This meter permits sorting of capacitors by value; selection of precise values, matching sets of capacitors and measuring unmarked capacitors. Measures the capacitive coupling between printed circuit faces of wires, stray capacitance, capacitance of antenna components and systems, capacitance of networks and switches. Especially useful to demonstrate the physics of inductance and capacitance in process control and educational/instructional applications. Checks capacitor and inductor tolerance for incoming inspection and quality control. **Specifications. Capacitance Range:** 200 pF, 2nF, 20nF, 200nF, 2μF, 20μF, 200μF. **Inductance Range:** 200μH, 2mH, 20mH, 200mH, 2H. **Resistance Range:** 200Ω, 2 KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Display:** 3½ digit 0.5″ high with ″LOBAT″. **Power:** Single 9V battery or 9V AC to DC adapter (not supplied). **Accessories supplied:** 1 pair test probes, 1 spare fuse, manual. **Dimensions:** 6.9″L x 3.4″W x 1.4″H. **Weight:** 12.4 oz.

952-0460. AR-460D ..... **EACH 169.95**

Model AR-360D

Measures dissipation factor which is a direct indication of leakage in a capacitor. Uses 120 Hz excitation voltage for measurement in ranges 20μF and above which is more accurate than the more common 1 KHz. Measures from .1 pF to 20,000μF. Display is .5″ high 3½ digit LCD with ″LOBAT″ indicator. Power is one 9V battery or by 9V AC to DC converter (not supplied). 6 mA standby current consumption. **Dimensions:** 6.9″L x 3.4″W x 1.4″H. **Weight:** 12.4 oz. Supplied with 1 pair test clips (red and black), 1 spare fuse, and operation manual.

952-0360. AR-360D ..... **EACH 139.95**

Models AR-120/AR-120Y

This handy DMM offers maximum convenience of multiple functions in one package. Used in radio and TV repair, quality control, HVAC repair and maintenance, electronic design, schools, and field service. Specifications. DCV Range: 200 mV, 2V, 20V, 200V, 1000V. **ACV Range:** 200 mV, 2V, 20V, 200V, 750V. **Input Impedance:** 10 MΩ. **Resistance Range:** 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **ACA and DCA Range:** 200μA, 2 mA, 20 mA, 200 mA, 2A, 10A (10A not fused). **Audible Continuity Check:** Buzzes if conductance is less than 30Ω. **Diode Check:** Displays approximate forward voltage of diode. **Temperature:** Uses AR-110CF (optional—not supplied) or any converter giving 1 mV per °C output. **Display:** 3½ digit LCD 0.4″ high with ″LOBAT″. **Power:** Single 9V battery (800 hours typical). 1 pair test probes, 1 spare fuse, manual. **Dimensions:** 5.9″L x 3.2″W x 1.2″H. **Weight:** 7.1 oz.

952-0120. AR-120. .5% Accuracy ..... **EACH 59.95**

Models AR-140/AR-140K

Covers all standard DMM functions. Gold plated circuit board. Comprehensive assembly instructions provided for the kit version. **Specifications. DCV Range:** 200 mV, 2V, 20V, 200V, 1000V. **ACV Range:** 200V, 750V. **Input Impedance:** 10 MΩ. **DCA Range:** 200μA, 2 mA, 20 mA, 200 mA, 2A, 10A (10A not fused). **Resistance Range:** 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Diode Check:** Display reads approximate forward voltage of diode. **Display:** 3½ digit LCD 0.4″ high with ″LOBAT″. **Power:** Single 9V battery (1000 hours typical). 1 pair test probes, 1 spare fuse, manual. **Dimensions:** 5.9″L x 3.2″W x 1.2″H. **Weight:** 7.1 oz.

952-0140. AR-140 ..... **EACH 39.95**
952-0141. AR-140K. (Kit Form) ..... **EACH 49.95**

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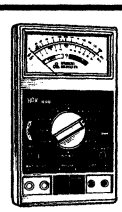
Model HOM-1000



The HOM-1000 is a small, easy to use, multifunction analog meter that is ideal for the home user. The HOM-1000 will test batteries, check telephone functions (ring, line, loop), measure ACV and DCV, and check continuity. Included with the HOM-1000 is a battery test fixture, a detachable telephone test cord, a set of test probes and the operators manual. This unit uses a simple LED indicator to determine polarity. A user selectable switch reverses polarity for telephone test.

952-1000. HOM-1000. ..... **EACH 34.95**

Model AR-6400P

This microprocessor-based cable tester can automatically identify open, shorted, and miswired conditions in a wide variety of cable and wire harness assemblies. It can test up to 128 test points, and is easily upgraded to 512 points in 128-point increments by addition of user installed plug-in I/O boards. Performs self-diagnostic routines upon powerup. In addition to testing pre-made cable assemblies, the AR-6400P may be used to locate one loose wire among many by using either the included test probe or the high-impedance wrist strap using body conductance. A Centronics-type parrallel printer interface is also included to provide printouts of the test results on any compatible printer (not supplied). The AR-6400P will automatically memorize test data from a standard cable and then used to repeatedly test the same cable type with out further control operation. Unique features include three user-selectable impedance levels for insulation tests (1000, 50,000, and 250,000 ohms), memory mode (up to 99 steps) and identifying the I/O port side on which an open condition exists. **Specifications: Test speed:** 1000 points per second. **Sensitivity:** Short (1000 ohms; open) 1000, 50k, 250k, user selectable. **Test voltage:** 5VDC. **Interwire capacitance:** .1μf max. **Display:** 16 character by 1 line LCD. **Alarm:** Audible alarm sounds when cable "PASS" occurs. **Memory backup:** 3.6v Ni-cad battery for 15 days. **Power backup:** 6v 1.2ah Ni-cad battery allow 2 hour operation without main power. **Power:** 110/220 VAC, 50/60 Hz. **Dim.:** 5.3H × 13.8W × 11.8D. **Wt.:** 14.3 lbs. **Supplied accessories:** Search probe (1), wrist strap (1), earphone (1).

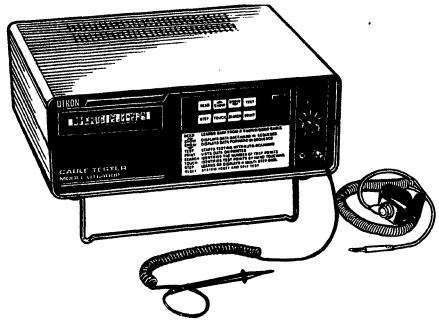
952-6400. AR-6400P ..... **EACH 995.00**

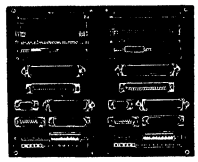
Universal test fixture for use with AR-6400P.

952-6401. 6401FX ..... **EACH 99.95**

Expander I/O board for AR-6400P. Increases test capability by 128 points per board (3 max. per AR-6400P).

952-6402. 128P-I/O ..... **EACH 395.00**





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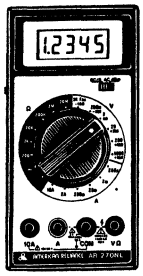


Model AR-270NL

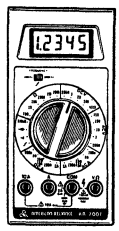
- **0.05% DC Accuracy**
- **True RMS Measurement**
- **Diode Check**
- **Level Measurement – 60 dDm to + 60 dBm**
- **Noise Measurement**
- **Audile Continuity Check**
- **Up to 10A DC/AC Capability**
- **Resistance Measurement up to 20Ω**
- **Telecommunication Applications**

With its capability of making dB voltage measurements (AC and DC), this meter can easily and accurately check the dB gain or loss of amplifiers, filters or attenuators with direct dB readout. Telephone (local and long distance), data communications and line testing and services uses. Excellent for the testing and measurement of audio equipment functions. Great for service in the shop or in the field. **Specifications. DCV Range:** 200mV, 2V, 20V, 200V, 1000V. **ACV Range:** 200mV, 2V, 20V, 200V, 750V. **Input Impedance:** 10 MΩ. **ACA and DCA Range:** 200μA, 2mA, 20mA, 200mA, 2A, 10A (10A not fused). **Resistance Range:** 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Diode Check:** Displays approximate forward voltage of diode. **Continuity Check:** Audible buzzer if conductance is less than 30Ω. **Power:** 9V battery (2000 hours typical with alkaline) or 9V AC to DC adapter (not supplied). **Display:** 4½ digit LCD display 0.4″ high; with "LOBAT" display. **DBM Measurement:** – 60 to + 60 DBM (600Ω ref). **Noise Measurement with 3 KHz Flat Weighting Filter:** Noise— – 80 DBM to – 60 DBM; 10 MΩ/100 pF; 3K-Flat— – 60 DBM to – 31.76 DBM; Bridge. **Dimensions:** 6.8″L × 3.4″W × 1.4″H. **Weight:** 11.7 oz.

952-0270. AR-270NL ..... **EACH 199.95**

Model AR-700T

- **0.05% DC Accuracy**
- **Up to 10A AC/DC Reading**
- **Diode Check**
- **Audible Continuity Check**
- **Resistance Measurement to 20 MΩ**
- **True RMS Measurement**
- **Frequency Counter up to 200 KHz**
- **Conductance Measurements**



This 4½ digit true RMS DMM has a built-in frequency counter and conductance capabilities plus all the standard functions. It is ideal for applications in the laboratory or the field. **Specifications. DCV Range:** 200mV, 2V, 20V, 200V, 1000V. **ACV Range:** 200mV, 2V, 20V, 200V, 750V. **Input Impedance:** 10 MΩ. **ACA and DCA Range:** 200μA, 2mA, 20mA, 200mA, 2A, 10A (10A not fused). **Resistance Range:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Conductance:** 200 ns (s = 1/Ω). **Diode Check:** Display reads approximate forward voltage of diode. **Audible Continuity:** Buzzers sounds if conductance is less than 30Ω. **Frequency Counter:** 20 Hz to 200 KHz. **Accuracy:** 0.5% + 10; 10 MΩ/100 pF. **Display:** 4½ digit LCD display 0.4″ high with "LOBAT" and decimal annunicators. **Power:** 9V battery (2000 hours typical with alkaline). 2 probes (1 red and 1 black), 2 spare fuses, manual, case. **Dimensions:** 6.9″L × 3.4″W × 1.4″H. **Weight:** 10.3 oz.

952-0700. AR-700T ..... **EACH 199.95**

Model AR-170NL

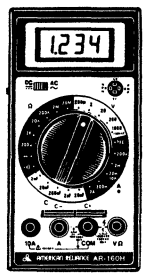
- **0.1% Accuracy**
- **Level Measurement – 70 dBm to + 60 dBm**
- **Noise Measurement**
- **Audible Continuity Checks**
- **Up to 10A AC/DC Capability**
- **Resistance Measurement to 20 MΩ**
- **Diode Check**
- **True RMS Measurement**
- **Telecommunications Applications**

Ideally suited for high-accuracy applications requiring measurements down to 20mV, 20μA, and 20Ω. Capable of making dB voltage (AC and DC) and true RMS measurements. Excellent for testing and measuring of audio equipment functions. Used for telephone (local and long distance) and data communications and line testing and service. **Specifications. DCV Range:** 20mV, 200mV, 2V, 20V, 200V, 1000V. **ACV Range:** 20mV, 200mV, 2V, 20V, 200V, 750V. **Input Impedance:** 10 MΩ. **ACA and DCA Range:** 20μA, 200μA, 2mA, 20mA, 200mA, 2A, 10A (10A not fused). **Resistance Range:** 20Ω, 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **DBM Measurement:** – 71.7 to + 60 DBM (600Ω ref). **Noise Measurement:** – 72 DBM to – 31.7 DBM (Noise – 10 MΩ/100 pf impedance; 3K-flat-bridge impedance). **Diode Check:** Display reads approximate forward voltage of diode. **Continuity Check:** Audible buzzer sounds if conductance is less than 30Ω. **Power:** 9V battery; 200 hours typical with alkaline battery or line operation from 9V AC to DC adapter (not supplied). **Display:** 3½ digit LCD 0.5″ high with "LOBAT". **Dimensions:** 6.8″L × 3.4″W × 1.4″H. **Weight:** 11.7 oz.

952-0170. AR-170NL. .1% Accuracy ..... **EACH 149.95**

Model AR-160H

- **0.5% Accuracy (AR-160HY—.25%)**
- **Transistor hFE Measurement**
- **Diode Test**
- **Audible Continuity Check**
- **Up to 10A DC/AC Capability**
- **Capacitance Measurement**
- **Resistance Measurement up to 20 MΩ**
- **"LOBAT" Indicator**



The capability to measure capacitance from 1 pF to 19.99 μF is coupled with the capability to measure transistor hFE. Due to design, the accuracy of the capacitance function is 1% instead of the more common 3%. The large slot-type capacitance jacks have phosophor-bronze contacts for ease of lead insertion and long contact life. The transistor socket used for hFE measurements uses high-quality gold-plated contacts for low resistance and accurate readings. One year warranty. **Specifications. DCV Range:** 200mV, 2V, 20V, 200V, 1000V. **ACV Range:** 200mV, 2V, 20V, 200V, 750V. **Input Impedance:** 10 MΩ. **ACA and DCA Range:** 200μA, 2mA, 20mA, 200mA, 2A, 10A (10A not fused). **Resistance Range:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Diode Check:** Display reads approximate forward voltage of diode. **Audible Continuity:** Buzzer sounds if conductance is less than 30Ω. **Capacitance Range:** 2nF, 20nF, 200nF, 2μF, 20μF. **Transistor HFE (AR-160H only):** 0-2000; display reads approximate hFE value of transistor; constant current I_b approximately 10μA. **Display:** 3½ digit LCD, autozero, autopolarity. **Power:** 9V battery (400 hours typical with alkaline). 2 probes (1 red and 1 black), 2 spare fuses, manual. **Dimensions:** 6.8″L × 3.4″W × 1.4″H. **Weight:** 10.58 oz.

952-0160. AR-160H. .5% Accuracy ..... **EACH 89.95**

Model AR-230S

- **0.05% DC Accuracy**
- **Up to 10A AC/DC Capability**
- **"LOBAT" Indicator**
- **Resistance measurement up to 20 MΩ**
- **Diode Check**
- **Audible Continuity Check**
- **10 MΩ Input Impedance**

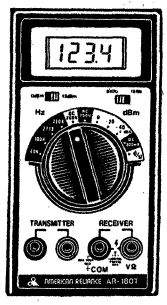
Specifications. DCV Range: 200mV, 2V, 20V, 200V, 1000V. **ACV Range:** 200mV, 2V, 20V, 200V, 750V. **ACA and DCA Range:** 200μA, 2mA, 20mA, 200mA, 2A, 10A. **Input Impedance:** 10MΩ. **Resistance Range:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Diode Check:** Displays approximate forward voltage of diode; maximum test current—1.2mA. **Continuity Check:** Audible buzzer if conductance is less than 30Ω. **Power:** 9V battery or 9V AC to DC adapter (not supplied). **Display:** 4½ digit LCD display 0.4″ high; with "LOBAT" display. **Dimensions:** 6.8″L × 3.4″W × 1.4″H. **Weight:** 10.6 oz.

952-0230. AR-230S ..... **EACH 129.95**

16

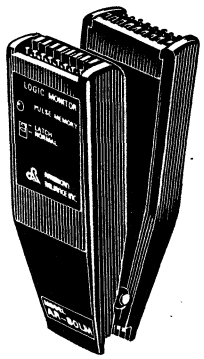
Model AR-185T

- ► Switchable Termination and Bridge Measurement
- ► Voice Monitor
- ► Built in C-Message Filter for Noise Measurement
- ► Monitor Received Line Signals with Earphone
- ► Built in Tone Generator
- ► Measures DC/AC Volts, Amps, and Measures Ohms
- ► 8 Functions, 11 Ranges
- ► Drop Proof Case



Model AR-185T. One megohm input impedance switchable to 600 ohms. Level range is −52 DBM to +13 DBM in two ranges. Reference level 0 DBM is 1 mW into 600 ohms. The built-in oscillator has 4 ranges: 404 Hz, 1004 Hz, 2713 Hz, and 2804 Hz. Output of tone generator is switch selectable between −82 DBM to −10 DBM. The floating output has 600 ohms impedance. The C-Message circuit noise measurement is true RMS from −72 DBM to −32 DBM. The C-message filter uses Bell Technical Ref PUB41009. DCV measurement is ±200 V with 1 M ohm input impedance. DCA measurement is ±200 mA and is fuse protected. Unit has 2 K ohm range for resistance measurement with audible beeper for continuity check. ACV measurement is 750 V with 1 Mohm input impedance. Uses single 9 V Battery (200 hrs typical). **Dim:** 6.9″L × 3.4″W × 1.4″H. **Weight:** 12.4 oz.
900 Ohm Termination.

952-0185. Model AR-185T ..... **EACH 299.95**



Model AR-80LM/AR-85HLM

- ► Up to 20 MHz
- ► Signal Outputs Allow Viewing Logic State with Oscilloscope
- ► Latch Mode to Lock-in Short Duration Pulses
- ► Vcc/GND Autodetection Allows Snap-on and View Operation
- ► TTL/CMOS Autodetect

Model AR-80LM. The AR-80LM is a compact, 20 MHz, 16-channel logic monitor. Its superior state-of-the-art design and innovative custom IC construction, brings high-end performance within the reach of the average user.

The unique, custom IC design provides autodetection of both power and ground pins, making instrument usage an easy, clip-on-and-view operation. The unit autodetects both TTL and CMOS logic levels, and includes a pulse latch function for detection and display of short-duration pulses. These standard features combine to make the unit functionally equivalent to sixteen 20 MHz logic probes.

The AR-80LM provides indication for high, low, and pulsing inputs. For pulses, if the repetition rate is over eight hertz, the unit flashes the LED at an 8 Hz rate. This allows use of the unit at clock rates of up to 20 MHz. Included with the AR-80LM is a carrying case and an operators manual.

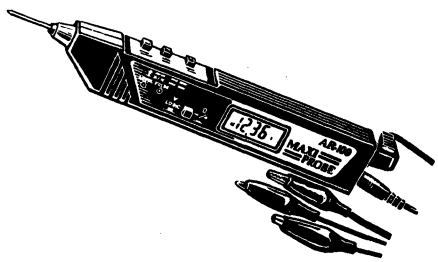
952-0080. AR-80LM ..... **EACH 79.00**

Model AR-85HLM. Same as above except 40 MHz logic monitor.

952-0085. AR-85HLM ..... **EACH 99.00**

Model AR-100/102

- ► 10 MHz TTL/CMOS Logic Probe
- ► Autoranging
- ► Continuity Beeper
- ► Diode Test
- ► Soft Touch Data Hold



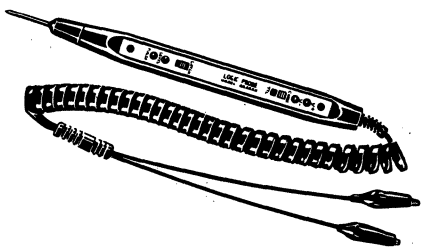
Model AR-100. The AR-100 is a unique probe-style autoranging DMM with a built-in 10 MHz TTL/CMOS Logic Probe. The combination of DMM and Logic Probe make the AR-100 two valuable instruments in one compact package. Optional screw-on accessory probe tips are available.

Specifications. DCV Range: 200 mV, 2 V, 20 V, 200 V, 500 V. **ACV Range:** 2 V, 20 V, 200 V, 500 V. **Resistance Range:** 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Audible Continuity:** Buzzer sounds if conductance is less than 300Ω. **Diode Check:** Display shows approximate forward voltage of diode. **TTL and CMOS Logic Level:** Logic High—Red on; Green off; Logic Low—Red off; Green off. Logic Pulses—Red on; Green on. **Supplied:** 1 lead, 1 set alligator clips, manual, soft case. **Dim:** 7 3/8″ × 1 3/16″ × 3/4″. **Weight:** 2.4 oz. Uses LR44 or SR44 Button Battery (2 required).

952-0100. AR-100 ..... **EACH 59.95**

Model AR-102. Same as above except 40 MHz logic probe.

952-0102. AR-102 ..... **EACH 74.95**



Model AR-60PB

- ► Analyzing Digital Circuits for Design Simplifies and Speeds Debugging of Multi-Family Digital Circuits.
- ► Tracing a Pulse throughout a Digital Circuit
- ► Quick Evaluation of Digital Changes or Circuits Modifications
- ► Computer Service

The AR-60PB is a pencil-size, high-speed, circuit-powered multi-function logic probe which responds to as narrow as 10ns, or pulse trains over 50 MHz. It provides you with an instant picture of circuit conditions including (Hi, Low, Pulse, Open or Bad Level). Further, the AR-60PB probe is unique in also providing indication of both power supply and tip under-and over voltage. Additionally, its features include switchable thresholds (TTL/CMOS), pulse stretching, pulse latch (Memory), reverse polarity and overvoltage protection, and detachable coiled power cord with alligator clips standard.

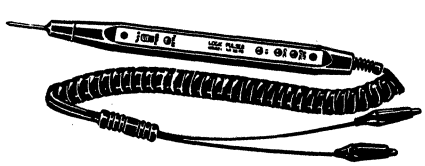
The AR-60PB digital logic probe can indicate low frequency events to DC as well as high frequency events to beyond 50 MHz.
Specifications. Maximum Supply Voltage: ±25 VDC. **Maximum Input Voltage:** ±50 VDC. **Size:** 16 × 160 mm. **Weight:** 50 g.

952-0060. AR-60PB ..... **EACH 44.95**

16

Model AR-20PS

- ► Aid in Development of Microprocessor or Digital System
- ► Computer Service
- ► Instructional Aid for a Better Understanding of Logic Circuits



The AR-20PS logic pulser is a truly modular approach to troubleshooting digital circuits. It can inject a signal into a circuit node so that the response of the circuit may be observed. This allows the user to determine if the device at the node is working correctly. This eliminates the need to isolate the device by unsoldering it or by cutting circuit traces on the printed circuit board.

Specifications. Maximum Supply Voltage: +25 VDC. **Maximum Output Connection Voltage:** +25 VDC. **Maximum Sync Input Voltage:** ±120 V. **Size:** 16 × 160 mm. **Weight:** 54g.

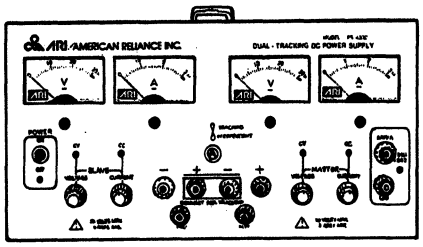
952-0020. AR-20PS ..... **EACH 44.95**

Model AR-265HLT Logic Tool Kit NEW

Model AR-265HLT. AR-265HLT is a high speed logic tool kit. It contains the AR-60PB, AR-20PS, and AR-85HLM listed above. Includes carrying case and two EZ-hook screw-on accessory tips.

952-0265. AR-265HLT ..... **EACH 149.95**

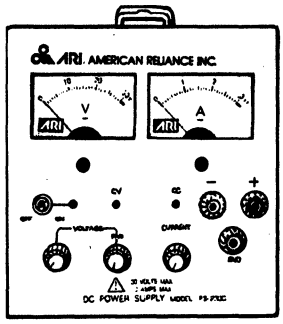
PS-4330 NEW



The PS-4330 is a triple output tracking or independent-output regulated power supply designed to meet the medium power needs of most service or laboratory applications. The output voltage and current range allow use in a majority of R & D, manufacturing, and service applications while small size permits easy portability. The four analog meters permit simultaneous monitoring of both output current and voltage of both supplies. The twin sections may be paralleled for higher current (up to 6 amps) or series operated for higher voltage (up to 60 volts). Also provided is a third 5 volt 3 amp fixed output. Short circuit and overload protected. **Size:** 5.5″ × 4.9″ × 11.8″. 11 lbs. 110/220 VAC, 50/60 Hz.

952-4330. PS-4330 ..... **EACH 499.00**

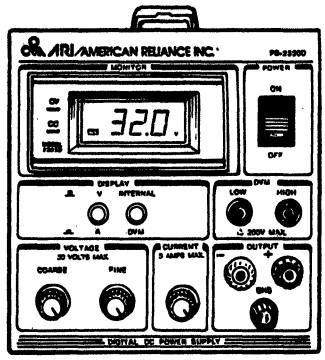
PS-2330 NEW



The PS-2330 is a single-output regulated power supply. Its output voltage and current range allows use in the majority of R & D, manufacturing and service applications, while its size permits easy portability. The dual analog meters permit simultaneous monitoring of both output voltage and current. Short circuit and overload protected. **Size:** 5.5″ × 4.9″ × 11.8″. 11 lbs. 110/220 VAC, 50/60 Hz.

952-2330. PS-2330 ..... **EACH 249.00**

PS-2330D NEW

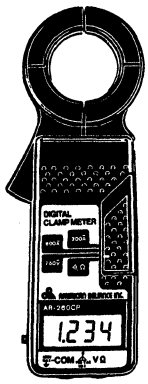


The PS-2330D is a single-output regulated power supply with a built-in digital display. The single digital display may be switched to monitor either output voltage or current or as an autoranging voltmeter for external inputs from 0.1mV to 200 VDC. Its output voltage and current range allows use in the majority of R & D, manufacturing and service applications, while its size permits easy portability. The dual analog meters permit simultaneous monitoring of both output voltage and current. Short circuit and overload protected. **Size:** 5.5″ × 4.9″ × 11.8″. 8.4 lbs. 110/220 VAC, 50/60 Hz.

952-2331. PS-2330D ..... **EACH 299.00**

Model AR-260 CP

- **Automatic power off to save battery life.**
- **ACA up to 600A, ACV up to 750V and resistance up to 2 KΩ**
- **Data Hold to freeze the reading of measurement for 10 seconds.**
- **Peak Detect to hold the maximum RMS value of voltage or current surge in motor starting.**
- **Audible continuity check.**
- **Maximum diameter of wire 642 mm. Clamp jaws open both sides simultaneously.**

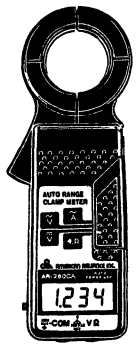


The AR-260CP is a unique, digital clamp-on volt-ohm-ammeter designed to withstand the rigors of day-to-day use by the electrical professional. The unit will measure up to 600 amps AC, 750 volts AC, and 2000 ohms resistance. The AR-260CP includes our unique and patented "Auto Power Off" function that provides intelligent monitoring of meter use. If a signal is not present, the meter will shut off after approximately 6 minutes to conserve battery life. Other functions include instant continuity beeper, data hold, peak hold, electronic overload protection, and safety wrist strap and test leads. The rugged double-chassis ABS plastic case assures years of reliable operation.

952-0260. Model AR-260CP ..... **EACH 109.95**

Model AR-280CA

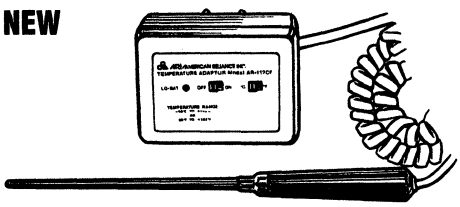
- **Auto power off to save battery life**
- **4 functions — ACA, ACV, DCV and resistance**
- **Data hold to freeze the reading of measurement for 10 seconds**
- **Audible continuity check**
- **42 mm clamp jaws open both sides simultaneously**
- **One-hand easy operation**
- **Safety designed input jacks**



The AR-280CA is the autorange alternative to the manual ranging AR-260CP. The unit will measure up to 600 amps AC, 750 volts AC, and 2000 ohms resistance. The AR-280CA includes our unique and patented "Auto Power Off" function that provides intelligent monitoring of meter use. If a signal is not present, the meter will shut off after approximately 6 minutes to conserve battery life. Additionally, the capability of measuring up to 200 DC volts in two ranges has been added for additional flexibility.

952-0280. Model AR-280CA ..... **EACH 129.95**

NEW



AR-112CF

- **Measurement Range: −58°F to +302°F (−50°C to +150°C)**
- **Removable Temperature Probe**
- **Low Battery Indicator**
- **Designed for Compatibility with any DMM**
- **Accuracy: ± 0.5°C or ± 1°F**
- **Features Both °F and °C Readings**

The Model AR-112CF is a small self-contained temperature-to-voltage converter that is designed for use with any digital multimeter with a 200mV DC range and input jacks with 3/4-inch center to center spacing. The AR-112CF is designed to measure temperature from −58 to +302 degrees Fahrenheit and from −50 to +150 degrees Celsius, range selectable by front panel switch.

Unit is equipped with a removable temperature probe that uses a standard modular telephone plug. The probe may be remotely positioned up to 60 feet from the associated temperature converter and digital display. Slight increase in reading for each 15 feet of extension used. Useful for surface, liquid, or gas temperature measurement, locate "hot spots" where components are drawing excessive current, environmental temperature tests, ambient temperature, locate cold or warm air leaks, drive chart recorder for long term temperature measurement. Used by R & D laboratories, educational applications, service shops, and maintenance departments.

952-0112. AR-112CF ..... **EACH 79.95**

Accessories

Carrying Case

Stock No.	Mfr.'s Type	Description	For Use with Model No. AR-XXX	EACH
952-2000	VC-10	Vinyl Case	120, 140	2.50
952-2005	VC-20	Vinyl Case	130, 160, 170, 230, 270, 360, 460, 660, 690, 700	3.00
952-2010	RC-25	Ruggedized Case	260, 280	9.50
952-2015	DC-25	Deluxe Vinyl Case	All Except 260, 280	7.50
952-2020	RC-35	Ruggedized Case	All Except 260, 280	5.00

Test Leads

Stock No.	Mfr.'s Type	Description	For Use with Model No. AR-XXX	EACH
952-2050	TL-01	90° Input Lead	120, 140	3.50
952-2055	TL-02	180° Input Lead	130, 160, 170, 230, 270, 280, 660, 690	3.50
952-2060	TL-03	UL-1244 Type Lead	270, 700	7.00
952-2065	TL-04	Alligator Clip	180, 360, 460	4.00
952-2070	TL-05	Deluxe Test Lead Kit	All Except 180	24.50

TL-05 Spare Parts and AR-100 Screw On Accessories

Stock No.	Mfr.'s Type	Description	EACH
952-2080	SH-05	Spring Hook	3.95
952-2085	AC-05	Alligator Clip	2.95
952-2090	TC-05	Tip Cover	.95
952-2095	SL-05	Spade Lug	2.95

Cross-Reference

Beckman	ARI
DM-10	AR-140
LP10A	AR-60PB
CM20A	AR-360D
DM23	AR-660C
DM25-L	AR-160H

Beckman	ARI
PR-41	AR-20PS
DM73	AR-100
HD-110	AR-130A
300	AR-120
310-B	AR-120Y

Beckman	ARI
330	AR-170NL
TC253/TC255	AR-110CF
DM850	AR-700T
4410	AR-270NL
—	—

Rugged Digital Thermocouple Thermometers/Pyrometers

Ruggedized Series 396 thermometers are switchable from °F to °C, and all temperatures less than 200° are shown in 0.1° resolution. Temperatures above 200° are shown in 1° resolution. Sealed membrane switches provide durability and ease of use. These thermometers are available in thermocouple types J and K, and can be used with any of the probe designs shown. **Range:** Type J— – 112.0°F to 1382°F, switchable to – 80.0°C to 750°C. Type K— – 112.0°F to 1999°F switchable to – 80.0°C to 1100°C. **Accuracy:** ± 1% of reading ± 1%°C. **Dimensions:** 3″ × 5″ × 1.75″. **LCD:** 0.5″ digits. **Housing:** rugged ABS with probe holder. **Battery Life:** 500 hours. LoBatt indicates 10 hours remaining.

Type J Thermocouple Digital Thermometer

786-0150. Model No. 39658-J ..... **EACH 99.00**

Type K Thermocouple Digital Thermometer

786-0155. Model No. 39658-K ..... **EACH 99.00**

Fixed-Mount Digital Dials Replace Bimetals

Series 961 digital dial thermometers are ideal for building into equipment and are available with the stem mounted radially or axially. The removable thermometer module provides easy access into the housing for battery replacement or recalibration. **Range:** 0.0°F to 160.0°F in 0.1. **Accuracy:** ± 2F. **Dimensions:** Stem—5″ L × 0.25″ dia.; Face—2.3″ dia. **LCD:** 0.4″ digits. **Battery Life:** 18 months continuous. **Threads:** 1/4″ NPT.

Digital Dial Thermometer with Edge-Mounted (Radial) Stem.

786-0010. Model No. 96100-OF11-51016-OE..... **EACH 49.00**

Digital Dial Thermometer with Axially-Mounted Stem.

786-0020. Model No. 96100-OF11-51016-OA..... **EACH 49.00**

Thermocouple Thermometer

Series 330 instruments are sealed with O-rings against water, have backlighted LCDs and are protected against RFI. There are no exposed adjustments and probes are permanently connected to the instrument so that accuracy includes thermocouple error. **Range:** – 125°F to 500°F in 1°; **Accuracy:** ± 0.1% of reading ± 0.7°C; **Dimensions:** 2.6″ × 6.1″ × 1″; **LCD:** 0.3″ digits; **Housing:** rugged ABS with probe holder; **Battery Life:** 500 hours; LoBatt indicates 10 hours remaining.

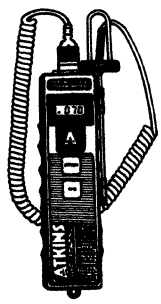
Thermocouple Digital Thermometer with Universal Needle Probe

786-0100. Model No. 33033-JF. Type J ..... **EACH 96.00**

Thermocouple Digital Thermometer with Universal Surface Probe

786-0110. Model 33034-JF. Type J..... **EACH 96.00**

Stainless Steel Thermometer



Series 386 thermometers feature a rugged stainless steel housing and are switchable between °F and °C. Sealed membrane switches provide durability and ease of use. These thermometers are available in thermocouple types J and K, and can be used with any of the probe designs shown. **Range:** Type J— – 76°F to 1400°F, switchable to – 60°C to 760°C.; Type K— – 40°F to 1832°F, switchable to – 40°C to 1000°C. **Accuracy:** ± 0.7% of reading ± 1°C. **Dimensions:** 6.3″ × 1.6″ × 0.9″. **LCD:** 0.35″ digits. **Housing:** stainless steel with probe holder. **Battery Life:** 450 hours with 10 hours of use remaining when low battery signal is displayed.

Type J Thermocouple Digital Thermometer

786-3860. Model No. 38653-J..... **EACH 129.00**

Type K Thermocouple Digital Thermometer

786-3861. Model No. 38653-K ..... **EACH 129.00**

Thermocouple Probes for Series 386, Series 396, or any Mini-Connector

Thermometer Individual Handle and Fixed Mount Probes

Stock No.	Mfr.'s Type		Dimensions	Maximum Temperature	Response Time (to 95%)	EACH
786-0070 786-0080	49138-J 49138-K	**BARE TIP**	D: Tip 0.07″ × 0.13″ C: 48″ T: Insulation stripped 0.25.″	260° for silicone coating; 480°C for woven glass	3 sec. liquids 9 sec. air 5 M/sec.	**23.00** **23.00**
786-0200 786-0205	39138-J 39138-K		D: Tip 0.06″ × 0.12″ C: 36″ T: Insulation stripped 0.25	205°C "Teflon" FEP insulation	3 sec. liquids 9 sec. air 5 M/sec.	**13.00** **13.00**
786-0210 786-0215	50335-J 50335-K	**1/8″ DIA. NEEDLE**	C: stretched 48″ retracted 12″ All other dimensions as above	Tip: 205°C Cable 80°C	3 sec. liquids	**39.00** **39.00**
786-0230 786-0235	50332-J 50332-K	**HAND-HELD, air, miniature**	D: 0.125″ dia. S: 4″ L H: handle, 1″ wide C: stretched 48″ retracted 12″	Tip: 260°C Cable: 80°C	5 sec. in 5 meters per sec. air	**44.00** **44.00**
786-0240 786-0245	50012-J 50012-K	**BELL DIAPHRAGM SURFACE PROBE**	C: stretched 48″ retracted 12″ H: 4″ L S: 5.5″ D: .75″ A: 60° T: 2.25″	Tip: 260°C Cable: 105°C	6 sec. oiled surfaces	**55.00** **55.00**
786-0250 786-0255	50318-J 50318-K	**FAST-RESPONSE CERAMIC TIP**	D: 0.5″ dia. S: 4″ L H: 4″ L, handle C: stretched 48″ retracted 12″	Tip: 650°C Cable: 80°C	4 sec. oiled surface	**61.00** **61.00**
786-0260 786-0265	49136-J 49136-K	**BENDABLE STAINLESS TIP, on cable**	D: 0.063″ dia. st. steel MgO filled T: 7″ L B: 0.188″ dia. H: 2.5″ C: 36″ L, cable	Tip: 750°C TypeJ 900°C Type K Cable: 105°C	1 sec. liquids	**61.00** **61.00**
786-0270 786-0275	50426-J 50426-K	**REDUCED-TIP, STEM, HANDLE AND CABLE**	D: Tip dia. 0.063″ B: 3.8″ stem L C: stretched 48″ retracted 12″ H: 4″ L, handle S: 0.125″ dia. T: 0.10″	Tip: 500°C Cable: 80°C	2 sec. liquids	**70.00** **70.00**
786-0280 786-0285	49140-J 49140-K	**TEMPERATURE EXTREMES TIPS**	D: 0.188″ dia. T: 24″ Inconel B: 0.31″ dia. H: 1.5″ L C: 36″ cable	750°C Type J 1,100°C Type K Cable: 205°C Teflon	30 sec. in 5 M/sec. air	**105.00** **105.00**

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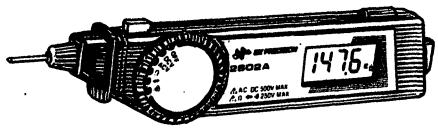
Auto-Ranging Probe Type Digital Multimeter

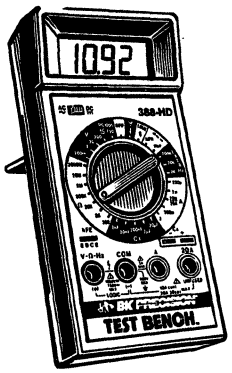
- 0.7% DCV Accuracy
- Auto-ranging on all functions
- 3½ digit LCD display with annunciators
- Data hold switch latches reading into display
- Audible continuity check
- Rugged case with RFI/EMI shielding
- Complete with batteries, ground lead and carrying case.
- Diode Test
- Continuity Check



The B&K-PRECISION Model 2802A probe type digital multimeter is an economical 3½ digit DMM ideally suited for in-the-field, shop or hobby applications. Model 2802A provides convenient auto-ranging operation on volt and ohm measurements. DC voltage measurement ranges include 200 mV, 2000 mV, 20 V, 200 V, and 500 V. AC voltage ranges include 2000 mV, 20 V, 200 V, and 500 V. Input impedence is 10 MΩ. All measurements are displayed on a 3½ LCD display with annunciators for function, unit, polarity, decimal and low battery. Continuity checks are annunciated by an audible tone. A Data Hold switch feature permits meter reading after probe tip is removed from the point of measurement. Model 2802A is overload protected and indicates overrange on all ranges. **Specifications. Diode Test:** Checks for reverse voltage with display reading. **Continuity:** Audible tone for resistance below 300 Ohms. **Numerical Display:** 3½ digit, 7 segment Liquid Crystal Display (LCD) type with "Low Battery" indication and annunciators. **Conversion Rate:** 2 samples per second. **DC Polarity Selection:** Automatic, " – " sign indicated " + " sign implied. **Overrange Indication:** 1 or – 1. **Power Requirements: Battery Type:** Two cells, 1.5 V each, NEDA 1166 A (alkaline), or NEDA 1131 SO (silver oxide). **Battery Life:** 50 hrs. (alkaline), 100 hrs. (silver oxide) **Low Battery Indication:** "B" displayed. **Dimensions, (L × W × H):** 7″ × 1.4″ × .75″. **Weight:** 2.32 oz. **Accessories Supplied with Model 2802A:** Two batteries, test lead, protective carrying case, and instruction manual.

731-2802A ..... **EACH 64.00**

Model 388-HD



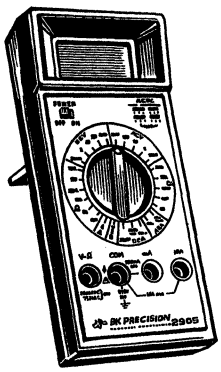
Combines capabilities of 5 popular instruments into one hand held test bench unit. This 41 range voltmeter, ammeter, ohmmeter, frequency counter, capacitance meter, logic probe, transistor and diode tester features an extra large LCD display, ruggedized case and quality construction. Slanted 3½ digit LCD readout with high-contrast display provides easy viewing. Bright yellow color. Drop resistant. Audible continuity tone. Integral tilt stand can be detached to hang DMM on vertical surface. Single rotary switch provides convenient range and function selection. Separate AC/DC selection switch. **Specifications. Range: DC Volts:** Manual. **Overload Protection:** 1200 VDC or 850 VAC RMS Max. **Current:** 200 μA, 2 mA, 20 mA, 200 mA, 2 A, 20 A*. **Resistance:** 200 Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ, 2000 MΩ. **Overload Protection:** 500 VDC or AC RMS Max. **Frequency:** Range: 20 Hz to 200 kHz. 2 kHz-1 Hz, 20 kHz-10 Hz, 200 kHz-100 Hz. Sensitivity: 200 mV. **Capacitance:** 2 nF-1 nF, 20 nF-10 pF, 200 nF-100 pF, 2 μF-1 nF, 20 μF-10 nF. **Logic Test:** Input Impedence: 1 MΩ. 2.4 v ± 0.3 v = Logic 1; .8 v ± 0.3 v = Logic 0. Test Voltage: 5 VDC. Input Overload Protection: 500 VDC/AC RMS Max. **Transistor Gain Test (hFE):** Base Current: 10μA. V_{CE} Voltage: 2.8 v. Gain Indication: 0-1000. **Continuity Check:** Buzzer sounds when resistance is less than 200 Ω (approx.). Resolution: 1 Ω. Max Test Current: 1.5 mA. Max Open Circuit Voltage: 3.2 v. **Diode Test:** Display shows forward Junction Voltage. Max Test Current: 1.5 mA. Max Test Voltage: 3.2 v. **Power:** One (1) standard 9 V Battery (NEDA 1604). Life: Approx. 150 hours with Alkaline cell. Dimensions: 1.4″W × 3.6″H × 7.5″D. Wt.: 13 oz. (Inc. Batt.) **Supplied Accessories:** Test Leads (Pair), Spare Fuse (2A), Battery, Instruction Manual.

731-0388 ..... **EACH 129.00**
Model 377. Similar to above, 39 ranges, 10A.
731-0377 ..... **EACH 109.00**

* 20A Current Range Not Fused.

3½ Digit, 0.5% DVC Accuracy

Model 2905



- Measures volts to 1,000 VDC, and 750 VAC; amps to 10 A DC and AC; and ohms to 20 MΩ
- Includes capacitance measurement to 20 μF and hFE measurement.
- Manual range selection
- Audible continuity check, diode test
- High energy fuse
- Drop resistant case—4 foot

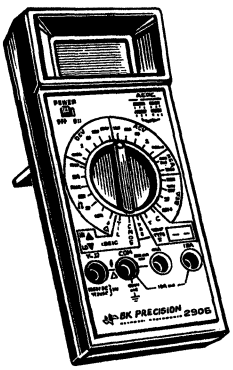
Specifications. 3½ Digit LCD readout. Diode Test. **Continuity:** Audible (less than 200 Ω). **Battery Life:** 200 Hrs. (Single NEDA 1604). **Volts:** 200 μV, 2 V, 20 V, 200 V, 1000 V (DC; 750 V AC). **Input Impedence:** 10 MΩ. **Resistance:** 200 Ω, 2 kΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Current:** (200 μA—DC only), 20 mA, 200 mA, 10 A. **Capacitance:** 2 nF, 20 nF, 200 nF, 2 μF, 20 μF. **hFE Measurement.** 1⅜″H × 3½″W × 7½″D. Wt. 13 oz. **Accessories Supplied:** Test Leads (pair), Spare Fuse, Battery, Instruction Manual.

731-2905 ..... **EACH 79.00**
731-0001. Model CP-1. Clamp-on AC Current Probe ..... **EACH 65.00**

3½ Digit, 0.25% DCV Accuracy

Model 2906

- Measures volts to 1,000 VDC, and 750 VAC; amps to 10 A DC and AC; and ohms to 20 MΩ
- Includes hFE measurement, TTL and CMOS Logic level measurement.
- Temperature measurement with K type thermocouple (– 20°C to + 1000°C and – 4°F to + 1832°F)
- Manual range selection
- Audible continuity check, diode test
- High Energy fuse
- Drop resisitant case—4 ft.



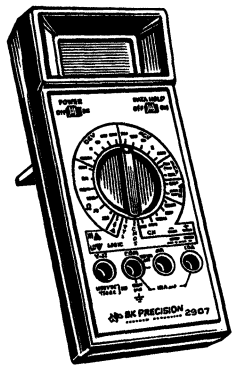
Specifications. 3½ Digit LCD Readout. Diode Test. **Continuity:** Audible (less than 200 Ω). **Battery Life:** 300 Hrs. (Single NEDA 1604). **Volts:** 200 μV, 2 V, 20 V, 1000 VDC (750 VAC). **Input Impedence:** 10 MΩ. **Resistance:** 200 Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Current:** (200μA-DC only), 20 mA, 200 mA, 10 A. **Temperature:** – 20 + 1000°C; – 4 + 1832°F. **hFE Measurement.** 1⅜″H × 3½″W × 7½″D. Wt. 13 oz. **Accessories Supplied:** Test Leads (pair), Spare Fuse, Battery, Instruction Manual.

731-2906 ..... **EACH 99.00**
731-0001. Model CP-1. Clamp-on AC Current Probe ..... **EACH 65.00**

3½ Digit True RMS

Model 2907

- 0.1% DCV accuracy
- Measures volts to 1,000 VDC, and 750 VAC; amps to 10 A DC and AC; and ohms to 20 MΩ
- Includes logic level measurement and peak hold
- Capacitance measurement to 20μF
- Manual Range Selection
- Audible continuity check, diode test
- High energy fuse
- Drop resistant case—4 ft.



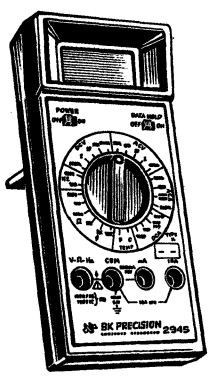
Specifications. 3½ Digit LCD Readout. Diode Test. **Continuity:** Audible (less than 200 Ω). **Battery Life:** 150 Hours (Single NEDA 1604). **Volts:** 200 μV, 2 V, 20 V, 200 V, 1000 VDC (750 VAC). **Input Impedence:** 10 MΩ. **Resistance:** 200 Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 mΩ. **Current:** 20 mA, 200 mA, 10 A. **Capacitance:** 2 nF, 20 nF, 200 nF, 2 μF, 20 μF. Peak Hold Separate Switch. 1⅜″H × 3½″W × 7½″D. Wt. 13 oz. **Accessories Supplied:** Test Leads (pair), Spare Fuse, Battery, Instruction Manual.

731-2907 ..... **EACH 195.00**
731-0001. Model CP-1. Clamp-on AC Current Probe ..... **EACH 65.00**

4½ Digit True RMS

Model 2945

- 0.05% DCV accuracy
- Measures voltage to 1,000 VDC and 750 VAC; amps to 10 A DC and AC; and ohms to 20 MΩ
- Includes frequency measurement to 200 KHz
- Temperature measurement with K type thermocouple (– 20°C to + 1000°C and – 4°F to + 1832°F)
- Data Hold
- Manual Range Selection
- Audible continuity check, diode test
- High energy fuse
- Drop resistant case—4 ft.



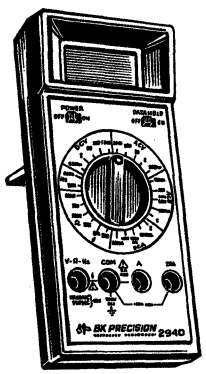
Specifications. 4½ Digit LCD Readout. Diode Test. **Continuity:** Audible (less than 200 Ω). **Battery Life:** 200 Hours (Single NEDA 1604). **Volts:** 200 mV, 2 V, 20 V, 200 V, 1000 VDC (750 VAC). True RMS AC. **Input Impedence:** 10 mΩ. **Resistance:** 200 Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Current:** 200μA, 2 mA, 20 mA, 200 mA, 10 A. **Temperature:** – 20 + 1000°C; – 4 + 1832°F. **Frequency:** 20 Hz to 200 KHz. Data Hold Separate Switch. 1⅜″H × 3½″W × 7½″H. Wt. 13 oz. **Accessories Supplied:** Test Leads (pair), Spare Fuse, Battery, Instruction Manual.

731-2945 ..... **EACH 259.00**
731-0001. Model CP-1. Clamp-on AC Current Probe ..... **EACH 65.00**

4½ Digit, .05% DCV Accuracy

Model 2940

- 0.05% DCV Accuracy
- Measures volts to 1,000 VDC, and 750 VAC; amps to 10 A DC and AC; and ohms to 20 MΩ
- Includes frequency measurement to 200 HKz
- Data Hold
- Manual Range Selection
- High energy fuse
- Drop resistant case—4 ft.



Specifications. 4½ Digit LED Readout. Diode Test. **Battery Life.** 200 Hours (Single NEDA 1604). **Volts:** 200 mV, 2 V, 20 V, 200 V, 1000 VDC (750 VAC). **Input Impedence:** 10 MΩ. **Resistance:** 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Current:** 200 μA, 2 mA, 20 mA, 200 mA, 2 A, 10 A. **Frequency:** 20 Hz to 200 KHz. 1⅜″H × 3½″W × 7½″D. Wt. 13 oz. **Accessories Supplied:** Test Leads (pair), Spare Fuse, Battery, Instruction Manual.

731-2940 ..... **EACH 160.00**
731-0001. Model CP-1. Clamp-on AC Current Probe ..... **EACH 65.00**

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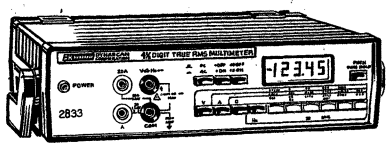
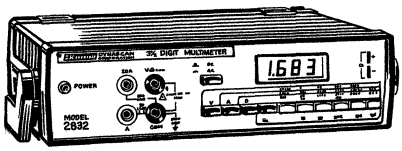
Model 2833 4 1/2 Digit Multimeter



DCV Accuracy .05% + 3 counts. Overload protected to 1000 V DC & AC. ACV Accuracy 45 Hz to 1 KHz ± .5% + 10 counts, 1 KHz to 20 KHz ± 1% + 40 counts, 20 KHz to 50 KHz ± 5% to 40 counts. Input Impedence 100 mΩ 100 pf, pushbutton selection on all functions. Manual ranging, diode test function, continuity check, dBM measurements, overrange indication, polarity indication, and 4 1/2 LCD readout display. **Power Supply:** 6 "C" size cells (not supplied) or AC adapter (supplied). Battery life approximately 1000 hours with Alkaline cells. 250 V, 2 A and 600 V, 4A (supplied). **Dimensions:** 9.4" W × 2.5" H × 7.5" D (less handle). **Weight:** 3 3/4 Lbs. (less batteries) **Supplied Accessories:** AC adapter, test leads, spare fuse, instruction manual, schematic diagram and parts list.

731-2833. Model 2833 ..... **EACH 356.00**

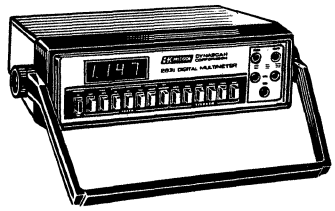
Model 2832 3 1/2 Digit Multimeter



DCV accuracy .5% of reading + 1 count. **Input Impedance:** 10 mΩ, overload protected to 1000 V AC or DC, fuse protected (250 V, 2 A and 600 V, 4 A). Capacitance (test freq. 300 Hz) Accuracy 2% + 4 counts. Continuity check buzzer sounds when resistance is approximately 200 Ω, range 2 KΩ, resolution 1 Ω. Test current 1.5 mA. Max open circuit voltage—3.2 V. Diode test measures approximate forward voltage for semiconductor junctions. 3 1/2 digits LCD display, overrange indication, polarity indication, 1 yr. calibration for specified accuracy, 115 V ± 10% 50-60 Hz 1 Watt with supplied Adapter; 9 VDC with 6 "C" cells (not supplied). Battery life approx. 2000 hours with Alkaline cells. Low Battery Indicatory. **Dimensions:** 9.4" W × 2.5" H × 7.5" D. **Weight:** 3.85 Lbs. **Supplied Accessories:** AC Adapter, Instruction Manual.

731-2832. Model 2832 ..... **EACH 175.00**

Models 2830 And 2831 3 1/2 Digit Multimeters



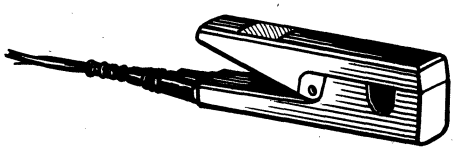
► **Model 2830 .5% Accuracy (DCV)**

► **Model 2831 .1% Accuracy (DCV)**

Ranges ± 100.0 mV DC, 1 V, 10 V, 100 V, 1000 V. Input Impedence 10 mΩ. Overload protected to 1000 V AC or DC. ACV Ranges 100 mV, 1 V, 10 V, 100 V, 1000 V (750 V Max Reading). DC & AC Current 100 μA, 1 mA, 10 mA, 100 mA, 1000 mA, 10 A. Circuit protection diodes and externally accessible fuse, all ranges, except 10 A. AC Freq. Response 50-1000 Hz. **Power Requirement:** 105-130 VAC or 210-260 VAC, 50-60 Hz. CSA Listed. 3.25" H × 11.6" W × 7.5" D. **Weight:** 3 Lbs. **Parts Included Both Models:** Test leads, spare fuses, line cord and manual.

731-2830. Model 2830 ..... **EACH 265.00**
731-2831. Model 2831 ..... **EACH 319.00**

NEW



Model CP-1

► **Operates with most AC Ammeters or DMM**

► **Measurement displayed is 1/1000 measured value**

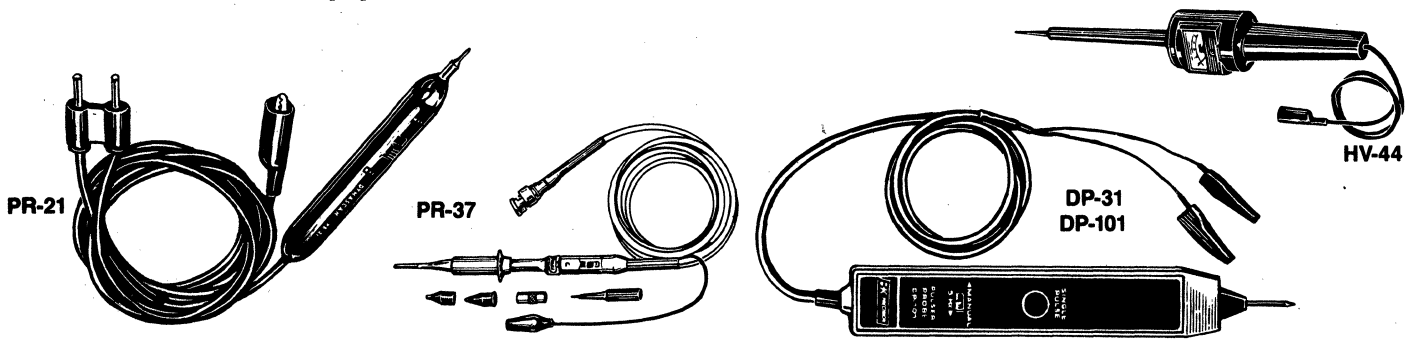
► **No circuit connection**

► **Conductor is electrically isolated from meter**

Specifications. Current Range: 2A to 150A. **Working Voltage:** 600 VAC RMS Max. **Maximum Conductor Size:** 7/16". **Frequency Range:** 48 Hz to 10 KHz. **Used With Models:** 2905, 2906, 2907, 2940, 2945. Supplied with test leads and instruction manual.

731-0001. Model CP-1. ..... **EACH 65.00**

Probes For Use With Test Equipment



Stock No.	Mfr.'s Type	Description	For Use With B&K Model	EACH
731-0005	AV-1A	250 MHz Probe	177	29.00
731-0010	AV-2B	25 K VDC Probe	177	40.50
731-0022	DP-21	Logic Probe	All Models	34.00
731-0029	DP-31	Pulser Probe	All Models	37.00
731-0070	DP-51	50 MHz Digital Probe	—	88.00
731-0075	DP-101	Digital Pulsing Probe	—	111.00
731-0050	FP-6	Flexible Probe, Set	501A, 510, 520B, 530	18.00
731-0044	HV-44	Direct-Reading 40 K VDC Probe	—	91.00
731-0023	PR-21	Probe Assembly	290	27.00
731-0024	PR-23	Demod Probe	277, 290	27.00

Stock No.	Mfr.'s Type	Description	For Use With B&K Model	EACH
731-0027	PR-28	Hi Voltage Probe	HV Multimeter Probe for all A.D. Meters w/Std Dual Banana	41.00
731-0028	PR-32	Demod Probe	All B&K Scopes w/BNC	32.00
731-0037	PR-37G	Grey Probe	All B&K Scopes w/BNC	52.00
731-0038	PR-37R	Red Probe	All B&K Scopes w/BNC	52.00
731-0080	TP-28	Temperature Probe	All DMMs w/Std Dual Banana	11.00
731-0081	TP-29	Thermocouple Probe	900, 910, 920, 2906, 2945	13.00
731-0043	PR-43	AC/DC Ohms Probe	177	22.00
731-0046	PR-46	10:1/Delux Probe	All Scopes w/BNC	72.00
731-0047	PR-47	X10 General Purpose	100 MHz Scopes	39.00
731-0100	PR-100	X100 Probe	All Scopes w/BNC	63.00

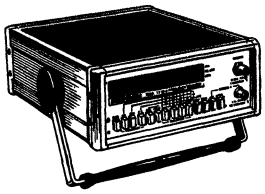
Chargers and Battery Paks For Test Instruments

Stock No.	Mfr.'s Type	Description	For Use With B&K Model	EACH
731-0020	BC-28	115 V Adapter/Charger	280, 2800, 2810, 820, 830	22.00
731-2800	BP-28	Battery Pak	820,830	47.00
731-0300	BP-30	Battery Pak	2830, 2831	64.00
731-0095	BP-14	Battery Pak	1420	71.00
—	—	—	—	—

Carrying Case and Covers For Test Equipment

Stock No.	Mfr.'s Type	Description	For Use With B&K Model	EACH
731-0031	LC-22	Carrying Case	1420	49.00
731-0021	LC-28	Carrying Case	820, 830	18.00
731-0030	LC-32	Carrying Case	PR-28, HV-44, AV-2B	18.00
731-0003	LC-30	Carrying Case	2520	118.00
731-0130	LC-130	Front Panel Cover	2520	45.00

Model 1855 1.2 GHz

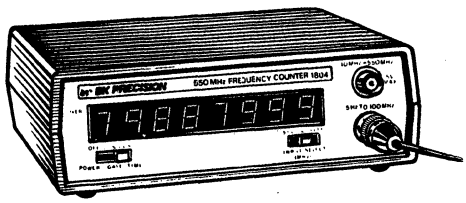


► Selectable Resolution
► 8-Digit LED Display
► Low-Pass Filter

Specifications. Frequency Characteristics. Channel A Range: kHz Mode—5 Hz to 5 MHz sine wave; MHz Mode—5 Hz to 80 MHz sine wave. **Prescale:** 75 MHz to 1.2 GHz sine wave. **Resolution, Channel A:** kHz Mode—0.1 Hz to 100 Hz, switch selectable in four decade steps; **MHz Mode:** 1 Hz to 1000 Hz, switch selectable in four decade steps. **Prescale:** 10 Hz to 10 kHz, switch selectable in four decade steps. **Display:** kHz or MHz with decimal point. **Period Characteristics. Range:** 0.5 μ S to 200,000 μ S. **Frequency Range:** 5 Hz to 2 MHz sine wave. **Resolution:** 100 ps to 100nS, switch selectable in four decade steps. **Display:** μ S with decimal point. **Minimum Pulse Width:** 250nS. **Totalize Characteristics. Range:** 5 Hz to 15MHz sine wave. **Capacity:** 0 to 99,999,999 plus overflow LED. **Control:** Manual reset and hold from the front panel. Normally enabled, except when signal at back panel START/STOP jack is low. **Input Characteristics (Channel A). Bandwidth:** 5 Hz to 80 MHz. **Sensitivity:** 30mV rms, 5 Hz to 30 MHz; 50mV rms, above 30 MHz. **Impedance:** 1 MΩ (<40 pF). **Attenuator:** X1/X10, switch selectable. **Coupling. AC. Filter:** 100kHz, -3 dB, switch selectable. **Connector:** BNC on front panel. **Prescale Bandwidth:** 75 MHz to 1.2 GHz. **Prescale Sensitivity:** 25mV rms, 75 MHz to 1.0 GHz; 50 mV rms, 1.0 GHz to 1.2 GHz. **Totalize Start/Stop Input Characteristics. Logic Levels:** Standard TTL levels; low level inhibits totalizing, high level enables it. **Loading:** One standard TTL gate. **Time Base Characteristics. Standard Type:** TCXO. **Frequency:** 10 MHz. **Setability:** ± 0.1 ppm (± 1 Hz). **Line Voltage Stability:** Less than ± 0.1 ppm with ± 10% line voltage variation. **Temperature Stability:** Less than ± .0001% (± 1 ppm from 0°C to 50°C ambient). **Max. Aging Rate:** ± 1 ppm/year. **Display:** 8 LEDs, 0.43" seven segment digits. **Power Requirements:** Universal AC, 100V, 120V, 220V, 240V (all ± 10%), 50/60 Hz, 21 W, set by internal PC jumpers. **Size:** 3.75"H x 9.5"W x 12.6"D (9.5 x 24 x 32 cm). **Weight:** 5.44 lbs. (2.47 kg). Supplied with instruction manual, schematic diagram and parts list.

731-1855 ..... **EACH 880.00**

Model 1804

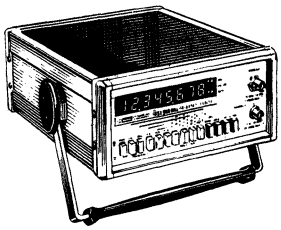


► 5 to 550 MHz Range
► 8-Digit Display
► Low Pass Filter
► 1 Sec. and 0.1 Sec. Gates

Specifications: Range: Direct — 5 Hz to 100 MHz; Prescale — 10 MHz to 550 MHz. **Impedance:** Direct — 1M Ohm resistance shunted by <40 pF. Prescale — 50 Ohm. **Coupling:** AC. **Filter:** Switch selectable 100 KHz low pass filter. **Max. Input:** Direct — 200V (peak AC + DC) DC to 400 Hz. **Display:** 1.0 sec. input signal frequency; values under 1 MHz read in Hz and values over 1 MHz read in MHz with decimal point. **AC power adapter supplied. Dim.:** 2 x 6.5 x 6.75 inches. **Weight:** 24 oz. **Supplied accessories:** AC adapter, manual, diagram, and parts list.

731-1804. Model 1804 ..... **EACH 295.00**

Model 1851 520 MHz

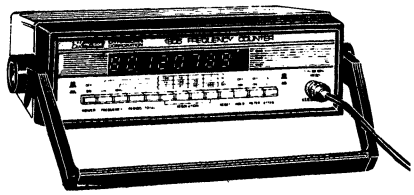


► 8-Digit LED Display
► Display Hold
► Remote Start-Stop

Specifications. Frequency Characteristics. Range: Channel A kHz Mode, 5 Hz to 5 MHz sine wave; MHz Mode, 5 Hz to 80 MHz sine wave. **Prescale:** 10 MHz to 520 MHz sine wave. **Resolution:** Channel A, kHz Mode, 0.1 Hz to 100 Hz, switch selectable in four decade steps. MHz Mode, 1 Hz to 1000 Hz, switch selectable in four decade steps. **Prescale:** 10 Hz to 10 kHz, switch selectable in four decade steps. **Display:** kHz or MHz with decimal point. **Period Characteristics. Range:** 0.5 μ S to 200,000 μ s. **Frequency Range:** 5 Hz to 2 MHz sine wave. **Resolution:** 100 ps to 100 nS, switch selectable in four decade steps. **Display:** μ S with decimal point. **Min. Pulse Width:** 250 nS. **Totalize Characteristics. Range:** 5 Hz to 15 MHz sine wave. **Capacity:** 0 to 99,999,999 plus overflow LED. **Control:** Manual rest and hold from the front panel. Normally enabled, except when signal at back panel START/STOP jack is low. **Input Characteristics. Channel A. Bandwidth:** 5 Hz to 80 MHz. **Sensitivity:** 30mV rms, 5 Hz to 30 MHz; 50mV rms, above 30 MHz. **Impedance:** 1 MΩ (<40 pF). **Attenuator:** X1/X10, switch selectable. **Coupling:** AC. **Filter:** 100 kHz, -3 dB, switch selectable. **Connector:** BNC on front panel. **Max. Input:** 200V (peak AC + DC) DC to 500 Hz, decreasing linearly to 100V (peak AC + DC) at 1 kHz. 100V (peak AC + DC) 1 kHz to 5 MHz, decreasing linearly to 20V (peak AC + DC) at 80 MHz. **Prescale Bandwidth:** 10 MHz to 520 MHz. **Sensitivity:** 50mV rms, 10 MHz to 520 MHz. **Impedance:** 50 ohms. **Coupling:** AC. **Connector:** BNC on front panel. **Max. Input:** 5V rms. **Totalize Start/Stop Input Characteristics. Logic Levels:** Standard TTL levels, low level inhibits totalizing, high level enables it. **Loading:** One standard TTL gate. **Time Base Characteristics. Standard Type:** TCXO. **Frequency:** 10 MHz. **Setability:** ± 0.1 ppm (± 1 Hz). **Line Voltage Stability:** Less than ± 0.1 ppm with ± 10% line voltage variation. **Temperature Stability:** Less than ± .0001% (± 1 ppm from 0°C to 50°C ambient). **Max. Aging Rate:** ± 1 ppm/year. **Power Requirements:** Universal, AC, 100V, 120V, 220V, 240V (all ± 10%), 50/60 Hz, 21W, set by internal PC jumpers. **Size:** 3.75"H x 9.5"W x 12.6"D (9.5 x 24 x 32 cm). **Weight:** 5.31 lbs. (2.41 kg). Supplied with instruction manual, schematic diagram, and parts list.

731-1851 ..... **EACH 640.00**

80 MHz Multifunction Counter

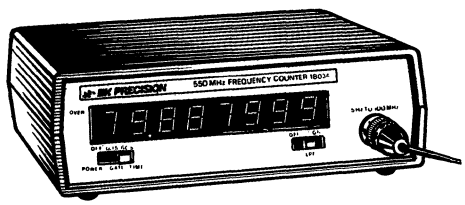


► Display Hold and Reset Feature
► Selectable Resolution
► 8-Digit LED Display

Model 1805 provides frequency, period and totalize measurements. **Specifications. Frequency Characteristics. Range:** 5 Hz to 80 MHz 5 MHz max. in kHz mode. **Accuracy:** ± Time Base Accuracy, ± 1 count. **Resolution:** 0.1 Hz to 1,000 Hz switch selectable. **Period Characteristics. Frequency Range of Period Measurement:** 5 Hz to 2 MHz (200,000 μ S to 0.5 μ S). **Pulse Width:** 250nS minimum. **Totalize Characteristics. Capacity:** 0 to 99,999,999 plus overflow. **Control:** manual reset and hold from the front panel. **Input Characteristics. Impedance:** 1 MΩ (<40 pF). **Coupling:** AC. **Sinewave Sensitivity:** 30mV rms, 5 Hz to 30 MHz; 50mV rms, above 30 MHz. **Maximum Input:** 200V (peak AC + DC) DC to 500 Hz; decreasing linearly to 100V (peak AC + DC) at 1 kHz. 100V (peak AC + DC) 1 kHz to 5 MHz, decreasing linearly to 20V (peak AC + DC) at 80 MHz. **Attenuator:** X1/X10, switch selectable. **Filter:** low pass filter, 100 kHz cutoff, switch selectable. **Connector:** BNC. **Time Base Characteristics. Type:** crystal oscillator. **Frequency:** 10 MHz. **Setability:** ± 0.1 ppm (± 1 Hz). **Line Voltage Stability:** less than ± 1 ppm with ± 10% line voltage variation. **Temperature Stability:** less than ± .001% (± 10 ppm) from 0°C to 50°C ambient. **Maximum Aging Rate:** ± 10 ppm/year. **Display Characteristics. 8 LEDs:** 0.43" seven-segment digits. **LED Indicators:** for kHz, MHz, μ SEC. **Overflow indication:** LED indicator light when count exceeds 99,999,999 during any selected gate time. **Display Update Time:** fixed at 200mS plus user selected gate time. **General. Power Requirements:** 108V to 132VAC, or 100V, 120V, 220V, 240VAC with internal PC jumpers (all ± 10%), 50/60 Hz. **Dimensions (HxWxD):** 8.25 x 29.4 x 19 cm. (3.25 x 11.57 x 7.5"). **Weight:** 2.75 lbs. (1.25 kg). Model 1805 includes power cord, instruction manual, schematic diagram and parts list.

731-1805 ..... **EACH 350.00**

100 MHz Portable Frequency Counter

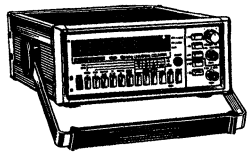


► 8-Digit LED Display
► AC or Battery Powered
► Low Battery Indicator
► Leading Zero Blanking
► Low-Pass Filter
► BNC Connector Input

Model 1803A 100 MHz frequency counter provides accurate measurement at an economical price. Designed to operate on both battery and AC power, the Model 1803A meets a wide range of "in-the-field" and "on-the-bench" applications. To provide reliable low frequency counting by reducing the effects of high frequency noise, a front panel switchable 100 kHz low pass filter is incorporated in the counter. **Specifications. Frequency Characteristics. Range:** 5 Hz to 100 MHz. **Accuracy:** ± Time Base Accuracy ± 1 count. **Resolution:** 1 Hz. **Input Characteristics. Impedance:** 1 MΩ (<40 pF). **Coupling: AC. Sinewave Sensitivity:** 30mV rms, 5 Hz to 30 MHz; 50mV rms, 30 MHz to 80MHz; 100mV rms, 80 MHz to 100 MHz. **Maximum Input:** 200V (peak AC + DC) DC to 400 KHz; decreasing linearly to 100V (peak AC + DC) at 1 kHz. 100V (peak AC + DC) 1 kHz to 5 MHz, decreasing linearly to 15V (peak AC + DC) at 100 MHz. **Filter:** low pass filter, 100 kHz (approx.), -3 dB switch selectable. **Connector:** BNC. **Time Base Characteristics. Type:** crystal oscillator. **Frequency:** 5.24288 MHz. **Setability:** ± 0.1 ppm. **Temperature Setability:** better than ± .001% (10 ppm) from 0°C to 50°C. **Maximum Aging Rate:** ± 10 ppm/year. **Display Characteristics. Display:** 1.0 sec. input signal frequency; values under 1 MHz read in Hz, values over 1 MHz read in MHz with decimal point. **8 LEDs:** 0.43" seven segment digits. **Overflow indication:** LED indicator lights when count exceeds 99.999999 MHz. **Low Battery Indication:** All digits flash for battery voltage under 7.0V. Display Update Time: 1.0 seconds. **General. Power Requirements:** six type AA Alkaline or NiCad rechargeable batteries, or 7.5 to 10VDC at 400mA from external supply or battery eliminator. **Dimensions (HxWxD):** 2 x 6.5 x 6.75" (5 x 16.5 x 17.1 cm). **Weight:** 24 oz. approx. (680g), with batteries. AC adapter/charger, instruction manual, schematic diagram and parts list are included with Model 1803A.

731-1803 ..... **EACH 209.00**

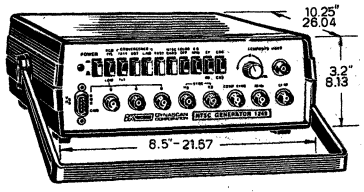
175 MHz Universal Counter



Model 1822. Provides frequency, period, period average, totalize, frequency ratio, time interval functions, selectable resolution, self-test mode, trigger level and slope switch signals controls, and display hold and reset feature. **Specifications. Frequency Characteristics. Range:** Channel A. 5 Hz to 175 MHz. **Resolution:** 0.1 Hz to 1 kHz, in decade steps. **Display:** kHz or MHz with decimal point. Accuracy: ± 1 count ± time base error. **Period Characteristics. Range:** 0.5 μ S to 200,000 μ S. **Frequency Range:** 5 Hz to 2 MHz sine wave. **Resolution:** 100ps to 100nS in decade steps. **Display:** mS to μ S with decimal point. **Minimum Pulse Width:** 250nS. **Totalize Characteristics. Range:** 5 Hz to MHz sine wave. **Capacity:** 0 to 99,999,999 before Overflow. **Control:** Manual rest and hold from the front panel. Normally enabled, except when signal at back panel START/STOP jack is low. **Input Characteristics. Channel A. Bandwidth:** 5 Hz to 175 MHz AC Coupled. **Sensitivity:** kHz. **Frequency Mode:** 20mV rms. 5 Hz to 5 MHz. **Impedance:** 1MΩ/Ω40 pF. **Attenuator:** x1, x10 switchable. **Filter:** 10 kMz nominal -3 dB. **Corner Frequency. Maximum Input:** 250V rms. **Channel B. Bandwidth:** 5 Hz to 2 MHz AC coupled. **Sensitivity:** 30mV rms. **Impedance:** 1 MΩ/Ω40 pF. **Attenuator:** x1, x10 switchable. **Maximum Input:** 125V rms. **Logic Levels. Standard TTL Levels:** Low level inhibits totalizing, high level enables it. **Loading:** One standard TTL gate. **Time Base Characteristics. Type:** Crystal controlled oscillator. **Frequency:** 10 MHz. **Stability:** ± 0.1 ppm (± Hz). **Line Voltage Stability:** Less than ± ppm with ± 10% line voltage variation. **Temperature Stability:** Less than ± .001% (± ppm) from 0°C to 50°C ambient. **Maximum Aging Rate:** ± 10 ppm/yr. **Display Characteristics. 8 LEDs:** 43" seven-segment digits. **Power Requirements:** 108 to 132VAC, or 100, 120, 220, 240VAC (all ± 10%) set by internal PC jumpers: 50/60 Hz, 20VA. **Dimensions:** 2.75 x 9.5 x 12.6" (9.5 x 24 x 32 cm). **Weight:** 5.6 lbs. (2.55 kg).

731-1822 ..... **EACH 525.00**

16

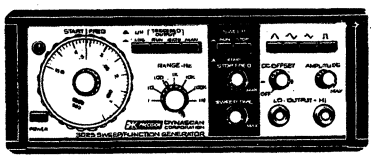


Model 1249A NTSC Generator with RGB

Generates a wide variety of test signals and patterns for comprehensive testing, servicing, and adjustment of video and television equipment. Features NTSC color bars (8 bars of standard EIA colors - white, yellow, cyan, green, magenta, red, blue, and black), RGB outputs, convergence patterns (dots, crosshatch, center dot, and center cross), composite video output (variable 0 to ±1.2V p-p amplitude into standard 75 impedance), RF output (standard 75 modulated by composite video at 10mV rms on channels 3 and 4, or 45.75 MHz if.), sync pulse outputs (separate composite, horizontal, and vertical - can be used simyltaneously), 30 Hz output (for isolating servo problems in VCR's), and 4.5 MHz sound sub-carrier output (switch-selectable for audio isolation checks). RGB output is switch-selectable between TTL and low (0.8V) signal levels, with a D-type subminiature connector for IBM PC monitor compatibility in the TTL level. **General Specifications. Power Requirements:** 105-130VAC, 60 Hz, 8 watts. **Operating Temperature:** 0° to +50°C. **Dimensions:** 3.2 × 8.5 × 10.25″ (8.13 × 21.59 × 26.04cm). **Weight:** 2.8 lbs. (1.30kg).

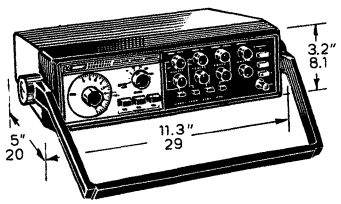
731-1249. Model 1249A ..... **EACH 517.00**

Model 3025 Low Distortion 5 MHz Sweep/Function Generator



Model 3025 generates sine, square, and triangle waveforms, but also offers the addition of haversine for more specialized applications. Sweep rates are continuously adjustable from 10 milliseconds to 1 minute. Linear sweeps of 1,000: 1 for 3 decades and, logarithmic sweeps of 10,000:1 for 4 decades may be set. Sinewave distortion is less than 0.5% from 1 Hz to 100 kHz, and all harmonics above 100 kHz are suppressed by at least 30 dB. Model 3025 also features tone-burst capability. Variable DC offset voltage may be added to the main frequency output and is variable in an open circuit state from + 10 to – 10 volts. The range into a 50 ohm load is from + 5 to – 5 volts. **Specifications. Waveforms:** sine, square, triangle, haversine. **Modes:** continuous, linear sweep, logarithmic sweep, tone burst, single cycle. **Frequency Range:** 0.005 Hz to 5 MHz in 7 ranges, 1000:1 frequency control. **Accuracy:** ± 5% of full scale. **Main Generator Output:** sine, square, triangle, haversine, selectable. **Output Amplitude:** 20V p-p into open circuit maximum, 10V p-p into 50Ω, 50Ω output impedance. **Attenuation:** amplitude control provides 20 dB variable attenuation. Separate low output jack provides 20 dB attenuation of main output. **Sweep Pulse Output:** TTL compatible square wave (approximately 5V peak). **Operating Environment:** specifications valid at 25°C ± 5°C after 30 minutes. **Power Requirements:** 100/120/220/240VAC, 50/60 Hz, 25W. **Dimensions (H × W × D):** 8.9 × 21 × 28cm (3.5 × 8.3 × 11″). **Weight:** 2.3kg (5 lbs.). Includes power cord, instruction manual, schematic and parts list.

731-3025. Model 3025 ..... **EACH 608.00**

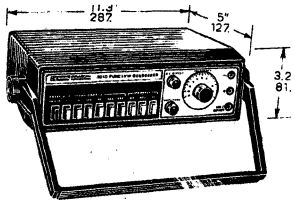


Model 3020AM 2 MHz Sweep/Function Generator

This one instrument can actually replace a function generator, sweep generator, pulse generator and tone-burst generator. Frequency coverage spans 0.02 Hz to 2 MHz in seven ranges, with each range providing linear 1000:1 frequency control. Operating frequency can be varied on each range by the front panel frequency control or the VCO external input. **Specifications. Frequency Characteristics. Range:** .02 Hz to 2 MHz in 7 ranges. **External Control (rear panel input):** VCO range greater than 1000:1 (linear) on any frequency range. **Accuracy:** ± 5% of full scale to 1.5 MHz, ± 8% from 1.5 MHz to 2 MHz (includes dial accuracy and range to range accuracy). **Stability:** .05% (after 15 min.). **Functions:** sine, triangle, square, TTL square wave, pulse, tone burst. **Tone Burst Characteristics. Burst Width:** Adjustable from 5-90% of period of internal gating frequency. External gating, burst width determined by TTL gating pulse. **Repetition Rate:** 0.5 Hz (2 SEC period), to 50 Hz (20ms period) set by SWEEP RATE control. **Output. Amplitude:** 20V p-p open circuit; 10V p-p into 50Ω. **Control:** continuously variable, > 20 dB. Fixed attenuation, 0-40 dB in 3 steps. This, together with 20 dB variable, provides 60 dB total attenuation. **Impedance:** 50Ω ± 5%. **DC Offset:** continuously variable, maximum of ± 10V open circuit or ± 5V into 50Ω. **General. Rear Panel Jacks:** (All phono) VCO(sweep) input GCV voltage out(proportional to frequency), AM input, TTL output, external burst gate input. **Operating Environment:** 0-50°C(accuracy specified at 25°C ± 5°C). **Power Requirements:** 117/234VAC, 50/60 Hz, 22W. Three-wire cord. **Dimensions (H × W × D):** 8.1 × 29 × 20cm (3.2 × 11.3 × 7.8″). **Weight:** 1.35kg (3.1 lbs.) CSA listed. Supplied with power cord, instructions, schematic and parts list.

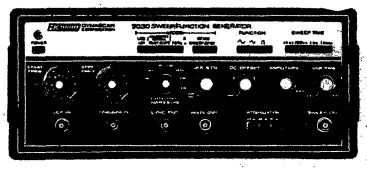
731-3021. Model 3020AM ..... **EACH 499.00**

Model 3010 1 MHz Function Generator



Frequency coverage spans 0.1 Hz to 1 MHz, with each range providing linear 100:1 frequency control. The stable voltage-controlled oscillator (VCO) of the 3010 is varied on each range by the **Frequency** control, or the VCO external input. A 0 to 5.5V ramp applied to the VCO external input provides a 100:1 output frequency change. By applying such an input ramp, the 3010 can be used as a sweep generator for response measurements. Includes power cord, instruction manual, schematic and parts list. **Specifications. Frequency Characteristics. Range:** 0.1 Hz to 1 MHz in six ranges. **Accuracy:** 5% of full scale to 500 kHz. (Calibrated at full scale) 8% of F.S. 500 KHz to 1 MHz. **Stability:** 0.05% (after 15 min.). **Functions:** sine, triangle, square, TTL square wave. **Square Wave:** variable amplitude or fixed TTL output. **Symmetry:** 99% to 100 kHz. **Rise/Fall Time:** < 100nS at max. output. **TTL Square Wave Response:** < 25nS rise/fall time (0 <.4V:1> 2.4V). **Sine Wave:** variable amplitude; Distortion: < 1% 1 Hz to 100 kHz; < 0.5% typical. **Harmonics:** 30 dB from fundamental, 100 kHz to 1 MHz. **Triangle Wave:** variable amplitude. **Linearity:** 99% at 100 kHz. **Output. Amplitude:** 20V p-p open circuit 10V p-p into 600Ω. **Control:** continuously variable, > 30 dB range. **Impedance:** 600Ω ± 5%. **DC Offset:** continuously variable, max. of ± 10V open circuit or ± 5V into 600Ω. **General. Operating Environment:** 0-50°C (accuracy specified at 25°C ± 5°C). **Power:** 117/234VAC 50/60 Hz, 6W. **Dimensions (H × W × D):** 8.1 × 29 × 20cm (3.2 × 11.3 × 7.8″) including handle at rest position. **Weight:** 1.3kg (2.9 lbs.). CSA listed.

731-3010. Model 3010 ..... **EACH 245.00**



Model 3030 5 MHz Sweep/Function Generator

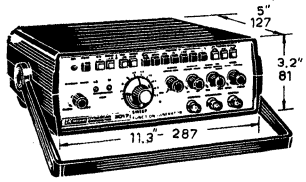
Model 3030 provides frequency coverage from .001 Hz to 5 MHz in eight ranges. For highest accuracy, Kelvin-Varley dividers are used as start/stop controls to set the low and high end limits of the desired frequency sweep. Sweep times are also selectable, from 10 milliseconds to 100 seconds. Control over linear or logarithmic sweep operation is provided by a front-panel pushbutton. The 3030 may also be externally swept. The variable symmetry control can be used to alter the shape of any waveform selected. Open circuit output is 20V p-p or 10V p-p into a 50 ohm load. For gain or loss measurements, three attenuator switches provide calibrated attenuation from 10 dB to 60 dB steps. Another control provides continuously variable attenuation to 20 dB. **Specifications. Waveforms:** sine, square, triangle, sweep ramp, sweep pulse, TTL pulse, DC. **Modes:** continuous, linear sweep, logarithmic sweep, tone burst, single cycle. **Frequency Range:** 0.001 Hz to 5 MHz in 8 ranges, 1000:1 frequency control. **Accuracy:** ± (1.5% setting + 1% full scale) from 0.001 Hz to 1 MHz, ± (2% setting + 2% full scale) from 1 MHz to 5 MHz. **Main Generator Output:** sine, square, triangle. **Variable Symmetry:** Adjusts main generator output. Continuously variable from 5:95 to 95:5. Frequency divided by approximately 10. **Triggered Modes:** 1.6V trigger input threshold or manual pushbutton. Single cycle—one complete cycle output per pulse trigger input. Tone burst—sustained output while trigger input applied (last cycle completed when trigger removed). **Sine Wave Distortion:** < 0.5% from 1 Hz to 100 kHz. All harmonics > 30 dB down from 100 kHz to 5 MHz. **Power:** 100/120/220/240VAC, 50/60 Hz, 30W. **Dimensions (H × W × D):** 12.7 × 31.8 × 27.9cm (5 × 12.5 × 11″). **Weight:** 4.5kg (10 lbs.).

731-3030. Model 3030 ..... **EACH 865.00**

Model 3026

5 digit LED indicates frequency. Operates as external frequency counter with four steps od selctable gate time. Generates sine, square, triangle, ramp, pulse, TTL pulse outputs. Internal or external AM modulation. Internal or external gated burst operation. Three step and variable attentuator. Sweep ramp output for oscilloscope synchronization. **Specifications: Frequency:** .5 Hz to 5 MHz. Each range provides 100:1 frequency control. **Function: Operating Modes:** sweep, AM, gated burst, VCG. **Polarity:** inverted/non-inverted. **TTL Pulse: Amplitude:** > 3V p-p. **Variable Symmetry:** continuously variable; Max. 1:20 (inverted 20:1). **VCG:** input control: VCG tunable by 0 to + 10 VDC. Frequency decreases with positive voltage. Frequency may be programmed with DC voltages, FM-modulated with AC, or swept with ramp. VCG tuning range is 1000:1. **Input Impedance:** 10k ± 10%. **Sweep Characteristics: Mode:** Lin/Log. **Sweep Width:** Continuously variable. **Sweep Rate:** Continuously variable. **AM Modulation Characteristics: Source:** Internal or External. **Int. Modulation:** 1 KHz sinewave. **Ext. modulation:** DC to 20 KHz. **Tone Burst Characteristics: Source:** internal or external. **Burst Width:** continuously variable. **Repetition Rate:** 0.5 Hz to 50 Hz (Int.); DC to 500KHz (Ext.). **Burst Frequency:** as determined by frequency dial and range switch. **DC Offset:** Continuously variable. **Frequency Counter Specifications: Display:** 5 digit LED (0.3″) with KHz, gate, overflow indicators. **Mode:** internal, external. **Internal Range:** 0.5 to 10 MHz. **Gate Time:** 0.01, 0.1, 1, 10 Sec. **External Range:** 5 Hz to 10MHz. **Input Impedance:** 10M OHM/100 PF. **Output: Mode:** Sine, Square, Triangle selectable. **Amplitude:** continuously variable to 20 V p-p. **Attenuation:** 0 to – 70 dB, Fixed attenuation steps of - – 10dB, – 20dB, – 20dB. Continuously variable 0 to – 20 dB. All selected attenuation cumulative. **Output Impedance:** 50 OHM. **General: Input Jacks:** VCG in, counter, in burst in, AM in. **Output Jacks:** main out, GVC out, TTL out. **Power:** 120 VAC 60 Hz or 220/240 VAC 50 Hz. **Wt:** 7 lbs. **Dim.:** 8.43 × 3.74 × 11.02 inches.

731-3026. Model 3026 ..... **EACH 595.00**

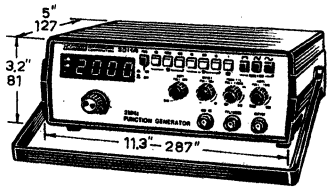


Model 3017A 2 MHz Sweep Function Generator

Covers 0.2 Hz to 2 MHz in 7 ranges; generates sine, triangle, and square waveforms. Features TTL pulse and CMOS pulse outputs, voltage controlled frequency input, variable amplitude output plus 20 dB step attenuator, continuously adjustable sweep width (1000:1 max. ratio), adjustable sweep time (0.5S to 30S), and LIN/LOG sweep mode operation. **Specifications. Frequency Dial Accuracy:** ± 5%. **Maximum Amplitude:** 20V p-p open circuit; 10V p-p 50Ω load. **Amplitude Control:** 30 dB range typical. **Output Impedance:** 50Ω ± 6%. **Sine Wave Function. Distortion:** 0.2 Hz to 200 kHz; ≤ 1%. **Frequency Response:** 0.2 Hz to 100 kHz; ≤ 0.1 dB. 100 kHz to 2 MHz; ≤ 0.5 dB. **Square Wave Function. Symmetry:** 0.2 Hz to 100 kHz; ≤ 2%. **Rise Time:** ≤ 120nS. **Triangle Wave. Linearity:** 0.2 Hz to 100 kHz; 98%. 100 kHz to 2MHz; 95%. **TTL Output. Level:** ≤ 3V p-p. **Rise Time:** ≤ 25nS. **CMOS Output. Level:** From 4V p-p (± 1V p-p) to 14.5V p-p (± 0.5V p-p). **Rise Time:** ≤ 120nS. **Voltage Controlled Frequency Input. Voltage:** + 10V(± 1V). **Impedance:** 10KΩ ± 5%. **Sweep Operation. Time:** 0.5S to 30S adjustable. **General. Power Source:** 120/220/240VAC ± 10%, 50/60 Hz. **Dimensions:** 9.33 × 3.33 × 11.8″(237 × 85 × 284mm). Unit includes one cable, BNC to insulated clips, power cord, spare fuse, instruction manual, schematic diagram and parts list.

731-3017. Model 3017A ..... **EACH 330.00**

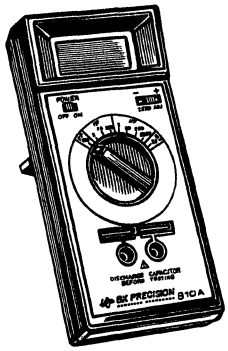
Model 3011B 2 MHz Digital Display Generator



Covers 0.2 Hz to 2 MHz in 7 ranges; generates sine, triangle, and square waveforms. Features TTL pulse and CMOS pulse outputs, voltage controlled frequency input (VCF), variable amplitude output plus 20 dB step attenuator, 4-digit frequency counter display, variable DC offset with on-off switch, and variable duty cycle with CAL position for 50% duty cycle. **Specifications. Maximum Amplitude:** 20V p-p open circuit; 10V p-p into 50Ω load. **Amplitude Control:** 20 dB range typical. **Attenuator:** – 20 dB ± 1 dB. **Output Impedance:** 50Ω ± 6%. **DC Offset:** From – 10V to + 10V open circuit, – 5V to + 5V into 50Ω. **Duty Cycle Control:** From 1:1 to 10:1. **Sine Wave Function. Distortion:** 0.2 Hz to 20 kHz, ≤ 1%; 20 kHz to 200 kHz, ≤ 2%. **Frequency Response:** 0.2 Hz to 100 kHz, ≤ 0.2 dB; 100 kHz to 2 MHz, 1 dB. **Square Wave Function. Symmetry:** 0.2 Hz to 100 kHz, ≤ 2%. **Rise Time:** ≤ 120nS. **Triangle Wave. Linearity:** 0.2 Hz to 100 kHz, 98%, 100 kHz to 2 MHz, 95%. **TTL Output. Level:** 3V p-p. **Rise Time:** ≤ 30nS. **CMOS Output. Level:** Continuously adjustable from 4V p-p (± 1V p-p) to 14.5V p-p (± 0.5V p-p). **Rise Time:** ≤ 120nS. **VCF. Input Voltage:** + 10V(± 1V). **Impedance:** 10KΩ. **Frequency Counter (Internal Only). Accuracy:** ± Time Base Accuracy ± 1 count. **Time Base Accuracy:** ± 10PPM (23°C ± 5°C). **General. Power Source:** 120/220/240VAC ± 10%, 50/60 Hz. **Dimensions:** 9.33 × 3.33 × 11.18″ (237 × 85 × 284mm). **Weight:** 5.5 lbs. (2.5kg). Unit comes with one cable, BNC to insulated clips, power cord, spare fuse, instruction manual, schematic diagrams and parts list.

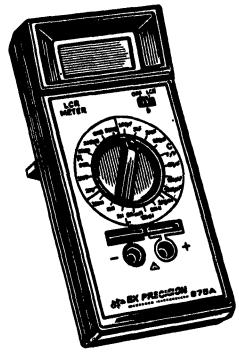
731-3011. Model 3011B ..... **EACH 249.00**

Capacitance Meter



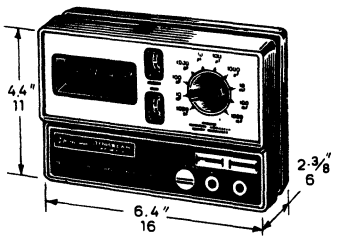
Model 810A. Measures nine capacitance ranges. 3½" Digit 0.5" LCD readout. Low battery and overload indicator. **Specifications: Capacitance Range:** 200pF, 2nF, 20nF, 200nF, 2μF, 20μF, 200μF, 2000μF 20mF. **Resolution:** 0.1 pF, 1 pF, 10 pF, 100 pF, 1 nF, 10 nF, 100 nF, 1μF, 10μF. **Accuracy:** ±0.5% rdg + 1 dgt. + 0.5 pF. **Battery Life:** 100 to 200 hours. Includes leads, spare fuses (1/4A), 9V battery (NEDA 1604), and instruction manual. **Operating Temperature:** +35°C to −50°C. **Dimension:** 6.85 × 3.54 × 1.41" (174 × 90 × 36mm). **Weight:** ¾ lb. (360gm).
731-0810 .....**EACH 131.00**

LCR Meter



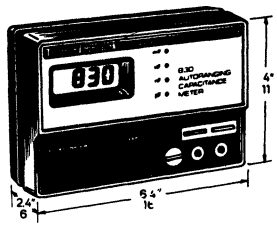
Model 875A. Measures 8 capacitance ranges; 7 inductance ranges; 7 resistance ranges. Measures dissipation factor of capacitors and 1/Q of inductors. Function and ranges are manually selected. 3½ Digit LCD readout. Low battery and overload indicator. **Specifications: Range: Capacitance:** 200 pF, 2 nF, 20 nF, 200 nF, 2μF, 20μF, 200μF, 2000μF. **Inductance:** 200μH, 2 mH, 20 mH, 200 mH, 2 H, 20 H, 200 H. **Resistance:** 20Ω, 200Ω, 2 KΩ, 20 KΩ, 200 KΩ, 2 MΩ, 20 MΩ. **Battery Life:** 40 hours-Alkaline typical (NEDA 1604). Supplied with test clip (pair), battery, spare fuse, and instruction book. **Dimensions:** 1⅜" × 3½" × 7½". **Weight:** 13 ozs.
731-0875 .....**EACH 183.00**

Digital Capacitance Meter



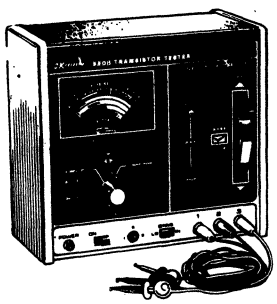
Model 820. Measures capacitance from 0.1 pF to 999.9 mF in 10 ranges; resolution to 0.1 pF. Easy-to-read 4-digit LED display with overrange indication; 0.5% accuracy. Checks all capacitors from miniature discs to pole-mounted power types. Can be used to verify tolerance, measure cable capacitance, select and match capacitors for critical circuit applications, measure complex networks. Has special front-panel lead-insertion jacks for fast in-out testing; or banana jacks can be used. Powered by rechargeable or disposable batteries. Tilt stand. **Ranges:** 10 selectable ranges with full scale value from 999.9 pF to 999,900μF. **Accuracy:** 0.5% of full scale ±1 digit to 100μF, 1% ±digit from 100mF to 1 F. **Reading Time:** 0.6 second to 1000μF, increasing to 35 sec. max. at 1 F. **Power Source:** 4 'C' cells; provision for charger. **Size:** 6.4 × 4.4 × 2.375" (16 × 11 × 6cm). **Weight:** 1.51 lbs. (675gm) with batteries (not incl.).
731-0820 .....**EACH 245.00**
731-2800. BP-28 Replacement Battery Pack .....**EACH 47.00**

Portable Autoranging Digital Capacitance Meter



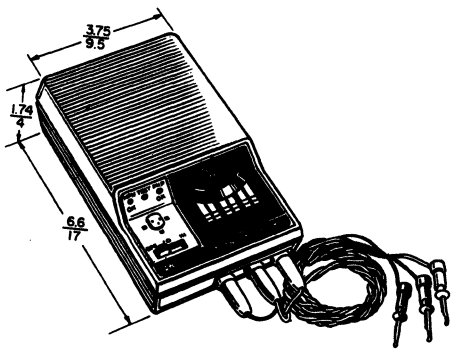
Model 830. Automatically selects the best of 10 internal ranges for accuracy and resolution. For rapid, automatic capacitance measurements in lab or field. Digital LCD display shows capacitor value; accompanying LED indicator shows whether value is in mF, μF, nF or pF. Range Hold switch 'freezes' one range, ideal for testing capacitor groups of similar value. Zero Control for test lead compensation (up to 25 pF). Fuse protection, low-battery indication. Banana jacks and special lead insertion jacks for fast in-out. Includes tilt stand. **Ranges:** 10, with full-scale value from 199.9 pF to 199.9 mF (reads 0.1 pF to 0.2F). **Accuracy:** automatic ±0.2% of reading ±0.5 pF ±1 digit up to 19.99μF; ±1% of reading ±1 digit, 20μF to 199.9 mF. **Resolution:** 0.1 pF on lowest range; 0.05% of full scale on others. **Power:** 4 'C' cells; provision for AC adapter/charger. **Size:** 6.4 × 4.4 × 2.4" (16 × 11 × 6cm). Wt. 1.6 lbs. (725gm).
731-0830 .....**EACH 297.00**
731-2800. BP-28 Replacement Battery Pack .....**EACH 47.00**

Industrial Transistor Tester



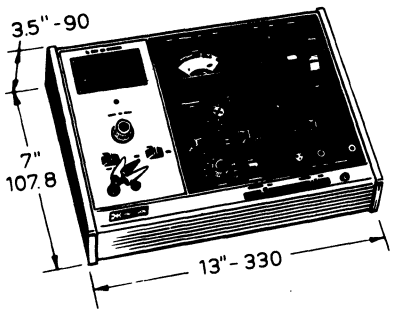
Model 520B. Tests NPNs, PNPs, FETs, SCRs, diodes and Darlingtons in or out-of-circuit. Patented DYNAPEAK™ system lets you perform reliable in-circuit tests with shunt resistance as low as 10 ohms and capacity as high as 15μF! **Easy operation:** Connect test clips in any order to device. A pulsating audio tone indicates 'good'. All three leads are identified automatically. Leakage tests are performed out-of-circuit. Easy-to-read meter is calibrated for silicon and germanium leakage limits. **In-Circuit. Good/Bad Test.** For PNP and NPN transistors, FETs and SCRs. **Identifies:** NPN or PNP. N- or P-channel FETs. **Out-Of-Circuit. Good/Bad Test:** PNP and NPN, FETs, SCRs, leakage and loss. **Identifies:** NPN or PNP, Si or Ge. **Measures:** Reverse leakage from 0.1μA to 5mA. **Automatic Indicators:** Audible tone for Good indication. LEDs identify PNP or NPN, Ge or Si types. Test switch automatically identifies base or gate lead on good devices. **Power Requirement:** 105-125VAC, 50 or 60 Hz. **SIZE:** 8 × 7 × 3.5".
731-0520 .....**EACH 348.00**

Portable Transistor Tester



Model 510. Uses digital high current, low duty cycle pulse-testing technique to test semiconductors even with resistive and capacitive shunt impedances. Fast GO/NO-GO in-circuit transistor testing. Fast and thorough GOOD/BAD out-of-circuit testing. Tests FETs and SCRs in-circuit or out-of-circuit. Connect any test clip to any component lead. Gives positive emitter-base-collector identification on LO drive - positive base identification in HI drive. Light-Emitting Diodes indicate NPN-OK or PNP-OK. **Power requirements:** 6VDC from four 'AA' cells, not supplied. Standby current, 4mA; average testing current, 12mA. Carrying case and test leads are supplied. **Size (H × W × D):** 1.75 × 3.75 × 6.6" (4 × 9.5 × 17 cm). **Weight:** 1 lb. (0.45kg).
731-0510 .....**EACH 197.00**

Semiconductor Tester

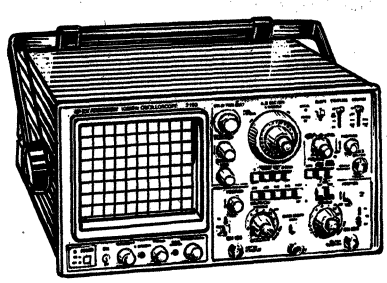


Model 530. Lab-quality unit measures fT, Beta, FET Gm and leakage. Has transistor gain-bandwidth product measurment capability for bipolar transistors, up to 1500 MHz. Non-destructive testing of transistor, SCR and diode breakdown to 100 volts; plus reverse leakage and gain of all transistor types, including power FETs. Fast and easy to use; no charts, tables or calculations needed for basic testing. Dynapeak™ circuitry allows accurate in-circuit testing and lead identification of diodes, transistors, FETs and SCRs, even in low-impedance circuits. Even the new vertical power FETs can be tested. Bright LEDs indicate whether transistor is good, identity leads, and tell if it's an NPN, PNP, or N- or P-channel FET. two Beta ranges; low/high power Gm test; three fT ranges. Jacks and test leads are color-coded. **Power required:** 105-125VAC, 60 Hz. 10¼ × 13½ × 4". **Wt.:** 5 lbs.
731-0530 .....**EACH 625.00**

16

Model 2190

NEW

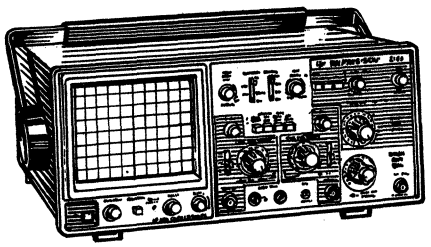


- 100 MHz 3-Trace Dual Time Base
- 1 mV/DIV Sensitivity
- Channel 1 Output
- V Mode Triggering
- 23 Calibrated Ranges
- Signal Delay Line

Specifications. Vertical Amplifier: Sensitivity: 5mV/DIV to 5V/DIV. **Attenuator:** 10 calibrated steps in 1-2-5 sequence. Vernier control provides fully adjustable sensitivity between steps. **Frequency Response:** DC to 100 MHz. **Max. Input Voltage:** 300 V (DC + AC P-P). **Operating Modes:** CH1, CH2, Add, CH3 independently selectable. Any or all may be selected simultaneously. **Input Coupling:** AC, HF Reject, TV, DC. **Sweep System: Operating Modes:** A, B, Alt, B Triggered. **A Time Base: Sweep Mode:** Auto, Normal, Single. **Hold Off Time:** Continuously variable. **B Time Base: Delay Method:** Continuous Delay. Triggered Delay. Zero Delay. **Delay Time:** 0.2mS to 5 sec. continuously variable. **Triggering:** A (A Trigger is also B Trigger). **Source:** Int, Line, Ext, Ext/5. **Coupling:** AC, HF Rej, TV, DC. AC attenuates input below 10 Hz. HF REJ attenuates input above 50 KHz. TV automatically switches from TV-V to TV-H at appropriate sweep time. **External Trigger: Input:** CH 3 input. **Horizontal Amplifier: X-Y Mode:** X-Axis = CH 1. Y-Axis = CH 2 & CH 3. **Sensitivity:** 5mV/DIV to 5 V/DIV, CH 1 & CH 2; 0.1V/DIV, 0.5V/DIV, CH 3. **Frequency Response:** DC to 2 MHz. **CRT:** 6" rectangular with internal graticule. **Display:** 8 × 10 DIV. **Size (H × W × D):** 6" × 11⅝" × 15⅜". Supplied with two 10:1 probes, instruction manual, schematic, parts list, power cord. **Power:** 110/117/220/240 VAC, 50/60 Hz, 65 Watts. **Wt.:** 17.25 lbs.

731-2190. Model 2190 ..... **EACH 1645.00**

Model 2160



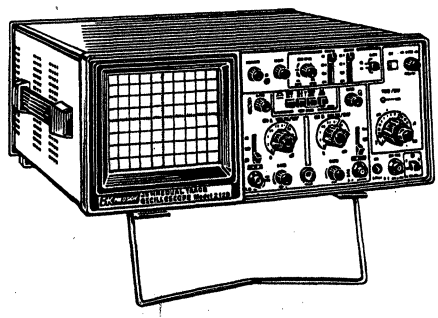
- 60 MHz Frequency Response
- 1 mV/DIV Sensitivity
- Signal Delay Line
- Component Tester
- Z Axis Input
- V Mode Displays 2 Signals Unrelated in Frequency
- Dual Channel Operation
- 22 Calibrated Ranges
- Beam Finder
- Channel 1 Output
- Single Sweep

Specifications. Vertical Amplifiers: Sensitivity: 1mV/DIV to 5 V/DIV. **Attenuator:** 12 calibrated steps in 1-2-5 sequence. **Input:** 1 M Ohm, 30 PF. **Frequency Response:** DC to 60 MHz. **Operating Modes:** CH 1: CH 1, Single Trace; CH 2: CH 2, Single Trace; **Dual:** CH 1 & CH 2, Dual Trace, Alternate, Chop, Add. **Max. Input:** 400 V (DC + AC Peak), 800 VAC P-P. **Sweep System: Operating Mode:** Main, Mix, Delay, X-Y. **Main Time Base:** 0.05 μS/DIV to 0.5 S/DIV in 1-2-5 sequence, 22 steps. Vernier control provides fuly adjustable sweep between steps. **Delayed Time Base:** 0.05 μS/DIV to 50 mS/DIV in 1-2-5 sequence, 19 steps. **Sweep magnification:** X10. **Hold Off:** Continuously adjustable for main time base from norm to 10X normal. **Delay Time Position:** Continuously variable with 20-turn pot. **Triggering: Mode:** Auto, Norm, Single. **Source:** CH 1, CH 2, Alt (V mode), Ext, Line. **Coupling:** AC — 30 Hz to 60 MHz, TV — video vertical sync pulses are selected, TV H — video horizontal sync pulses are selected. **Horizontal Amplifier: X-Y Mode:** CH 1 — Y Axis, Ch 2 — Z Axis. CH 1 output (on back panel): **Output Voltage:** 50 mV/DIV. **Impedance:** 50 Ohm. **Frequency Response:** 20 Hz to 20 MHz. **CRT: Type:** 6-inch rectangular with internal graticule. **Area:** 8 × 10 DIV. Beam Finder. **Component Tester: Components Tested:** resistors, capacitors, inductors, and semiconductors. **Test Voltage:** 12V RMS max. **Test Current:** 30 mA max. **Power:** 120V/220V 50/60 Hz. **Dim.:** (HxWxD) 5¾" × 13⅜" × 17". **Supplied Accessories:** Two 10:1 probes, instruction manual, AC power cord.

731-2160. Model 2160 ..... **EACH 1099.00**

Models 2120/2125 Dual Trace, 20 MHz Oscilloscope

- Delayed Sweep in 18 Range (2125)
- Component Tester (2125)
- Compact Profile Design
- New Low-Cost, High Performance Dual Trace, 20 MHz Oscilloscope
- Ideal for Vocational Education Use

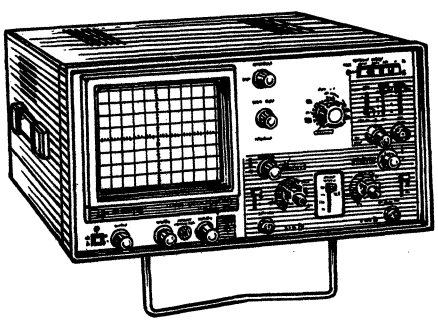


Professional, dependable performance at an affordable price. This fully-featured oscilloscope offers single or dual trace operation, 1 mV/div sensitivity, and 20 MHz response at economical cost — ideal for vocational education, service, or hobby shop. Other features include CH1 output for adding an external frequency counter, calibrated voltage source, two 10:1 oscilloscope probes, X-Y operation, rectangular CRT with P31 phosphor, front-panel trace rotation control, video sync separators, and selectable ± slope. Compact low profile design includes tilt stand and soft handle. Supplied with spare fuse, schematic diagram and parts list, and AC power cord. **Specifications. Vertical Amplifiers (CH1 and CH2). Sensitivity:** 5 mV/div to 5V/div in 1-2-5 sequence, 10 steps. Vernier control provides fully adjustable gain between steps. **Accuracy:** ±3%. **Input Resistance:** 1 MΩ ± 2%. **Input Capacitance:** 40 pF ± 5pF. **Frequency Response:** DC to 10 MHz (−3 dB). **Rise Time:** 17.5 nS. **Operating Modes:** CH1-CH1, single trace; CH2-CH2, single trace. ALT-dual trace, alternating; CHOP-dual trace, chopped; ADD-algebraic sum of CH1 + CH2. **Polarity Reversal:** CH1 only. **Maximum Input Voltage:** 400 VDC + AC peak. **Triggering. Trigger Modes:** AUTO (free run) or NORM. **Trigger Source:** CH1, CH2, ALT, EXT, LINE. **Maximum External Trigger Voltage:** 200 VDC + AC peak. **Trigger Coupling:** AC-30 Hz to 30 MHz; TV H-Horizontal sync pulses are selected; TV V—Vertical sync pulses are selected. **Trigger Sensitivity:** 0.5 div internal, 500 mV external (AC—30 Hz to 30 MHz; TV V—DC to 400 Hz; TV H—3kHz to 30 MHz). **Sweep System. Sweep Speed:** 0.1 μS/div to 0.2 S/div in 1-2-5 sequence, 25 steps (20 steps on Model 2125). Vernier control provides fully adjustable sweep time between steps. **Accuracy:** ±3%. **Delayed Sweep Speed (Model 2125):** 0.1 μS/DIV to 50 mS/DIV in 1-2-5 sequence, 18 steps. **Holdoff:** Continuously variable. **Sweep Magnification:** 10X, ±5%. **Horizontal Amplifier (Input through CH2 input). X-Y Mode:** Switch selectable using X-Y switch; CH1—Y axis; CH2—X axis. **Sensitivity:** Same as vertical CH-2. **Accuracy:** Y-axis— ±3%; X-axis— ±6%. **Input Impedance:** Same as vertical CH2. **Frequency Response:** DC to 2 MHz (−3 dB). **X-Y Phase Difference:** 3° or less at 50 kHz. **Maximum Input Voltage:** Same as vertical CH2. **CRT Type:** Rectangular with internal graticule. **Display Area:** 8 × 10 div (1 div = 1 cm). **Accelerating Voltage:** 2 kV. **Other Specifications. Calibrating Voltage:** 1 kHz (±10%) positive square wave, 0.2V p-p (±2%). **CH1 Output Voltage:** 50 mV/div (into 50-ohm load). **CH1 Output Impedance:** Approximately 50 Ohms. **CH1 Frequency Response:** 100 Hz to 20 MHz, −3 dB, into 50 Ω. **Trace Rotation:** Electrical, front panel adjustable. Supplied with two 10:1 probes, schematic, parts list, power cord, and spare fuse. **Component Tester (Model 2125):** Tests resistors, capacitors, inductors and semiconductors. **Power Requirements:** 115V/230V ±10%, 50/60 Hz, approximately 40W. **Dimensions:** 2.6 × 5.1 × 14" (320 × 130 × 361 mm).

731-2120. Model 2120 ..... **EACH 520.00**

731-2125. Model 2125 with Delayed Sweep and Component Tester ..... **EACH 620.00**

Model 1541A



- 40 MHz Frequency Response
- 1 mV/DIV Sensitivity
- Video Sync Separators
- Z Axis Input
- X10 Sweep Magnification
- Sum & Difference Capability
- V Mode Displays Two Signals Unrelated in Frequency
- Dual Channel Operation
- 20 Calibrated Steps
- X-Y Operation
- Single Sweep
- Channel 1 Output
- Rectangular CRT

Specifications. Vertical Amplifiers: Sensitivity: 5mV/DIV to 5 V/DIV. **Input Resistance:** 1M Ohm. **Capacitance:** 30 PF. **Operating Modes:** CH 1; CH 1, Single Trace. CH 2; CH 2, Single Trace. **Dual:** CH 1, CH 2, Chop, Alt, Add. **Max. Input Voltage:** 400 V(DC + AC Peak) or 800 VAC P-P. **Sweep System: Speed:** 0.2 μS/DIV to 0.5 S/DIV in 1-2-5 sequence. **Magnification:** 10X. **Hold Off:** Continuously variable from norm to 10X normal. **Triggering: Modes:** Auto, Norm, Fix, X-Y, Single. **Source:** CH 1, CH 2, Alt, Line, Ext. **Coupling: AC:** 10 Hz to 40 MHz; **DC:** DC to 40 MHz; **HF REJ:** 10 Hz to 50KHz; **TV:** Line automatically selected at 50 μS/DIV and faster. Frame automatically selected at 0.1mS/DIV and slower. **Max. Input Voltage:** 100 V(DC + AC Peak). **Horizontal Amplifier: X-Y Mode:** Switch Selectable using Time/DIV switch; CH 1 X-Axis, CH 2 Y-Axis. **Max. Input Voltage:** Same as CH 1. **Vertical Axis Signal Output:** CH 1. **Output Voltage (on rear panel):** 50mV/DIV. **Output Impedance:** 50 Ohms. **Frequency Response:** 100 Hz to 40 MHz. **CRT:** Rectangular with internal graticule, 8 × 10 DIV. **Supplied Accessories:** Two 10:1 probes, Instruction manual, schematic diagram and parts list. **Power:** 100/120/220/230/240 VAC, 50/60 Hz, approx. 35 watts. **Dim.:** 13.4" × 5.7" × 15.0". **Wt.:** 17.6 lbs.

731-1541. Model 1541A ..... **EACH 845.00**

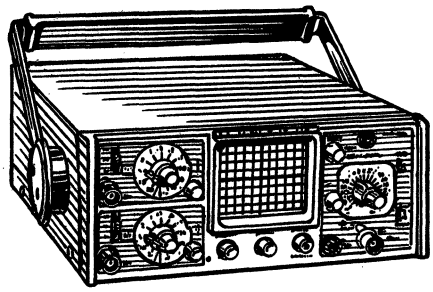
Model 1422

► **20 MHz Dual Trace, AC/DC Battery, Portable**

► **Operates on AC, External DC or Optional Internal Battery**

► **Fits into Attache Case**

► **18 Calibrated Sweep Positions**



Applications include field engineering, service work, troubleshooting, video recording maintenance, computer terminal servicing, monitoring, broadcast and recording equipment maintenance, medical electronics maintenance. Fits into attache case with additional room for a DMM, tools and accessories. Optional battery pack fits inside case and does not add to height or depth. For use with video circuits or computer VDT, a video sync separator is built in. Also has front panel X-Y operation. **Specifications: Vertical Amplifier: Frequency Response:** DC to 20 MHz. **Max. Input Volts:** 600 V P-P or 300 V (DC + AC Peak). **Operating Modes:** CH A- Single Trace. CH B- Single Trace. A & B - Dual Trace. **Sweep System: Mode:** Norm - Triggered Sweep, Auto-sweep free runs in absence of trigger. **Triggering: Source:** CH A- Triggered by CH A signal. CH B- Triggered by CH B signal. EXT- Triggered by EXT signal. **Coupling:** AC 20Hz to 20MHz. **Automatic:** Sweep obtained without an input signal. **Normal:** No sweep without adequate trigger signal. **Slope:** Sweep can be set to trigger on the positive or negative slope. **Level:** Continuously variable. **Video Sync:** Vertical and Horizontal Sync separator circuitry allows any portion of complex video waveforms to be synchronized and expanded for viewing. **Horizontal Amplifier: Frequency Response:** DC to 1MHz. **Max. Input Volts:** Same as vertical amp. **CRT:** Rectangular with domed face using 8 × 10 Div. **Power: AC:** 120 VAC, 60 Hz, 18 watts. **External DC:** 10-16V, 16 watts. **Internal Battery (Optional):** 12 V rechargeable battery, 16 watts. **Dim.:** 4.5″ × 8.5″ × 12″ without handle. **Wt.:** 8 Lbs. **Supplied Accessories:** Two 10:1 probes, 120 VAC 60 Hz AC adapter, instruction manual, schematic diagram and parts list.

731Q1422. Model 1422 ..... **EACH 1099.00**

Model 1201SR

► **Converts any video pattern generator to all channel operation**

► **Verifies cable ready TV and VCR channel assignments**

► **Converts CH 3 input to any channel**

► **Operates on all broadcast and cable frequencies including HRC & ICC frequencies**

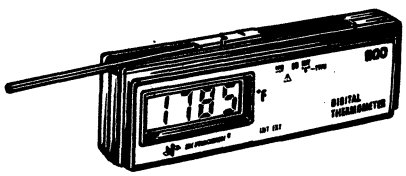
► **For both service and closed circuit CATV applications**

Specifications: Video Input: Bandwidth: 15Hz to 4.2MHz. **Level:** 1V P-P. **Polarity:** Positive (Negative Sync). **Input Impedance:** 75 Ohms. **RF Input: Frequency:** CH 3 (61.25 MHz). **RF Output: Frequency Coverage:** All standard US VHF & UHF broadcast TV frequencies and all standard US CATV video carrier frequencies. **Band and Channel Selection: Band:** Pushbutton switches for STD TV, STD CATV, HRC CATV, and ICC CATV Selection. **Channel Readout:** Two digit, 0.3″ LED. **Channel Selection:** X10 pushbutton advances tens digit with each push, or hold to scroll. X1 pushbutton advances units digit with each push, or hold to scroll. Up/Down pushbuttons increase or decrease channel selection by one channel with each push. Reset button resets to CH 2. **General: Connectors:** BNC. **Power:** 105 to 130 VAC, 60 Hz, 21 watts. **Dim.:** 3.5″H × 9″W × 10.5″D, less handle. **Wt:** 3.5 lbs. **Accessories Supplied:** instruction manual, schematic diagram and parts list.

731Q1201. Model 1201SR ..... **EACH 796.00**

Digital Temperature Meters

Model 900



► **Pocket Size**

► **Integral probe retracts for storage, and automatically turns off**

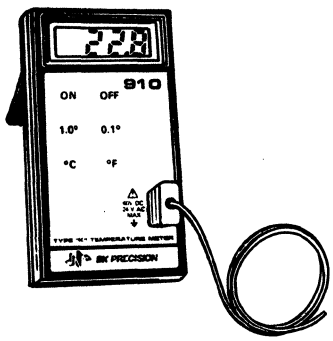
► **Sheathed semiconductor sensor probe suitable for ambient, surface, or immersion measurement**

► **Handy for heating, air conditioning, maintenance applications**

External mode permits use of standard type K thermocouple for extended range and remote sensing. **Probe Meter Specifications. Electrical: Input:** Internal semiconductor probe. **Measurement Range:** – 58 to + 302°F. **Resolution:** 1°F. **Accuracy (@ 64° to 82°F ambient):** 32°F to 212°F: ± 3°F; – 58° to + 32°F and 212° to 302°F: ± 6°F. **External Input:** External Type K thermocouple probe. **Measurement Range:** 0° to 1500°F. **Resolution:** 1°F. **Max. Voltage at Thermocouple Input:** 60 VDC, 24 VAC. **RF Field Derating:** Strong RF fields can adversely affect measurement accuracy. **General: Display:** 3½, 0.5″ digit liquid crystal. **Measurement Rate:** 3 measurements per second. **Battery:** Standard 9V battery (NEDA 1604). **Battery Life:** 300 hr. carbon zinc, 500 hr. alkaline. **Dimensions (HWD):** 142 × 46 × 48 mm, (5.6 × 1.8 × 1.1″). **Weight:** 4.6 ounces (130 grams). **Accessories Supplied:** Battery, Instruction Sheet.

731-0900. Model 900 ..... **EACH 55.00**

Model 910



► **Range – 50 to + 1300C (– 58 to + 1999F)**

► **Ideal for industrial, laboratory and general purpose applications**

► **Selectable °C or °F measurement**

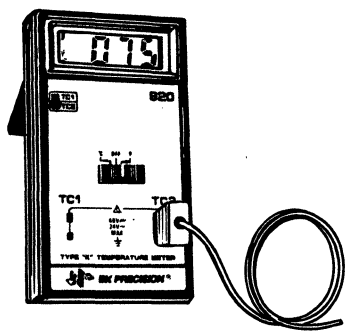
► **0.2% accuracy**

Single Input Specifications. Electrical Input: Standard Type K thermocouple probe. **Measurement Range:** Selectable °C or °F – 50° to + 1300°C, – 58° to + 1999°F. **Resolution:** Selectable 0.1° or 1°:0.1° resolution applicable to 199.9°, 1° resolution for entire range. **Maximum Voltage at Thermocouple Input:** 60 VDC, 24 VAC. **RF Field Derating:** Strong RF fields can adversely affect measurement accuracy. **General Display:** 3½, 0.5″ digit, liquid crystal. **Measurement Rate:** 3 measurements per second. **Battery:** Standard 9 V Battery (NEDA 1604). **Battery Life:** 175 hours with alkaline battery. **Dimensions (HWD):** 130 × 72 × 33mm (5.1 × 2.8 × 1.3″). **Weight:** 182 grams, (6.4 ounces). **Accessories Supplied:** Battery, instruction sheet, Type K thermocouple probe (Model TP-29).

731-0910. Model 910 ..... **EACH 80.00**

NEW

Model 920



► **Range – 50° to + 1300°C (– 58° to 1999°F)**

► **Measures temperature at two interrelated points**

► **Measures cause and effect, ambient and internal temperature**

► **Dual Type K thermocouple inputs**

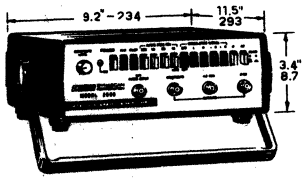
► **Selectable T1 or T2 temperature**

Dual Input Specifications. Electrical Inputs: One or two standard Type K thermocouple probes Selectable T1 or T2 temperature displayed. **Measurement Range:** Selectable °C or °F, – 50° to + 1300°F, – 58° to + 199°F. **Resolution:** 1°C or F. **Max. volts at Thermocouple Input:** 60 VDC, 24 VAC. **RF Field Derating:** Strong RF fields can adversely affect measurement accuracy. **General Display:** 3½, 0.5″ digit liquid crystal. **Measurement Rate:** 3 measurements per second. **Battery:** Standard 9 V battery (NEDA) 1604. **Battery Life:** 200 hours with alkaline battery. **Dimensions (HWD):** 130 × 72 × 33mm (5.1 × 2.8 × 1.3″). **Weight:** 182 grams, (6.4 ounces). **Accessories Supplied:** Battery, instruction sheet, two Type K thermocouple probes (Model TP-29).

731-0920. Model 920 ..... **EACH 110.00**

16

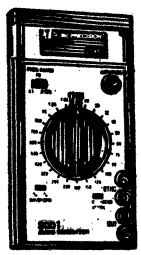
MTS TV Stereo Generator



Model 2009. Simulated "dbx" noise reduction scheme to provide TV stereo and SAP test signals for testing, adjusting, and servicing stereos, TV receivers, stereo adapters, and stereo VCR's. Features spot modulation (300 Hz, 1 kHz, 8 kHz), composite audio, and selectable modulation modes (L,R,L + R, and L − R). Also provides 1 kHz at − 10 dB for checking operation at an alternate audio level. **Specifications. Main Channel. Carrier Frequency:** 4.5 MHz. **Modulating Signal:** L + R. **External Input:** Frequency Range 100 Hz to 10 kHz; Input Voltage Range 2V p-p max.; Input Impedance 10 kΩ. **Pilot Subcarrier Frequency:** f_H = 15.734 kHz sinewave. **Stereo-Phonic Subchannel. Modulating Signal:** L-R. **Subcarrier Frequency:** $2f_H$ = 31.468 kHz. **Subcarrier Modulation Method:** Amplitude modulation—double sideband-suppressed carrier (AM-DSB-SC). **Composite Stereo Modulation. Stereo Separation (300 Hz, L or R only):** 25 dB minimum. **Crosstalk:** − 40 dB nominal. **Second Audio Program Subchannel (SAP). Subcarrier Frequency:** $5f_H$ = 78.67 kHz. **Tolerance:** ± 500 Hz. **Modulation Method:** FM. **Deviation (300 Hz, L—R):** ± 2.4 kHz. **Aural(4.5 MHz) Carrier Deviation by SAP Subcarrier:** ± 15 kHz max. **Aural Carrier. Frequency:** 4.5 MHz. **Tolerance:** ± 0.10 MHz. **Audio Modulation Bandwidth:** 120 kHz. **Deviation Range:** ± 100 kHz. **Deviation Monaural (300 Hz,—12 dB):** ± 6.3 kHz. **Output Signal (RF). Frequency:** CH3 61.25 MHz video, 65.75 MHz sound; CH4 67.25 MHz video, 71.75 MHz sound; IF 47.75 video, 41.25 sound. **Impedance:** 75Ω unbalanced, 300Ω balanced with adapter. **Level:** + 20 dBm V. **Output Signal(Composite Stereo). Impedance:** 600Ω. **Level(8 kHz, L or R only):** 0-2V p-p. **General. Input Power:** 120V ± 10%, 60 Hz, 10W. **Operating Temperature:** 0° to + 45°C. **Dimensions:** 3.4 × 11.5 × 9.2" (87 × 293 × 234mm). **Weight:** 3.4 lbs.(1.5kg).

731-2009 ..... **EACH 515.00**

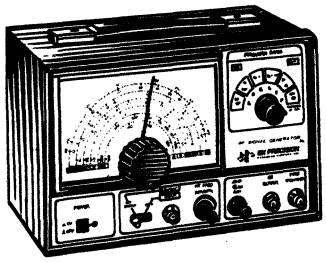
Model 3001 Audio Generator



Low-cost, pocket-size audio generator covering the 20Hz-150KHz frequency range. Features selectable sine- or square-wave outputs with a 23 position rotary switch and X1/X100 slide switch to select one of 46 frequencies spanning the range of the unit. A separate sync output provides a fixed-level signal at the same frequency and phase as the main output. This feature is very convenient for external sync of an oscilloscope while measuring signals of varying levels. **Specifications. Frequency Range:** X1 range 20Hz to 1.5KHz (23 steps); X100 range 2K to 150KHz (23 steps); **Output Control:** 0dB/ − 20dB Attenuator switch and variable amplitude control. **Output Impedance:** approx. 600 ohms; **Sine Wave Output Voltage:** ≥ 1.2V RMS at max. setting (no load); **Square Wave Output Voltage:** ≥ 5V P-P at max. setting; **Rise and Fall Time:** Less than .5μS; **Power:** 9V battery (NEDA 1604), 35 hours typical with alkaline; **Battery Indicator:** LED indicates low battery; **Dim.:** 6"(L) × 3.3"(W) × 0.9(H); **Wt.:** 7 oz. including battery; **Supplied Accessories:** Two standard banana plug to insulated clip test leads, 9V battery, instruction manual, schematic diagrams and parts list.

731-3001. Model 3001 ..... **EACH 67.00**

150 MHz RF Signal Generator



► **100 kHz to 150 MHz coverage in 6 fundamental bands and 450 MHz in harmonics**
► **AM modulation, internal or external, 0 to 100%**
► **Frequency Monitor output to hook-up external frequency counter**
► **Step and variable attenuation to 40 dB**

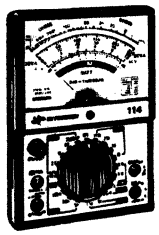
Model 2005

Specifications. Main Output Frequency Range: 100 kHz to 150 MHz (up to 450 MHz on harmonics): A) 100 kHz-300 kHz; B) 300 kHz-1000 kHz; C) 1.0 MHz-3.5 MHz; D) 3.2 MHz-11.0 MHz; E) 10.0 MHz-3.50 MHz; F) 32 MHz-150 MHz (96-450 MHz on harmonics). **Dial Accuracy:** ± 3%. **RF Output Level:** Approximately 100 mV RMS Max (up to 35 MHz). **Output Level Control:** Hi-Lo step attenuator approximately 20 dB. Continuously variable in Hi or Lo step, at least 20 dB range of adjustment. **Frequency Monitor Output. Frequency:** 100 kHz to 150 MHz, same as main output. **Level:** 30 mV RMS typical, fixed. **Amplitude Modulation. Internal:** Frequency 1 kHz.

Level. Continuously variable 0 to 100% percentage of modulation. **External:** Frequency; 50 Hz to 20 kHz. Sensitivity: less than 1 V RMS. **AUX Output. Audio Output:** Frequency 1 kHz Level:1V RMS. MIN. (fixed). **Power Source.** 120 VAC ± 10%, 60 Hz. **General Dimensions:** 247(W) × 158(H) × 140(D)mm. **Weight:** Typical 2.5 Kg. **Accessories Supplied:** BNC to Insulated Clip Output Cable, Detachable Power Cord, Instruction Manual.

731-2005 ..... **EACH 195.00**

20,000 Ohms/Volt Multimeter

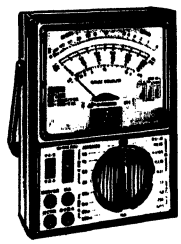


► **20,000 Ohms/Volt DC.**
► **24 ranges.**
► **3½" mirrored scale.**
► **Compact easily hand-held size.**
► **Diode and high energy fuse protected.**
► **0°C to 50°C operating range.**
► **Includes batteries and test leads**

Specifications. DC Volts. Ranges: 0.25 V, 2.5 V, 10 V, 50 V, 250 V, 1000V (1000 V on separate jack). **Sensitivity:** 20,000 ohms per volt. **Rated Accuracy:** 3% of full scale on all ranges. **AC Volts. Ranges:** 10 V, 50 V, 250 V, 1000V. **Sensitivity:** 9,000 ohms per volt. **Indication:** Full wave average responding; calibrated in rms for sinusoidal wave forms. **Rated Accuracy @** 50/60 Hz: 4% of full scale on all ranges. **Frequency Response (1 dB):** 10 V Range, 40 Hz to 100 kHz. 50 V Range, 40 Hz to 50 kHz. 250 V Range, ± 40 Hz to 5 kHz. 1000 V Range, 40 Hz to 1kHz. **DC Current. Ranges:** 50 μA, 5 mA, 50 mA, 500 mA, 10 A(10 A on separate jack). **Rated Accuracy:** 3% of full scale on all ranges. **Resistance. Ranges:** X1, 0 to 10kΩ midscale 50Ω. X10, 0 to 100 kΩ, midscale 500Ω. X1k, 0 to 10 MΩ, midscale 50 kΩ. **Accuracy:** 3% length of scale. **Maximum Output:** X1 range, 65 mA short circuit, 3 V open circuit. X10 range, 6.5 mA short circuit, 3 V open circuit. X1k range, 65 μA short circuit, 3 V open circuit. **dB Ranges.** − 8 dB to + 62 dB on 4 AC voltage ranges. Zero dB referenced to 1 milliwatt at 600 ohms. **Battery Test (Good-Bad Scale).** 1.5 V range with 10Ω load provides 1.5 mA drain. 9 V range with 900Ω load provides 90 mA drain. **General Specifications. Movement:** Jeweled pivots, 90° arc, 40 μA full scale. **Scale Length:** 3½ inches, mirrored scale4. **Power Source:** Two 1.5 volt AA batteries. **Overload Protection:** Fuse (0.63 A, 250 V), plus High-Energy fuse (4 A, 600 V). **Operating Temperature:** 0°C to 50°C. **Dimensions:** 102 × 150 × 45 mm (4 × 6 × 1¾"). **Weight:** Approximately 290 g (9.3 oz.). **Accessories Supplied:** Two AA size batteries. Test leads. Spare fuse. Instruction Manual.

731-0114 ..... **EACH 37.00**

50,000 Ohms/Volt Multimeter

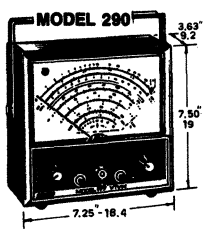


► **50,000 Ohms/Volt DC.**
► **37 ranges.**
► **4½" mirrored scale.**
► **Tilt stand and handle included.**
► **Diode and high-energy fuse protected.**
► **0°C to 50°C operating range.**
► **Includes batteries and test leads**

Specifications. DC Volts. Ranges: 0-125 mV, 250 mV, 1.25 V, 2.5V, 5V, 10 V, 25 V, 50 V, 125 V, 250 V,500 V, 1000 V (use 1000 V DC jack for 125 V to 1000 V measurements). **Sensitivity:** 50 kΩ/volt at V.A./2 position. 25 kΩ/volt at V-Ω-A position. **Rated Accuracy:** ± 3% of full scale for 5 V to 250 V ranges. ± 4% of full scale for 125 mV to 2.5 Volts, 500 to 1000 Volts. **AC Volts. Ranges:** 0-5 V, 10 V, 25 V, 50 V, 125 V, 250 V, 500 V, 1000 V. **Sensitivity:** 10 kΩ/volt at V.A./2 position. 5 kΩ/volt at V-Ω-A position. **Rated Accuracy at 50/60 Hz:** ± 4% of full scale on all ranges. **Frequency Response (within ±1 dB):** 10 volt range, 40 Hz to 50 kHz. 50 volt range, 40 Hz to 10 kHz. 250 volt range, 40 Hz to 2 kHz. 1000 volt range, 40 Hz to 400 Hz. **DC Current. Ranges:** 0-25 μA, 50 μA, 2.5 mA, 5 mA, 50 mA, 250 mA, 500 mA, 5 A, 10 A (5 A and 10 A on separate jack). **Rated Accuracy:** ± 3% of full scale on 2.5 mA to 500 mA ranges. ± 4% of full scale or 25 μA to 50 μA and 5 A to 10 A. **Resistance. Ranges:** R X 1, 0 to 2000Ω, mid-scale = 10Ω. R X 10, 0 to 20 kΩ, midscale = 100Ω. R X 100, 0 to 200 kΩ, midscale = 1 kΩ. R X 1k, 0 to 2 MΩ, midscale = 10 kΩ. R X 10k, 0 to 20 MΩ, midscale = 100 kΩ. **Accuracy:** ± 3% of scale length. **dB Ranges:** − 20 dB to + 62 dB on 8 AC voltage ranges. Zero dB referenced to 1 milliwatt at 600 ohms. **General Specifications. Movement:** Jeweled pivots, 90° arc, 18 μA full scale. **Scale Length:** 4½ inches, mirrored scale. **Power Source:** One 1.5 V AA battery and one 9 V battery supplied. **Overload Protection:** Fuse (0.63 A, 250 V), plus High-Energy fuse (4 A, 600 V). **Dimensions:** 171.5 × 127 × 51mm (6¾ × 5 × 2"). **Weight:** Approximately 590g (1 lb 5 oz.) including batteries. **Accessories Supplied:** Batteries (one 1.5 V AA and one 9 V). Test leads. Spare fuse. Instruction Manual.

731-0214 ..... **EACH 51.00**

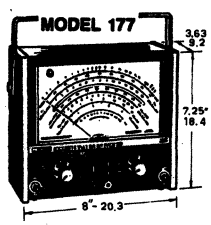
Electronic Multimeter



Solid state electronic multimeter features 75 ranges at ±1.5% VDC accuracy, high and low power ohms ranges, 15MΩ FET input, full overload protection, 50mV, 50μA AC and DC full scale, Rx 0.1 ohm range with 1 ohm, and high energy fused on all functions. **Specifications. Volt ranges:** ± 50, 150, 500mV; 1.5, 5, 15, 150, 500, 1500 V. **DC Accuracy:** ± 1.5% F.S. **Peak-to-Peak AC Volt Ranges:** 140, 420, 1400, 4200 V. **AC Accuracy:** ± 3% F.S. at 60 Hz; ± 5% on 500 and 1500V ranges. **Decibel Ranges:** 10 ranges, − 40 to + 66 dB. **Current Ranges:** 50, 150, 500μA; 1.5, 5, 15, 50, 150, 500mA; 1.5A. **Basic DC Accuracy:** ± 3% F.S. **Basic AC Accuracy:** ± 4% F.S. **Meter:** 7", mirrored scale, 6.63" scale arc length. **Power Requirements:** 105-125 VAC, 50-60 Hz. **Dimensions:** 7.25 × 8 × 3.63" (18 × 20 × 9cm). **Weight:** 4.25 lbs.(1.96kg). Unit includes test probes (PR-21) and instruction manual.

731-0290. Model 290 ..... **EACH 409.00**

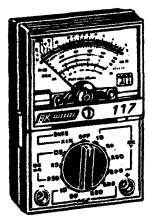
Vacuum Tube Voltmeters



Vacuum tube voltmeter features a built-in DC supply, 0.5 VDC scale, separate peak-to-peak and RMS scales, special calibration on low AC ranges dB scale for amplifier gain to 4MHz, DC polarity reversal switch, and zero center scale for FM discriminators. **Specifications. DCV Full Scale:** ± 0.5, 1.5, 5, 15, 50, 150, 500, 1500 V. **VAC RMS:** 1.5, 5, 15, 50, 150, 500, 150 V. **VAC P-P:** 4, 14, 40, 140, 400, 1400, 4000 V. **Resistance (F.S):** 1000, 10,000, 100,000Ω; 1, 10, 100, 1000MΩ. **Accuracy: DC:** ± 3% F.S.: **AC:** 5%. **Sensitivity:** 100μA. Power 117 VAC, 50-60 Hz. **Dimensions:** 7½ × 7¼ × 3⅝" (18 × 17 × 9cm). **Weight:** 6 lbs. (2.24kg). Unit includes test probes (PR-43) and instruction manual.

731-0177. Model 177 ..... **EACH 324.00**

Pocket Size Multimeter

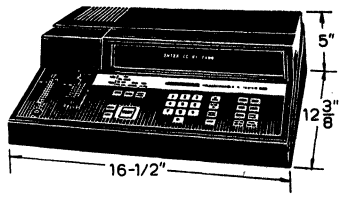


Features/Specifications
► **Compact Size (13/16" × 2⅜" × 3½").**
► **Measures DC voltage.**
► **0-10, 50, 250, and 500 Volt scales.**
► **± 4% accuracy (full scale).**
► **2,000Ω/V sensitivity.**
► **Measures AC voltage.**
► **0-10, 50, 250, and 500 volt scales—± 5% accuracy (full scale).**
► **2,000Ω/V sensitivity.**
► **Measures DC current.**
► **0-0.5, 50 and 250mA scales—± 4% accuracy (full scale).**
► **Measures resistance—R × 1KΩ.**
► **± 4° Arc of scale length.**
► **Measures Decibels.**
► **− 20 dB to + 56 dB on AC voltage ranges.**
► **Powered by one 1.5 V, AA size battery (included).**
► **Test leads and instruction manual included**

731-0117 ..... **EACH 12.00**

16

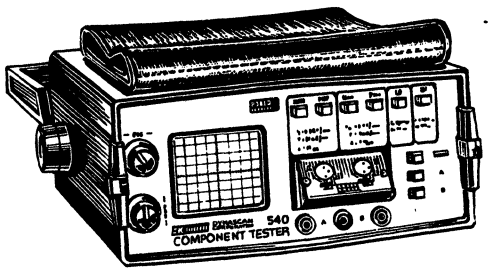
Model 560 Programmable IC Tester



► **Version 2.0**

User programmable tester featuring Digital Integrated Circuit Tester. Capable of testing standard TTL and CMOS ICs, including counters and flip-flops. Also features in or out of circuit testing, 14, 16, 18, 20, and 24 pin ICs, selectable logic threshold levels for TTL/CMOS, internal standard test routines, 'learn' mode for recording responses, built-in self-diagnostic test capability, and displays failed pin number. 20-character dot matrix fluorescent display for test results.
731Q0560. Model 560 ..... **EACH 3500.00**

Model 540 Component Tester



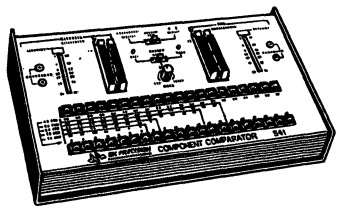
► **Locates Faults on Unpowered Boards**
► **Tracks Fault to Component**
► **Specific Circuit Knowledge not Required**
► **Curve Tracing Allows Matching**
► **2 Channels Allow Checking Against Known Good Parts**
► **Ideal for Production Line Testing**

The Model 540 is ideal for production testing, field service, and post ATE checking to localize a fault. The Model 540 enables isolation of a defect to a particular component. Can be used for transistors, diodes, analog or digital IC's, voltage regulators, inductors, capacitors, resistors, and most other devices. Allows rapid detection of defective component by regular maintenance personnel. Curve tracing feature allows check for gain and matching where necessary. For rapid location of defective components, a known good board or component can be compared with the board or component under test. **Specifications:** Ranges - LO open circuit voltage 12.5 V peak short circuit current 125mA peak. HI - Open circuit voltage 60.0 V peak short circuit current 1.5mA peak. NPN/PNP I_B 7 steps of 100mA display sensitivity I_C divs at 10mA/Div. V_{CE} 10 Divs at 2V/Div **Magnifier:** will increase X and Y sensitivity X3 (approx.)**Power Requirement:** 100-125 VAC or 200-250 VAC, 50/60 Hz, 12W. **Dimensions:** 3.8"H × 10.2"W × 10.2"D. **Weight:** 1.8 lbs. **Accessories Included:** Probes, interconnecting leads and user manual, all housed in pouch on top of unit.
731-0540 ..... **EACH 995.00**

Model 541 Component Comparator

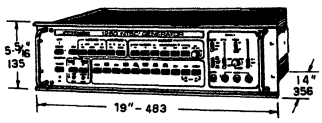
Model 541 is a component tester with a switching capability for conveniently checking IC's up to 40 Pins. It generates a test signal for resistors, capacitors, inductors, diodes, and other components. The voltage-current curve is displayed on any scope or the Model 540. the Model 541 has two channels so that a 'known good' component can be compared to the component under test. "Alternate" display mode automatically switches the display between the two channels for direct comparison. The rate is variable from .5 to 5 Hz. Two 40-Pin ZIF IC sockets accommodate all ICs from 8 to 40 Pins. The impedance signature of any pin can be selected by pressing the corresponding button. Open circuit test voltage 14 VAC RMS. Short circuit test approx. 275μA. **Test Freq:** Line Freq(60 Hz USA). **Test Waveform:** sinewave. **Display:** X-Y mode scope or Model 540, external. 120 VAC 50/60 Hz 3 watts. **Dimensions:** 2.7"H × 12.7"W × 7"D. **Weight:** 2.5 lbs. **Supplied Accessories:** AC adapter, 4 test leads with mini clips, 2 test leads (Banana to Banana), 2 wire jumpers, servicing information. Optional accessories at additional price: CC-57 16-Pin IC Test Clip Assembly (2 required for comparison). CC-58 40-Pin IC Test Clip Assembly (2 required for comparison). CC-59 20-Pin IC Test Clip Assembly (2 required for comparison). BNC-to-BNC Cable (CC-41).
731-0541 ..... **EACH 430.00**

► **Compatible with Model 540 or any X-Y Scope**
► **In Circuit or Out of Circuit Test**
► **Comparison Mode**
► **Variable Speed Switching**
► **Channel Indicators**
► **Built in Current Limiting**



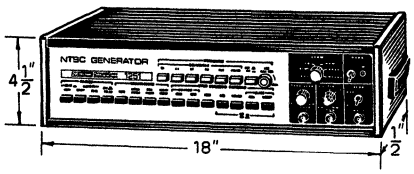
Optional:

731-0057	**CC-57**	**EACH 23.50**
731-0058	**CC-58**	**EACH 65.00**
731-0059	**CC-59**	**EACH 38.00**
731-0041	**CC-41**	**EACH 14.50**
731-0057	**CC-57**	**EACH 23.50**



Model 1260 NTSC Deluxe Video Signal Generator

Features NTSC color bars, with or without—IWQ signal, selectable chroma and burst, five step linear staircase and selectable high/low chroma. Patterns include circle, multiburst (full field, stepped or variable), convergence (dot, cross-hatch, dot-hatch, center cross), and raster (eight EIA colors). Outputs include RGB, composite video, RF, sound (1 kHz or 3 kHz), black burst, sync pulse subcarrier, multiburst and composite blanking. **Input Power Requirements:** 105-130VAC, 60 Hz, 25 watts. **Dimensions (H × W × D):** 5 5/16 × 19 × 14" (135 × 483 × 356mm). **Weight:** 14 lbs. (6.36kg).
731Q1260. Model 1260 ..... **EACH 1995.00**



Model 1251 NTSC Signal Generator

Features NTSC color bars with or without—IWQ signal, 5-step linear staircase and staircase with high/low chroma. Multiburst (stepped, full field, and variable). Dot, cross-hatch, dot-hatch, and center cross convergence patterns. Crystal controlled RF, I-F, NTSC sync. External video input modulates RF or I-F carrier outputs. 4.5 MHz audio intercarrier modulation: 1 kHz, 3 kHz, external. Raster color selection. **Outputs:** 3.579545 MHz subcarrier, vertical or horizontal sync. **Input Power Requirements:** 105-130VAC, 60 Hz, 19W. **Dimensions:** (H × W × D) 4 1/2 × 18 × 12" (115 × 460 × 305mm). **Weight:** 11 lbs. (5kg).
731Q1251. Model 1251 ..... **EACH 1195.00**

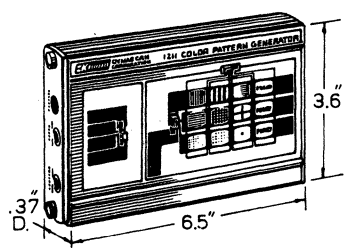
Model 490

► **Test and Restore VDT**
► **Luggage Style Case**
► **Tests All 3 Guns of Color CRT's**
► **Extensive Adapter Storage**

Tests all three guns of a color picture tube in sequence 20 times per second. Because all three guns are tested simulataneously, leakage between the elements of different guns is pinpointed immediately. Model 490 measures only beam current that actually passes through the G1 aperature to the screen. Molded case with sturdy metal frame. CRT adapters stow inside case lid. **Specifications. Tests Preformed:** emission, leakage tracking (color), focus continuity. **Restoring Functions:** shorts removal, gun cleaning and balancing, cathode rejuvenation. **Meters:** three 2 1/2" D'Arsonval movement. **Indications:** emission (0-2mA), Restoring current (0-2 scale), Heater voltage (0-15), G1 bias (30-100V), Line voltage (100-300V), Leakage (Neon indicator). **Adapters Included:** CR-1, CR-3, CR-4, CR-5, CR-6, CR-20. **Case:** Heavy duty polyethylene, removable lid, extensive adapter storage. **Power Requirements:** 117 VAC, 60 Hz, 40 Watts. **Dim.:** 7" × 14 3/4" × 11 1/2". **Wt.:** 14 lbs.
731-0490. Model 490 ..... **EACH 715.00**
731-0480. Model 480 ..... **EACH 500.00**
Same as above except: one 4 1/2" D'Arsonval movement. Does not have focus continuity, line voltage indication.

Model 1211B Portable IC Color Pattern Generator

► **Compact for Convenient Field Service**
► **Selects Output on 2 Channels**
► **Adjustable Video and RF Output**



Generates 10 stable patterns including cross-hatch, 7 × 11 dot, gated rainbow and purity. Features selected outputs on 2 channels, adjustable RF output into 75Ω load, and adjustable video output up to 1V p-p into 75Ω load. **Specifications: Line Width:** 1 horizontal line; Vertical pre-set at 0.3 micro seconds. **Chroma:** uses frequency of 3.579545 MHz minus 1 horizontal line. **Color Level Control:** adjustable from 0 to 100% with side panel control. **RF Output:** crystal controlled channel 3 or 4. **Power Requirements:** 9 volt transistor battery. **Battery Life:** 16 hours continuous. **Dimensions:** (H × W × D) 3.6 × 6.5 × 1.37" (9.0 × 16.25 × 3.5cm). **Weight:** 1 lb. (450g).
731-1211. Model 1211B ..... **EACH 222.00**

16

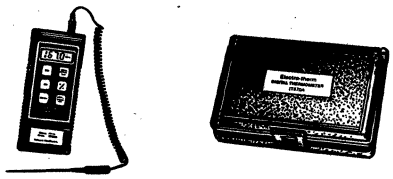
SH-66A Three Probe Temperature Differential (ΔT) Digital Thermometer

► **Unique temperature differential measurement function**
► **Sealed membrane keypad**
► **3 detachable and interchangeable probes provided (Puncture, Surface, and Air)**
► **Durable, shock resistant carrying case with detachable cover**
► **°F/°C Conversion**
► **Display warnings**

SH-66A—Thermistor based, 3 probe temperature tester incorporates a wide variety of high tech features, making it the ideal instrument for industrial use, technicians, and HVAC and R servicemen. Field temperature testers offering a wide variety of applications in air, surface, and liquid temperature measurement. Perfect for use in air conditioning or refrigeration systems to measure suction line, coil, duct, room air, and vehicular air conditioning temperatures. Good for hundreds of readings on a single 9V battery (Included). **Specifications. Accuracy:** ±0.2% of reading (Max). **Resolution:** 0.1°F or 0.1°C. **Display:** 0.4″ LCD.

781-0066. SH-66A ..... **EACH 163.80**

IT-670A and IT670A/Only Wide Range, Multifunction Hand-Held Thermometers



IT-670A and IT-670A/Only—Combines features, performance and accuracy with an economical price. Both models offer memory hold and recall features, automatic shut-off or continuous-on option, °F or °C operation, easy-to-read backlighted displays, and detachable, interchangeable 10K thermistor probe design. Ideal instruments for spot or extended period temperature testing. **Specifications. Power:** 9V disposable alkaline battery. **Range:** –40°F to 300°F. **Accuracy:** ±0.2°F or ±0.2% of reading. **Ambient Range:** 0° to 150°F. **Model IT-670A:** Includes shock resistant ABS carrying case and type 1075 stainless steel puncture probe. **IT-670A/Only:** Instrument Only.

781-0670. Model IT-670A/Only ..... **EACH 151.00**
781-0671. Model IT-670A Complete ..... **EACH 175.00**
781-4040. Type 4040 Fast Response Surface Probe ..... **EACH 52.80**
781-1052. Type 1052 Fast Response Needle Probe ..... **EACH 59.50**

Note: Maximum Probe Handle Temperature—200°F.

IT-660 High Impact Temperature Tester

With Belt Clip and Probe Holder

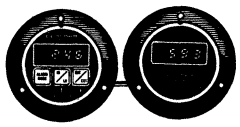
"Hand-Held Industrial Thermometers for Heavy Duty Service"

► **Bright 4 digit LED displays temperature in Fahrenheit or Centigrade**
► **Nicad battery provides 4 hours continuous use before needing to recharged**
► **AC Adapter/Recharger included**
► **Traveling decimal low battery indication**

IT-660—Probe interchangeability, provides application versatility for this digital thermometer. Ideal for precise measurement in liquids, solids, or gases. Great for food processing, HVAC, veterinary applications or anywhere that fast, precise temperature testing is required. Lightweight unit comes complete with plug-in puncture probe, and Nicad battery charger. **Specifications. Accuracy:** ±0.5°F or °C. **Resolution:** 0.5°F or °C. **Display:** Update 5 seconds. **Range:** –30°F to 300°F or –35°C to 150°C.

781-0660. IT-660 ..... **EACH 215.00**

PM-200A and PM-400K All New Digital Panel Meters



NEW

"Ideal replacements for all types of mechanical thermometers"

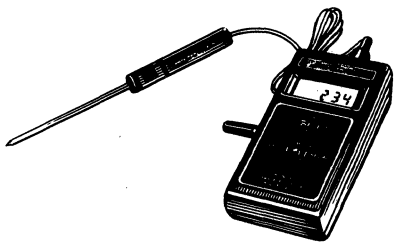
► **Bright easy to read LED displays**
► **Available for 12VDC, 115VAC or 230VAC input**
► **Food grade, fire retardant, plastic enclosures**
► **Display warnings**

PM-200A: The PM-200A features a dual set point, high/low alarm and is available with an external relay (optional). This instrument's high performance specifications will satisfy the most demanding application requirements. **Specifications. Range:** –40° to 300°F or –40° to 150°C. **Accuracy:** ±0.2%F or C of reading (Max). **Resolution:** ±0.1°F or °C.

PM-400K: The PM-400K features a broad temperature range and accepts type K thermocouples. This panel meter is an ideal low cost OEM retrofit component. **Specifications. Range:** –40° to 999°F or –40° to 150°C. **Accuracy:** ±2.0% of reading (Max). **Resolution:** ±1°F or 1°C.

781-0260. PM-200A01 (12VDC, °F) ..... **EACH 116.60**
781-0262. PM-200A61 (115VDC, °F) ..... **EACH 127.60**
781-0264. PM-200AC81 (230VDC, °C) ..... **EACH 127.60**
781-0266. PM-200A16 (12VDC, °F) External Relay ..... **EACH 125.40**
781-0268. PM-200A76 (115VDC, °F) External Relay ..... **EACH 141.90**
781-0270. PM-200AC96 (230VAC, °C) External Relay ..... **EACH 141.90**
781-0400. PM-400K01 (12VDC, °F) ..... **EACH 69.30**
781-0402. PM-400K61 (115VDC, °F) ..... **EACH 80.30**
781-0404. PM-400KC81 (230VDC, °C) ..... **EACH 80.30**
781-6010. Probe 6020 (PM-200A) 4′ Flexible Air Probe ..... **EACH 25.15**
781-2020. Probe 2020 (PM-200A) 4′ Stainless Steel Puncture Probe ..... **EACH 20.45**
781-6011. Probe 6010K (PM-400K) 4′ Heavy Duty Armored General Purpose Probe ..... **EACH 45.60**
781-2021. Probe 2020K (PM-400K) 4′ Flexible Air Probe ..... **EACH 20.45**

PL-690 and PL-690/Only RTD Thermometer with Analog Recorder Output

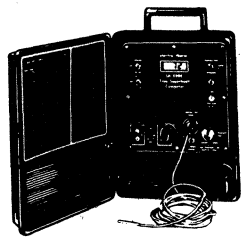


PL-690 and PL-690/Only—Both models feature 100 ohm platinum RTD probes for long term stability, automatic highest/lowest memory, liquid cystal readout and accuracy equal to or better than instruments costing twice as much. °C or °F readings, –198° to 1111°F range. Microcomputer controlled. **PL-690** includes Type 1100 probe, battery and Type 9072 hard carrying case. **PL-690/Only** is the same as PL-690, but without carrying case or probe. **Specifications. Power:** 9V disposal alkaline battery or AC adapter (not included). **Input:** 10 ohm platinum RTD (DIN 43760) via 5 pin DIN connector. **Range:** –198° to 1111°F (–128° to 600°C). **Resolution:** 0.1° under 1000, 1.0° over 999.9. **Overall Accuracy:** ±0.2°F or ±0.2% of reading. **Ambient Range:** 0° to 50°C maximum R.H. 90% non-condensing. **Storage Temperature:** –40°C to 60°C. **Update Rate:** .5 to 1.5 seconds. **Recorder Output:** 10 millivolts/ohm of probe resistance (**Note:** Use standard resistance/temperature charts for DIN 43760 RTDs to correlate recorder readings with actual temperature). **Recorder Output Accuracy:** Adjustable to ±1.0 MV. **Recorder Output Impedance:** less than 500 ohms. **Size:** 3 × 6 × 1½″; hard carrying case, 7⅜ × 9⅞ × 2⅜″.

781-0690. Model PL-690/Only ..... **EACH 195.80**
781-0691. Model PL-690 Complete Set ..... **EACH 284.90**
781-9074. Model 9074 Case* ..... **EACH 23.70**

* Soft carrying case with belt clip and clear window for types IT-670 and PL-690.

SH-8800 True Superheat Computer



Measures:
► **± Pressure** ► **Temperature** ► **Superheat**

The SH-8800 is a new concept in air-conditioning and refrigeration instrumentation. Not only will this digital instrument measure temperature, it also measures pressure, thereby providing the same advantages of accuracy, durability and readability inherent in the digital thermometer. The SH-8800's microcomputer can also eliminate the time-consuming task of calculating Superheat using the old pressure-temperature chart method. The SH-8800 calculates the saturation temperature for the temperature at the same point. It then displays actual Superheat directly on the readout digitally and updates the reading every 3 seconds. The SH-8800 performs this calculation at R-12, R-22, and R-502. Saves money on compressor replacement for eliminating floodback due to incorrect Super-moisture-resistant switches and circuitry to prevent damage from condensation, continuous high/low memory circuitry, easy-to-read liquid crystal readout, and pressure-temperature charts for R-500 and R-717. Integral shock-resistant carrying case with compartments for pressure gauge, temperature probe and spare battery. **Specifications. Pressure: Range:** –30″ Hg to 500 PSIG (–100 to 999 Kpa). **Accuracy:** ±PSI below 100 PSIG, ±1% above 100 PSIG. **Temperature: Range:** –200°F to 999°F (–130°C to 600°C). **Accuracy:** ±1°F or °C. **Superheat: Range:** ±200°F or °C. **Accuracy:** ±2°F or ±1°C. **Ambient Temperature Range:** 20°F to 120°F with battery; –60°F to 120°F with AC adapter (not included). **Battery:** (V alkaline with 3 hours continuous life at 72°F ambient. **Refrigerant Types:** R-12, R-22, and R-502 (read Superheat directly). R-500 and R-717 (use chart to calculate Superheat). **Dimensions:** 7½ × 10 × 3⅞″. **Weight:** 2 lbs includes 9V alkaline battery and Type 2100 stainless steel surface probe.

781Q0880. Model SH-8800 ..... **EACH 599.50**

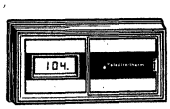
TM-99A and TC-100A Portable Digital Thermometers

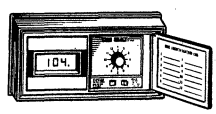
► **Bring Laboratory accuracy to the most remote locations**
► **Easy to read backlighted LCD displays**
► **Sealed membrane keypad**
► **Detachable, interchangeable 10K thermistor probe design**
► **°F/°C Conversion**
► **Unit comes complete with stainless steel puncture probe, shock resistant ABS carrying case and 9V battery (TM99A) or Nicad battery and recharger (TC100A)**

TM-99A, TC-100A—Take accurate surface readings of liquids or gases almost anywhere needed—In Just Seconds. Use anywhere in industrial plants; withstands harsh industrial environments. Contains no glass, mercury or mechanical components. **Specifications. Range:** –40°F to 300°F. **Accuracy:** ±0.2°F or ±0.2% of Reading. **Ambient Range:** 0°F to 150°F.

781-0099. TM-99A ..... **EACH 101.00**
781-0100. TC-100A ..... **EACH 136.50**

MP-300 Wall-Mount Temperature Monitor with Memory





► **Monitors 12 Remote Temperatures From One Location**

MP-300—Monitors the effectiveness and efficiency of process controls, heating and cooling systems, energy management systems, solar systems, passive solar homes, food storage warehouses, agricultural and greenhouse monitoring, and HVAC systems. Features a liquid crystal display and °C or °F switch. Subbase wiring allowing easy installation. **Specifications. Memory:** Automatically stores highest and lowest readings on selected channel. **Range:** –40°F to 300°F (–40°C to 150°C). **Accuracy:** ±1°F or C. **Operating Temperature:** 0° to 50°C. **Power:** 24 VAC @ 150 mA. **Probes:** 10K ohms @ 25°C thermistor (order optional probes below). **Color:** Beige case with brown and gold trim. 12 channels. **Size:** 7½ × 3¾ × 2″.

781-0300. Model MP-300 ..... **EACH 218.90**
781-2010. Type 2010 General Purpose Air Probe (12′ Lead Wire) ..... **EACH 19.60**
781-7030. Type 7030 Surface Probe (4′ Lead Wire) ..... **EACH 12.20**

16

HT-680A and HT-680A/ Only "Accuracy and High Temperature Capability— A Great Combination"

- ► Instrument can accept type J, K, T, or E thermocouple
- ► Memory/Recall Feature
- ► Sealed Membrane Keypad
- ► Easy to read backlighted LCD display
- ► °F/°C Conversion
- ► Durable shock resistant case
- ► Automatic shut off feature

HT680A and HT680A/Only. This compact, lightweight instument is designed for extreme temperature use from cryogenics to molten metals. HT680A comes complete with 9V battery, Type J stainless steel puncture probe, and ABS carrying case. HT680A/Only is offered only with the base instrument (Battery Included). **Specifications: Range:** – 350°F to 2200°F. **Accuracy:** ± 0.25% of reading (Max). **Resolution:** ± 1.0°F or °C (Min). **Cold Junction Compensation:** ± 0.2°F from – 10°F to 140°F. **Power:** 9V Alkaline Battery.

781-0680. HT680A.....**EACH 238.90**
781-0681. HT680A/Only.....**EACH 210.10**
781-9311. Soft Carry Case.....**EACH 34.20**
781-4022. 4022MK, Type K Surface Probe.....**EACH 63.90**

Accessories for HT-680

Stainless Steel for Liquids and Semi-solids
Response time in liquid = 15 seconds
Max. probe tip temperature = 1000°F
Max. handle temperature = 200°F
Mates directly to HT-680
781-1011. 1010.1 Type J Probe.....EACH 48.75

Stainless Steel Air Probe
Response time in Air = 10 seconds
Max. probe tip temperature = 1000°F
Max. handle temperature = 200°F
Mates directly to HT-680
781-5001. 5000.1 Type J Probe.....EACH 52.10

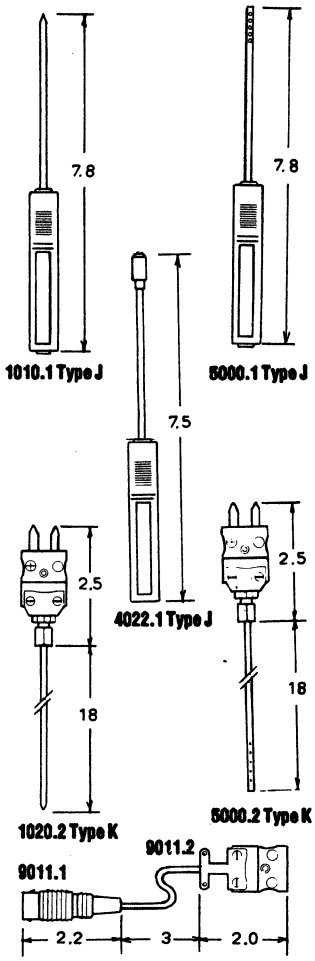
Stainless Steel Surface Probe
Response time on flat surface = 3 seconds
Max. probe tip temperature = 1000°F
Max. handle temperature = 200°F
Mates directly to HT-680
781-4031. 4022.1 Type J Probe.....EACH 69.50

Stainless Steel for Liquids and Semi-solids
Response time in liquid = 20 seconds
Max. probe tip temperature = 2200°F
Uses standard male 'OST' thermocouple connector rated to 450°F
Note: Order #9011.2 adapter cable to mate with HT-680
781-1021. 1020.2 Type K Probe.....EACH 65.30

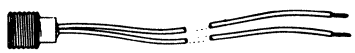
Stainless Steel Air Probe
Response time in Air = 10 seconds
Max. probe tip temperature = 2200°F
Uses standard male 'OST' thermocouple connector rated at 450°F
Note: Order #9011.2 adapter cable to mate with HT-680
781-5002. 5000.2 Type K Probe.....EACH 75.70

Adapter Cable (Type J) - 3' Long
This cable has HT-680 connector at one end and standard female 'OST' at opposite end
Max. wire temperature = 220°F
781-9011. 9011.1 J Adapter Cable.....EACH 27.50

Adapter Cable (Type K) - 3' Long
This cable has HT-680 connector at one end and standard female 'OST' at opposite end
Max. wire temperature = 220°F
781-9012. 9011.2 K Adapter Cable.....EACH 31.50



Replacement Probes and Accessories



Optional probes For MP-300

Stock No.	Mfr.'s Type	Description	Max. Probe Temp.	Response Time	Wire Type	EACH
*781-7020	7020	1/2" NPT Screw in Probe for liquids.	300°F	34 sec.	300°F Silicon	21.90
*781-7030	7030	Bolt on Surface Probe.	300°F	22 sec.	300°F Silicon	12.20

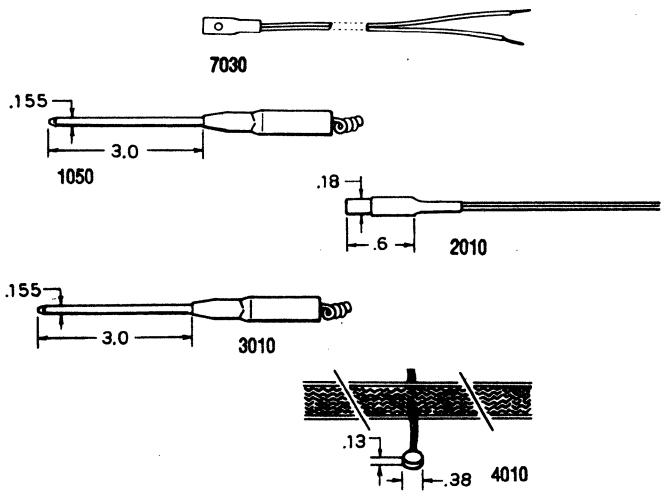
* ± 1.0°C from 0°C to 100°C (4" Lead Wire)

Thermometer and Probe Accessories for Greater Versatility

Stock No.	Mfr.'s Type	Description	Weight	EACH
781-9000	9000	Test plug for all instruments with detachable probe	2 ozs	10.00
781-9015	9015	50' Extension for probe	—	31.00
781-9032	9032	24VAC Transformer Power Supply (will power 8/Ea. MP-300's)	1 lb.	25.20
781-9311	9311	Soft Carry Case for TM-99A/TM-99A only	0.4 lb.	34.20

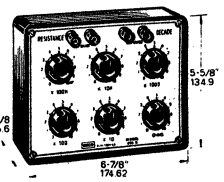
Interchangeable Probes for Use with Thermometers with Detachable Probes (TM-99A, SH-66A, IT-660)

Stock No.	Mfr.'s Type	Description	Max. Probe Temperature	Response Time	Wire Type	EACH
781-1050	1050	Stainless Steel with Plastic handle (A.B.S.)	300°F	5 sec.	220°F PVC 4' coil (black)	29.90
781-2010	2010	General purpose Air and Surface	200°F	14 sec.	200°F PVC 12" (white)	19.60
781-3010	3010	Polycarbonate shaft with alum. tip A.B.S. handle	200°F	4 sec.	220°F PVC 4' coil (black)	26.00
781-4010	4010	Aluminum surface probe with 8" velcro on wire	300°F	11 sec.	220°F PVC 12' (black)	29.20
781-5005	5005	Air probe for IT-610, IT-660, SH-66	300°F	4 sec.	220°F PVC 4' coil (black)	40.60



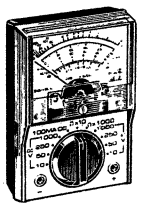
16

Resistance Decade Box



Model RES-5. This unit has a range of 0-999,999 ohms. 5% accuracy; 1-watt resistors. Comparator position and binding posts for instand substitution of resistance values into test circuit. **Current:** 350 mA (0-9 ohms) to 2.5 mA (10 Ω-1 Meg.). No leads. **Dim.:** 12 × 3½ × 3″ (304.8 × 88.9 × 76.2mm). **Weight:** 3 lbs. (1.36 kg). Made in USA.
776-1175. RES-5 . . . **EACH 75.95**

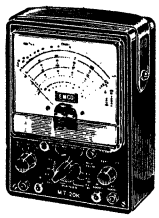
MT-2 12-Range VOM



- **12 Ranges**
- **Mirror-Back Scale**
- **Meter Overload Protection**
- **Includes Test Leads and Battery**
- **Excellent for Security or Home Use**
- **Used in Engineering and Field Service**

Specifications. DC Volts: 10, 50, 250, 1000V. **AC Volts:** 10, 50, 250, 1000V. **DC Current:** 100mA. **Resistance:** 10K Ohm, 1 Meg Ohm. **Decibels:** −10 to +22dB. **Accuracy:** DC +3%, AC +4%, Resistance +3% (of full scale). **Sensitivity:** 2000 Ohm/Volt DC and AC. **Battery:** 1.5V (UM-3/AA size). **Size:** (HWD) 3⅝″ × 2⅜″ × 1⅛″. **Wt.:** 3 oz.
776-0200. Model MT-2 . . . . . **EACH 9.95**

V-20 31-Range Multitester



31 range 20,000 ohm/volt multitester containing 7 AC and DC ranges starting with 0-.25 VDC (2.5 VAC) to 5000 volts. 5 AC and DC current ranges from 50 microamps to 10 amps. Resistance to 20 megohms in 3 steps. Diode protected. **Specifications. DC Volts:** .25, 2.5, 10, 50, 250, 1000, 5000. **AC Volts:** 2.5, 10, 50, 250, 1000, 5000. **DC Current:** 50μA, 10mA, 100mA, 500mA, 10A. **Resistance:** 2K, 200K, 20M ohms. **Decibels:** −12 to 55 dB in 5 ranges. Uses 4½ meter and 1% resistors. **Power:** One 1.5 V "D" and four 1.5V "AA" cells. Supplied with test leads and batteries.
776-0002. Model V-20 . . . . . **EACH 76.95**

Model MT-3030

- **4″ meter dial with 90° arc**
- **High impact shock resistance case**
- **Knife edge pointer**
- **Built-in tilt stand**

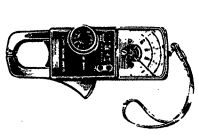
Specifications. Ranges. Volts: 10, 30, 100, 300, 1000 (Separate AC and DC switch). **Resistance:** X1, X10, X1K, X10K. **Battery:** 1.5V C/D, 1.5V AA, 9V. DC 3V. **DC Amp:** 100μA, 3mA, 30mA, 300mA, 10A. **Transistor Check. CB Range:** −10dB to +22dB on 10V AC range, 0dB to +32dB on 30V AC range, +10dB to +42dB on 100V AC range, +20dB to +52 on 300V AC range, +30dB to +62dB on 1000V AC range. **Front Panel Switches:** Polarity reverse switch, ohms adjust, range-function switch, transistor checker. Horizontal or vertical operating position, rubber feet to prevent slipping on moderate slopes. Uses two 1.5V AA cells and one 9V battery. Pointer lock can fix the pointer in any position for more accurate reading and preventing jolting while carrying.
776-3030. MT-3030 . . . . . **EACH 39.95**

3½ Digit Economy LCD Digital Multitester

- **3½ digit 0.5″ height LCD reading to 1999**
- **Auto-polarity display for negative input**
- **High overload protection for all ranges**
- **Power consumption 20mW approx.**
- **20 ranges**
- **W/off TOS**
- **Basic accuracy 0.5%**

10 megohm input on DC volt. **Power Consumption:** 20 mW. Includes diode check. Supplied with batteries, test leads, and case. **Specifications. DC Volts:** 5 ranges, 200 mV to 100 V, 0.8% + 1 digit. **AC Volts:** 2 ranges, 200 V to 750 V, 1.2 + 3 digits. **DC Current:** 5 ranges, 200 microamps to 10 amps, 0.8% + 2 digits. **Resistance:** 6 ranges, 200 ohms to 20 Megohms, 1% + 2 digits.
776-0350. Model DMR-35 . . . . . **EACH 46.95**

ACM-5 AC Clampmeter



- **Safety Fuse Protected**
- **Professional Carrying Case**

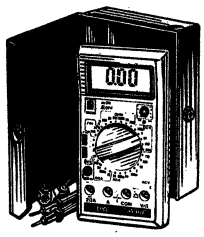
Specifications. 0-600 AC Voltage. 0-300 Amps current. 5000 ohms resistance (midscale 200 ohm).
776-0005. Model ACM-5 . . . . . **EACH 44.95**

BL-10 K Multitester

- **18 Ranges**
- **Battery Test**
- **Fully Protected**

Specifications: 3-color mirrored scale 180 μA movement. **Ranges:** DC Voltage—0 to 2.5, 10, 50, 500, 1000 V; AC Voltage—0 to 10, 50, 500 V. **DC Current:** 0-500 μA, 10 mA, 250 mA. **Resistance:** 0-5 k, 5000 k, (R × 10/R × 1K). **Battery Test:** 1.5 V (125 mA); 9 V (10 mA). **BL10 K:** 10,000 ohms/volt. **BL-2000:** 2000 ohms/volt. Uses on "AA" battery (UM-3). Supplied with test leads, manual, and battery.
776-1000. Model BL-10K . . . . . **EACH 11.25**

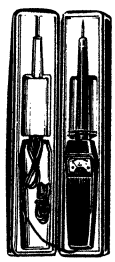
Model DMR-2322



- **Oversized 3½ digit display with 0.3% basic accuracy**
- **Audible continuity test, transistor hFe and diode test**
- **35 ranges with professional carrying case and ruggedized cabinet**

Specifications. DC Volt Range: 200mV, 2V, 20V, 200V, 1000V. **AC Volt Range:** 200mV, 2V, 20V, 200V, 750V. **DC Amps:** 200μA, 2mA, 200mA, 20A. **AC Amps:** 2mA, 200mA, 20A. **Resistance:** 200, 2K, 20K, 200K, 2M. **Capacitance:** 20pF, 200nF, 20μF. **Frequency:** 20KHZ, 200KHZ. Supplied with ruggedized case and test leads.
776-2322. Model DMR-2322 . . . . . **EACH 89.95**

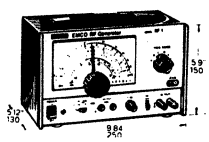
PHV-1A Probe



- **One Hand Operation**
- **Carrying Case**
- **Measures 40,000 Volts DC and 500 mA DC**

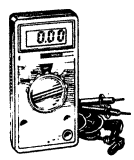
PHV-1A high voltage probe measures 40,000 volts DC and 500 mA DC individually with the flick of a switch. Meter in handle for one-hand operation. 40 K ohms/VDC. DC current 500 mA. Carrying case included. For use with all TV sets 40KV or under. Should not be used for negative voltage or microwave testing.
776-0001. Model PHV-1A. . . . EACH 57.95

RF Generator



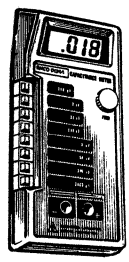
RF Signal Generator is invaluable for aligning TV sets, AM-FM radios and other communication equipment. The vernier control allows you to set RF frequencies accurately, ranging from 100 KHz to 150 MHz in 6 bands. **Specifications. Frequency Range:** A—100 KHz to 300 KHz, B—300 KHz to 1000 KHz; 1 MHz to 3.2 MHz; D—3 MHz to 10 MHz; E—10 MHz to 35 MHz; F—32 MHz to 150 MHz; (Up to 450MHz on third harmonic). **Frequency Accuracy:** ±3%. **RF Output:** 100mV. **Modulation:** Internal—1KHz; External—50 Hz to 20KHZ, at less than 1 volt RMS. **Audio Output:** 1KHz, Max. 1V RMS. **Power Requirement:** 100V or 220 AC; 50/60 Hz. **Weight:** 2.5kg. **Dim.:** 150H × 250W × 130D mm.
776-0330. Model RF-1 . . . . . **EACH 174.25**

Model DMR-26



3½-Digit ½ inch, LCD, 7 range digital multimeter. **AC Volts:** 0-500. **DC Volts:** 0-20 and 0-200. **DC Current:** 0-10 Amps. **Resistance:** 0-2000 and 0-2Meg Ohms. Diode Test. Fuse and Diode protected. Drop proof cabinet. Off position. Test leads and battery included.
776-0026. Model DMR-26 . . . . . **EACH 27.95**

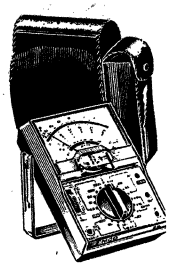
3½ Digit LCD Digital Capacitance Meter



- **Low Power Consumption Prolongs Life of Battery**
- **Wide Range Capability, 0.1 pF-20,000 MFD**
- **Overload Protection on all Ranges**

The DCM-1 features wide range capability, from 0.1 pF to 20,000 MFD and high overload protection for all ranges. Pushbutton switches allow one hand operation. The attachable stand adjusts to user's best viewing angle. The 0.5″ display height offers easy readability. Batteries, test leads, and case are included. **Specifications. Ranges:** 200 pF, 2, 20, 200 NF, 2, 20, 200, 2000 Ufd, 20,000 MFD. **Test Frequency:** 800, 80, 8 Hz.
776-0400. Model DCM-1 . . . . . **EACH 81.95**

MT-20-BC Multitester



- **Better Overload Protection**
- **Battery Tester**
- **With Carrying Case and Buzzer**
- **Includes Test Leads and Batteries**
- **Adjustable Handle**
- **Mirror-Back Scale**

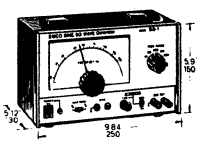
Specifications 20 k ohms/vdc. **DC V:** 0, 2.5, 10, 50, 250, 1000 V. **AC V:** 0, 10, 50, 250, 1000 V. **DC Current:** 0, 5, 50, 500 mA, 10 A on separate jack. **Resistance:** R × 1, R × 10, R × 1K (Center 50 ohm). **Decibel:** −8 dB to +62 dB on all AC V range. **Battery Test:** 1.5 V size AA; internal loading resistance and current 75 ohm/20 mA; 9 V Std.; internal loading resistance and current 450 ohm/20 mA. **Audio Power Level:** −8 dB to +22 dB on a 600 3° arc of scale length. **Batteries:** 1.5 V AA × 2 pcs. **Protection:** 1A/250 V fuse and silicon double diode. MT-20-BC made of high impact plastic and phenolic PCB. 5¼″H × 3½″W × 1½″D. 1.2 lbs.
776-0020. Model MT-20-BC . . . . . **EACH 31.95**

Model DMR-2322

- **Oversized 3½ digit display with 0.3% basic accuracy**
- **Audible continuity test, transistor hFe and diode test**
- **35 ranges with professional carrying case and ruggedized cabinet**

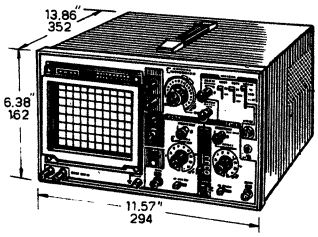
Specifications. DC Volt Range: 200mV, 2V, 20V, 200V, 1000V. **AC Volt Range:** 200mV, 2V, 20V, 200V, 750V. **DC Amps:** 200μA, 2mA, 200mA, 20A. **AC Amps:** 2mA, 200mA, 20A. **Resistance:** 200, 2K, 20K, 200K, 2M. **Capacitance:** 20pF, 200nF, 20μF. **Frequency:** 20KHZ, 200KHZ. Supplied with ruggedized case and test leads.
776-2322. Model DMR-2322 . . . . . **EACH 89.95**

GEN-SS-1 Solid State Sine/Square Wave Generator



Provides sine and square wave outputs simultaneously while covering 20 Hz to 2 MHz in 5 bands. **Specifications. Square Wave:** 20 Hz-200 kHz. **Sine Wave:** 20 Hz to 2 MHz. **Output Voltage:** sine wave 0-7.5 volts rms into high impedance output, 0-6.5 volts into 600 ohms. **Square Wave:** 0-10 volts p-p into high impedance, positive direction with ground zero. **Calibration Accuracy:** 3% except for 5%, 20 Hz to 100 Hz and 1 MHz to 2 MHz. **Maximum Distortion Across Audio Range:** 0.25% rise time at 20 kHz, less than 0.1 microseconds. **Power Requirements:** 105-132 volts. 50/60 Hz, 10 VA.
776-0379. Model SS-1 . . . . . **EACH 194.95**

20 MHz Dual Trace Oscilloscope with Component Tester



Model OSC-20DT. Specifications. Vertical Deflection. Deflection Factor: 5 mV to 20 V/DIC on 12 ranges in 1-2-5 step with fine control. **Bandwidth:** DC—DC to 20 MHz (−3 dB); AC—10 Hz to 20 MHz (−3 dB). **Risetime:** 17.5 nsec. **Overshoot:** Less than 3%. **Input Impedance:** 1 megohm shunted by 20 pF ±3 pF. **Operating Modes:** CH-A, CH-B, DUAL, ADD. **Chop Frequency:** 200 kHz Approx. **Channel Separation:** Better than 60 dB at 1 kHz. **CH-B Polarity:** CH-B can be inverted. **Time Base. Type:** Automatic and triggered. In automatic mode, sweep is obtained without input signal. Sweep Time and X-Y in 1-2-5 Step: 0.2 sec to .55 sec/DIV on 20 ranges. **Linearity:** Less than with fine control. **Magnifier:** x5 at all ranges. **Linearity:** Less than 3%. **Horizontal Deflection. Deflection Factor:** 5mV to 20V/DIV on 12 ranges in 1-2-5 step with fine control. **Frequency Response:** DC to 1 MHz. **Input Impedance:** 1 megohm shunted by 20 pF ±3 pF. **Max. Input Voltage:** 200 VDC + AC peak or 600 V p-p. **X-Y Operation:** X-Y mode is selected by SWEEP TIME/DIV switch. **CH-A:** Y-axis. **CH-B:** X-axis. **Triggering. Sensitivity: INT:** 1 DIV or more. **EXT:** 1 V p-p. **Source:** INT, CH-A, CH-B. LINE. EXT. **Slope:** Positive and Negative continuously variable level control. Pull or Auto. **Range:** 20 Hz to 2 MHz. **Filters:** AC, HF-RED, TV, TV Sync. Vertical and Horizontal Sync separator circuitry allows any portion or complex TV video waveform to be synchronized and expanded for viewing. TV-H (Line) and TV-V (Frame) sync are switched automatically by SWEEP TIME/DIV switch. **TV-V:** 0.5 sec/DIV to 0.1 msec/DIV. **TV-H:** 50 μsec/DIV to 0.2 sec/DIV. **CRT:** 130 mm tube (approx. 2 KV). **Intensity Modulation:** TTL Level. **Max. Input:** +50 V (DC + AC peak). **Calibration Voltage:** 0.5 V p-p ±5%. 1 kHz Square Wave. **Power Requirements:** AC—110/220 V, 50/60 Hz. **Dimensions:** 6.38 × 11.57 × 13.86″ (162 × 294 × 352). **Weight:** 17 lbs. (8 kg).
776-2001. OSC-20DT . . . . . **EACH 449.95**
776-1001. OSC-10-ST (10 MHZ Single Trace) . . . . . **EACH 394.95**
776-1019. LCP-1 10:1 DC-40MHZ Scope Probe . . . . . **EACH 39.95**

Compatible and Recommended DMM Accessories

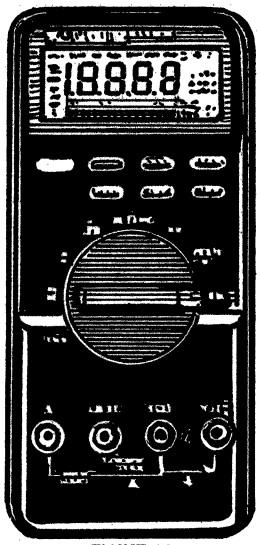
Stock No.	Description	Catalog Page No.	Digital Multimeters															
			Fluke 21	Fluke 23	Fluke 25	Fluke 27	Fluke 37	Fluke 73	Fluke 75	Fluke 77	Fluke 83	Fluke 85	Fluke 87	8060A	8062A	8010A	8012A	8050A
730-0020	C20 Hard Case	655	—	—	•	•	—	—	—	—	—	—	—	—	—	—	—	—
730-2500	C25 Ruggedized Soft Case	655	•	•	•	•	—	•	•	•	•	•	•	•	•	—	—	—
730-7000	C70 Holster	655	•	□	—	—	—	•	•	□	—	—	—	—	—	—	—	—
730-0050	C50 Compact Soft Case	655	•	•	—	—	—	•	•	•	—	—	—	—	—	—	—	—
730-0086	C86 Hard Case	655	—	—	—	—	—	—	—	—	—	—	—	—	—	•	•	•
730-0090	C90 Soft Case	655	•	•	—	—	—	•	•	•	—	—	—	•	•	—	—	—
730-1000	C100 Hard Case	655	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•
730-8205	Y8205 Soft Case	655	—	—	—	—	—	—	—	—	—	—	—	—	—	•	•	•
730-0700	TL70 Test Lead Set[1]	655	□	□	□	□	□	□	□	□	□	□	□	•	•	—	—	•
730-8131	Y8131 Test Lead Set[1]	655	—	—	—	—	—	—	—	—	—	—	—	—	—	□	□	—
730-8132	Y8132 Test Lead Set[1]	655	•	•	•	•	•	•	•	•	•	•	•	□	□	—	—	□
730-8133	Y8133 Test Lead Kit[2]	655	—	—	—	—	—	—	—	—	—	—	—	—	—	•	•	—
730-8134	Y8134 Test Lead Kit	655	•	•	•	•	•	•	•	•	•	•	•	•	•	—	—	•
730-8140	Y8140 Test Lead Set[2]	655	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-8115	A81 Battery Eliminator[3]	655	—	—	—	—	•	—	—	—	—	—	—	•	•	—	—	—
730-8078	80T-H Touch & Hold Probe	651	—	■	■	■	■	—	—	■	■	■	■	—	—	•	•	•
730-8079	80TK Thermocouple Module	653	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-8015	80T-150U Temperature Probe[2]	653	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-8088	80T-SP Temperature Probe	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
730-8102	Y8102 Temperature Probe	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
730-8103	Y8103 Temperature Probe	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
730-8104	Y8104 Temperature Termination	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
730-0100	LCA-10 Line Current Adapter	654	—	•	•	•	•	•	•	•	•	•	•	—	—	—	—	—
730-8100	Y8100 Current Probe[2]	654	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-8101	Y8101 Current Probe[2]	654	•	•	•	•	•	—	•	•	•	•	•	•	•	•	•	•
730-8400	80i-400 Current Probe	654	‡	•	•	•	•	—	•	•	•	•	•	•	•	—	—	•
730-8410	80i-410 Current Probe	654	•	•	•	•	•	•	•	•	•	•	•	•	•	—	—	•
730-8600	80i-600 Current Probe[2]	654	‡	•	•	•	•	—	•	•	•	•	•	•	•	•	•	•
730-0810	80J-10 Current Shunt[2]	654	—	—	—	—	—	—	—	—	—	—	—	•	•	•	•	•
730-8016	80K-6 High Voltage Probe[2]	655	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-8040	80K-40 High Voltage Probe[2]	655	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-0083	83RF High Frequency Probe[2]	655	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
730-0085	85RF High Frequency Probe[2]	655	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Notes: [1]Listed to U.L. Safety Standard UL 1244. [2]Factory Mutual Approved. [3]U.L. recognized. •Compatible and recommended. □Included with DMM. ■Feature of DMM without probe. ‡Compatible, 320A maximum. —Not compatible, not recommended or not applicable.

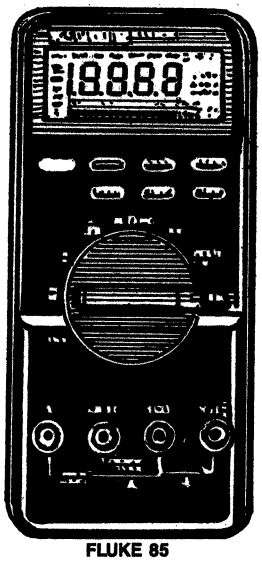
Models	Handheld Multimeters												Bench/Portable Multimeters			
	Fluke 21	Fluke 23	Fluke 25	Fluke 27	Fluke 73	Fluke 75	Fluke 77	Fluke 83	Fluke 85	Fluke 87	8060A	8062A	Fluke 37	8010A	8012A	8050A
Catalog Page No.	649	649	649	649	649	649	649	648	648	648	652	652	651	651	651	651
Basic Features: Max. Display Counts*	3200	3200	3200	3200	3200	3200	3200	4000	4000	4000	20000	20000	3200	2000	2000	20000
Autoranging	(1)	(1)	(1)	(1)	•	(1)	(1)	(1)	(1)	(1)	—	—	(1)	—	—	—
Special Features: Analog Bar Graph	•	•	•	•	•	•	•	•	•	(6)	—	—	•	—	—	—
Frequency Measurement	—	—	—	—	—	—	—	•	•	•	(2)	—	—	—	—	—
dB, dBm Readout	—	—	—	—	—	—	—	—	—	—	•	—	—	—	—	•
Offset/Relative Ref.	—	—	—	•	—	—	—	•	•	•	•	•	•	—	—	•
Continuity and Beeper	•	•	•	•	—	•	•	•	•	•	•	•	—	—	—	
Peak-Hold, AC/DC	—	—	—	—	—	—	—	—	—	•	—	—	—	—	—	—
Touch-Hold	—	•	•	•	—	—	•	•	•	•	—	—	•	(5)	(5)	(5)
Sealed Case, Water/Chemical Resistant	—	—	•	•	—	—	—	(7)	(7)	(7)	—	—	—	—	—	—
Min./Max. Hold	—	—	—	•	—	—	—	(8)	(8)	(8)	—	—	•	—	—	—
Fused 10 Amp Range	—	•	•	•	•	•	•	•	•	•	—	—	•	—	—	—
DC Volts**: Basic Accuracy, %	0.5	0.3	0.1	0.1	0.7	0.5	0.3	0.3	0.1	0.1	0.04	0.05	0.1	0.1	0.1	0.03
Max. Resolution, μV	100	100	100	100	100	100	100	100	100	100	10	10	100	100	100	10
AC Volts: Max. AC Voltage, w/o Probe (RMS)	750	750	1000	1000	750	750	750	1000	1000	1000	750	750	1000	750	750	750
True-RMS	—	—	—	—	—	—	—	—	—	•	•	•	—	•	•	•
Basic Accuracy, %	2.0	2.0	0.5	0.5	3.0	2.0	2.0	1.0	0.5	0.7	0.2	0.5	0.5	0.5	0.5	0.5
Max. Resolution, μV	1K	1K	100	100	1K	1K	1K	100	100	100	10	10	100	100	100	10
Frequency Range, Hz	1K	1K	30K	30K	1K	1K	1K	5K	20K	20K	100K	30K	30K	50K	50K	50K
AC and DC Amps: Max. Resolution, nA	10K	10K	100	100	10M	10K	10K	0.2	0.2	0.2	10	10	100	100	100	10
Max. Amps, w/o Probe	.32	10	10	10	10	10	10	10	10	10	2	2	10	10	2	2
Ohms, etc: Max. Resolution, mΩ	100	100	100	100	100	100	100	100	100	100	10	10	100	100	1	10
Max. Resistance, MΩ	32	32	32	32	32	32	32	40	40	40	300	300	32	20	20	20
Diode Test	•	•	•	•	•	•	•	•	•	•	(3)	(3)	•	•	•	•
Conductance†	—	—	•	•	—	—	—	•	•	•	•	—	•	•	•	•

Note: All models U.L. listed to Safety Standard UL 1244, except 8010A, 8012A, 8050A which are Factory Mutual Approved. *All displays LCD. **Maximum DC voltage w/o probe, 1000V. •Standard. (1) Or manual ranging. (2) For frequencies to 200 kHz. (3) 1mA constant current mode. (4) Use Peak-Hold mode. (5) Use 80T-H probe. (6) Analog Pointer. (7) Splash and dust proof. (8) Min. Max. Average. †Conductance (1/Ω) measurement allows measurements to 10,000 MΩ on most models, 100,000MΩ on some. —Not compatible, not recommended or not applicable.

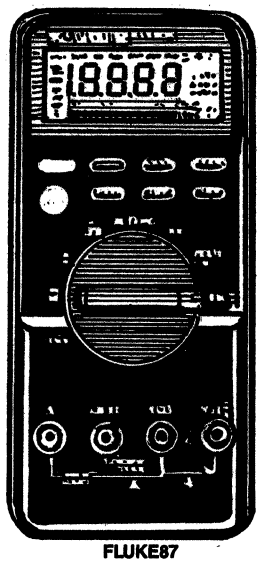
80 Series Analog/Digital Multimeters



FLUKE 83



FLUKE 85



FLUKE87

High performance meters with 11 functions and 40 ranges for a wide variety of electronic and industrial applications.

- ► **MIN MAX AVERAGE recording mode wuth Min Max Alert™**
- ► **Frequency, duty cycle and capacitance measurements**
- ► **1000V input protection; Input Alert™ detects wrong input jack connections**
- ► **3 3/4 digit, 4000 count display updates 4 times per second, analog display updates 40 times per second**
- ► **4 1/2 digit mode, 1 ms peak hold, back lit display and true RMS measurements (87 only)**
- ► **Touch Hold® and Relative modes**
- ► **Splash proof and dust proof case; EMI shielded**
- ► **Protective holster with Flex-Stand™**
- ► **Safety-designed test lead set**

The new Fluke 80 Series (83, 85, and 87) is a family of versatile analog/digital multimeters with an impressive range of capabilities, including frequency, duty cycle and capacitance measurement.
Designed for electronic as well as industrial applications, the 80 Series features durable construction and several unique safety features.

MIN MAX AVERAGE Recording Mode With Min Max Alert™

Stores the highest, lowest, and average of all readings, allowing you to monitor a signal for seconds or days. Selectable response times allow you to specify the time required to sense changes. Min Max Alert gives an audible tone for readings above or below previous minimums or maximums.

Frequency, Duty Cycle and Capacitance Measurements

Fluke 80 Series meters have a counter for frequency measurements from 0.5 Hz to 200 kHz, and duty cycle measurements from 0.1% to 99.9% of cycle. All three meters measure capacitance from 10 pF to 5μF. Larger value capacitors may be measured using the analog display in the resistance mode.

Input Alert and Overload Protection

Input Alert™ provides an audible warning if the input jack connections are not correct for the measurement selected. This reduces the risk of damage to the equipment being tested and to the meter. Fluke 80 Series meters also provide 1,000 volt input protection in both ohms and diode test.

Fast 3 3/4-digit, 4000 Count Digital Display, High Resolution Analog Display

Digital display updates 4 times/second. For changing or unstable signals, the 87 features a high-resolution analog pointer; the 83 and 85 use an analog bargraph. The 83 and 85 also feature Zoom Mode for higher resolution analog readings. Analog displays update 40 times per second.

4 1/2 Digit Mode, 1 ms Peak Hold, True RMS, Back-Lit Display (87 Only)

The Fluke 87 is a true-rms meter, and offers a 4 1/2 digit, 19,999 count high resolution mode, plus 1 ms Peak Min Max hold. The back lit display assures readability in poorly lit settings. Light shuts off automatically after 68 seconds, prolonging battery life.

Touch Hold® and Relative Modes

Touch Hold captures the measurment, beeps and locks it on the digital display until you're ready to view it. It automatically updates with each new measurement. The Relative Mode remembers a reading and shows the change (difference) between it and any readings that follow.

Rugged, Sealed Construction

Splash proof and dust proof case and a specially designed protective holster protect the meter even under harsh operating conditions. All units are sealed and EMI shielded.

Standard Equipment

Every meter comes packaged with a yellow protective holster complete with Flex-Stand™ safety-designed test leads, 9 V battery (installed), manual and operator guide.

Options/Accessories

A dark grey holster with Flex-Stand™ is available. The full line of Fluke measurement accessories is compatible with the 80 Series.

Basic Accuracy

(% of reading + number of digits)

	83	85	87
DC Voltage	0.3% + 1	0.1% + 1	0.1% + 1
AC Voltage	1% + 3	0.5% + 2	0.7% + 2
True RMS	No	No	Yes
Specified to	5 kHz	20 kHz	20 kHz
Ohms	0.4% + 1	0.2% + 1	0.2% + 1
DC Current	0.4% + 2	0.2% + 2	0.2% + 2
AC Current	1.2% + 2	0.6% + 2	1% + 2
Frequency	0.005% + 1	0.005% + 1	0.005% + 1
Capacitance	1% + 2	1% + 2	1% + 2

Battery Life

500 hours typical (alkaline)

Three Year Warranty

One year calibration interval

Size

1.25″H × 3.41″W × 7.35″L
(32mmH × 87mmW × 187mmL)

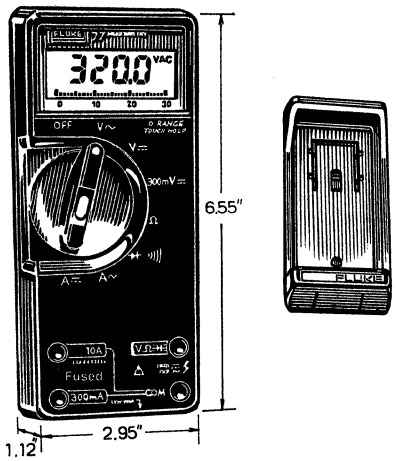
Weight

12.5 oz. (0.36kg)

Order

Stock No.	Mfr's Type	Description	EACH
730-0830	Model 83	Multimeter with holster	199.00
730-0850	Model 85	Multimeter with holster	239.00
730-0870	Model 87	Multimeter with holster	289.00
730-0081	C81G	Optional grey holster	14.00
730-0082	C81Y	Replacement yellow holster	14.00

70 Series Analog/Digital Multimeters



- 3½ Digit, 3200-Count Display
- 31-Segment Analog Bar Graph
- Rotary Dial for Function Selection
- Autoranging and Auto Polarity Selection
- "Sleep Mode" Powers Down Display
- Touch Hold (Model 77 only)
- UL 1244 Listed
- 10 Amp Fused (All 3 Models)

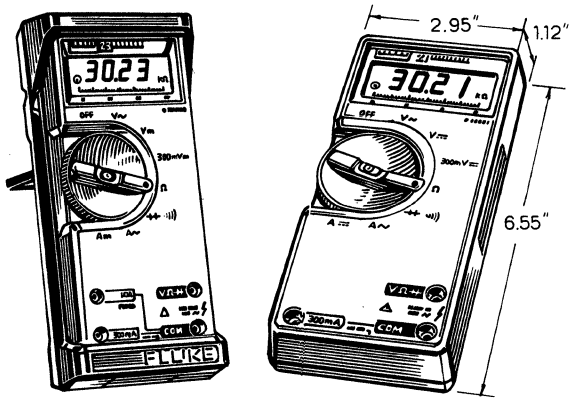
The 70 Series utilizes the latest advances in microcircuit technology to provide high-performance meters with uncompromising quality and capabilities. **Features include: Analog/Digital Display:** High-resolution 3200-count digital display for better accuracy than traditional 3½ digit DMMs. 31-segment analog bar graph updates 10 times faster than numerical displays — makes peaking and dipping adjustments simple. **Autoranging:** Automatically selects the proper range. Symbols on the LCD show what function is being measured and the range of the measurements. **Range Hold:** Speeds up repetitive go-on-go checks. One touch prevents meter from changing ranges. Pushing again changes the range, and holding the button for a couple of seconds restores the autorange function. **Audible Continuity/Diode Test:** Continuous tone provides a fast continuity check of current paths up to 150 Ohms. Brief tone indicates a drop of about 0.6 volts, the normal forward bias for semiconductor devices passing about 500 μA. **Touch Hold™ (Model 77 only):** Allows automatic measurements while watching probes and circuits. Meter captures the measurement, beeps, and locks it in display until user is ready to view it. Automatically updates with each new measurement. The 70 Series operates on a standard 9V battery that yields a life of about 2000 hours. All meters include a pair of safety-designed TL70 right-angle test leads, 9V battery, spare fuse, and operator's manual. Model 77 also include the C70 holster. **Dimensions:** 1.12 x 2.95 x 6.55″ (28 x 75 x 166mm). **Weight:** 12 oz. (0.34 kg). 3-year warranty, one-year guaranteed calibration.

Stock No.	Mfr.'s Type	Description	Basic Accuracy*					EACH
			DCV	ACV	Ohms	DC Current	AC Current	
730-0073	Fluke 73	Multimeter	0.7% + 1	3% + 2	1.0% + 1	2.0% + 2	3% + 2	79.00
730-0075	Fluke 75	Multimeter	0.5% + 1	2% + 2	0.7% + 1	1.5% + 2	3% + 2	119.00
730-0077	Fluke 77	Multimeter with Holster	0.3% + 1	2% + 2	.05% + 1	1.5% + 2	3% + 2	159.00
730-7000	C70	Holster	—	—	—	—	—	14.00

* % of reading + number of digits.

21/23 Analog/Digital Multimeters

- Analog and Digital Display-Test Changing on Stable Signals
- Autoranging
- Continuity Buzzer
- Volts, Ohms, Diode Test, Milliamps
- 2000 Hour Life on Std. 9V Battery
- UL 1244 Listed
- Survives 6kV Transients on 660V Major AC Feeders
- Fluke 23 — 10 Amps Touch Hold™

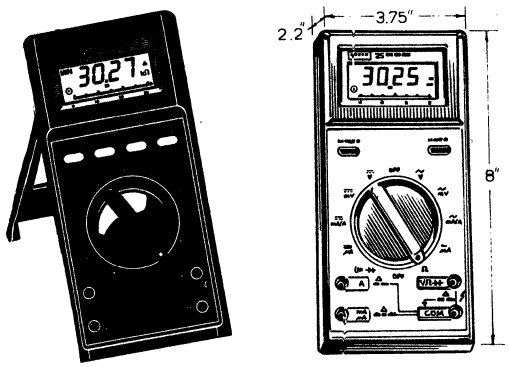


The new Fluke 21 and 23 are highly accurate, rugged analog/digital multimeters. They offer high performance and high-energy overload protection in a compact low-cost unit. Packaged in a tough yellow ABS plastic case that can withstand drops and rough handling. **Other features include: Safety-Designed:** All inputs are protected from high-energy overloads. All voltage inputs meet the power line surge tests for major feeders as defined in IEEE 587-1980, Category B. **3200-Count Digital Display:** Better accuracy and resolution than traditional 3½ digit (1999 count) DMMs. The high contrast LCD with wide viewing angle updates twice every second. **31-Segment Analog Bar Graph:** Makes measurements such as peaking, nulling, zero adjustments, and capacitor checking. Updates ten times faster than digital readout. **Autoranging and Automatic Polarity:** Instantly selects the proper range. Reverse polarity is indicated by a "-" sign next to the reading. Optional manual ranging included. **Audible Continuity/Diode Test:** Quickly checks wiring, diode, and transistor. Continuous tone signals continuity; beep signals forward biased diode or transistor. **Touch Hold (Model 23 only):** The Touch Hold function allows automatic measurements while watching probes and circuit. Meter captures the measurement, beeps, and locks it in display until user is ready to view it. Will automatically update each new measurement. Each meter includes a pair of safety-designed TL70 right-angle test leads, 2 insulated alligator clips, 9V battery, spare fuse, and operator's manual. Fluke 23 also includes a C70 protective holster (has tilt bail, belt hook, and lead storage). **Basic Accuracy (% of reading + number of digits): Fluke 21:** DCV 0.5% + 1; ACV 2% + 2; OHMs 0.7% + 1; DC Current 2% + 2; AC Current 3% + 2. **Fluke 23:** DCV 0.3% + 1; ACV 2% + 2; OHMs 0.5% + 1; DC Current 2% + 2; AC Current 3% + 2. **Dimensions:** 1.12 x 2.95 x 6.55″ (28 x 75 x 166mm). **Weight:** 12 oz. (0.34 kg). 3-year warranty; one-year guaranteed calibration.

Stock No.	Mfr.'s Type	Description	EACH
730-0021	Fluke 21	Multimeter	119.00
730-7000	C70	Holster	14.00
730-0023	Fluke 23	Multimeter with Holster	159.00
730-2500	C25	Ruggedized Soft Case	20.00

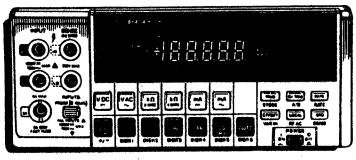
25/27 Analog/Digital Multimeters

- Survives 6kV Transients on 660V Major AC Feeders
- High Performance
- Superior Shielding Against EMI
- Operates from −15° to +55°C, 95% Relative Humidity
- UL 1244 Listed

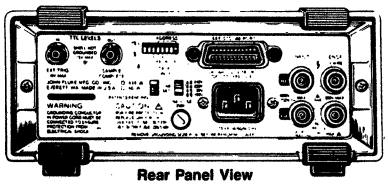


The new Fluke 25 and 27 3½ digit handheld multimeters combine precision digital and analog measurement capabilities with ruggedness and durability. O-ring sealed case withstands water, contaminants, and chemicals under the harshest conditions. A separate sealed battery/fuse door allows access without interrupting the primary case seal. **Other features include: 3200-Count Digital Display:** Better accuracy and resolution than a conventional 3½ digit DMM. The high contrast LCD with wide viewing angle updates twice every second. **31-Segment Analog Bar Graph:** Makes measurements such as peaking, nulling, zero adjustments, and capacitor checking. Updates ten times faster than digital readout. **Touch Hold™.** Allows automatic measurements while watching probes and circuit. Meter captures the measurement, beeps, and locks it in display until user is ready to view it. Will automatically update each new measurement. **Min-Max and Resistive Modes (Model 27 only):** Min-Max stores the highest and lowest digital readings to allow user to monitor a signal for a few seconds or days. Relative remembers a reading and displays the difference between it and any following readings. **Autoranging:** Instantly selects the proper range. Optional manual ranging included. **Audible Continuity/Diode Test:** Quickly check wiring, diode, and transistor without looking at display. Low frequency (1500 Hz) beeper. **Safety-Designed:** Overload protection, high-energy fuses, fused 10A range, non-metallic case and bail. All voltage inputs meet the power line surge tests for major feeders as defined in IEEE-587-1980, Category B. Offered in a choice of dark charcoal grey or safety yellow. Operates on a standard 9V battery which yields a life of over 1000 hours. Meets military stock, vibration, and water-resistance requirements. Each meter includes a pair of safety-designed TL70 right-angle test leads, 2 insulated alligator clips, spare fuse, 9V battery, and operator's manual. **Optional Accessories. Type C20** heavy-duty hard plastic case features a carrying handle, operating guide decal, and test lead storage. **Type C25** padded soft case has 2 storage pockets and a water-resistant zipper. **Specifications. Basic Accuracy (% of reading + number of digits):** DCV 0.1% + 1; ACV 0.5% + 3; OHMs 0.2% + 1; DC Current 0.75% + 2%; AC Current 1.5% + 2. **AC/DC Volt:** 100 μV to 1000V. **AC Response:** 30 kHz. **AC/DC Current:** 0.1 μA. **Resistance:** 0.1 to 32M; up to 10,000M with conductance. **Dimensions:** 2 x 3.75 x 8″ (56 x 95 x 203mm). **Weight:** 1.6 lbs. (0.75 kg). Two-year warranty; one-year calibration.

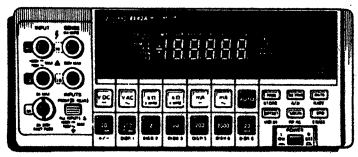
Stock No.	Mfr.'s Type	Description	EACH
730-0025	Fluke 25	Multimeter (Charcoal Grey)	209.00
730-0024	Fluke 25	Multimeter (Safety Yellow)	209.00
730-0027	Fluke 27	Multimeter (Charcoal Grey)	279.00
730-0026	Fluke 27	Multimeter (Safety Yellow)	279.00
730-0020	C20	Hard Case	25.00
730-2500	C25	Ruggedized Soft Case	20.00



8840A



Rear Panel View



8842A

The 8840 Series DMMs are primarily targeted at research and development and production test. Applications in this segment consist of short to medium term benchtop experiments in research, design, and development settings. Instruments are most often used in stand alone mode, but are often components of small, short-term IEEE-488 systems. The most important benefits which the 8840 DMMs bring to these customers are low initial cost, ease of operation, measurement power, and configuration flexibility. The 8840 Series **low initial cost** puts these DMMs within the reach of more customers. **Ease of operation** allows casual users to quickly become familiar with the instrument. **Measurement power** and **configuration flexibility** insure that the 840 Series will perform well not only in the present application, but in other applications for years to come.

8840A Series: 5 1/2 Digit Multimeters

- **Basic 1-year dc accuracies to 0.003%**
- **Ohms and dc current standard**
- **AC voltage and current optional**
- **Full system capability with optional IEEE-488 interface**
- **Up to 100 readings/second system speed**
- **Vacuum fluorescent display**
- **Closed-case calibration**
- **Comprehensive self test**

Power System Capabilities
Adding the inexpensive IEEE-488 interface option to the 8840 Series provides system capability which includes complete system control of functions, ranges, and reading rates. Front and rear panel inputs are switch-selectable from the front panel (and you can sense the status of the switch over the bus). Calibration and self-test can also be controlled over the bus.

The mechanical design also contributes to performance and convenience in system applications. The 8840A Series metal case provides EMI shielding to ensure measurement integrity. The unit can be mounted in a half-rack slot simply by removing the handle, turning the "twist-away" rear feet and bolting on rack-mount brackets.

Performance
The 8840 Series has performance you would expect in multimeters costing much more. Basic dc accuracies to 0.003% and basic ac accuracies to 0.08% at one year are available. See the specifications that follow for complete information on measurement ranges and accuracy.

Closed-Case Calibration
No internal adjustments are required for calibration. After you initiate calibration via a recessed front panel switch, you are led through a software controlled procedure that even double checks to ensure that appropriate reference inputs have been applied. Calibration can be performed under front panel or IEEE-488 control.

Self-Testing
The 8840 Series automatically performs a digital self-test each time it is powered up. Additionally, you can initiate a comprehensive analog and digital diagnostic self-test from the front panel or through the IEEE-488 interface.

Service Access
If you wish to disassemble the instrument, the ease of service access and ease of option installation may be demonstrated. Removal of two rear bezel screws plus the case grounding screw will allow the case to be removed towards the rear of the instrument. Pull the four snap fasteners of the AC option and move the AC card to the service access position. Pull the two snap fasteners and loosen the two jack screws of the IEEE-488 card and remove the card. Stand the instrument chassis on its left side (viewed from the rear). Show that with the bottom shield removed, the AC option in the service position, and the IEEE-488 option resting on the table next to the instrument, both sides of all three boards are now accessible for service. Complete the demonstration by quickly reassembling the instrument, noting the ease of option installation.

General Specifications

Option -05 IEEE-488 Interface Function: Option allows complete control and data output capability, and supports the following interface function subsets: SH1, AH1, T5, L4, SR1, RL1, DC1, DT1, E1, PP0 and C0. **Common Mode Voltage:** 1000V dc or peak ac, or 700 V rms ac from any input to earth ground. **Temperature Range:** 0°C to 50°C operating; −40°C to 70°C storage. **Humidity Range:** 80% RH from 0 to 35°C; 70% to 50°C. **Warmup Time:** 1 hour to rated specifications. **Power:** 100, 120, 220, or 240 V ac ± 10% (250 V ac maximum), switch selectable at rear panel; 50, 60, or 400 Hz, automatically sensed at power up; 20 VA maximum. **Vibration:** Meets requirements of MIL-T-28800C for Type II, Class 3, Style E equipment. **Safety:** ANSI C39.5 and IEC 348, Class I. **Size:** 8.9 cm H × 21.6 cm W × 37.1 cm D (3.5″ × 8.5″ × 14.6″). **Weight:** Net 3.4 kg (7.5 lbs.); shipping 5 kg (11 lbs.). **Warranty Period:** Two years. **Included:** Line cord, test leads, Instruction/Service Manual, IEEE-488 Quick Reference Guide and instrument performance verification record.

Choose the 8840 Series DMM That's Right For Your Application.

8842A	8840A
Maximum Resolution 100 nV on 20 mV range 100 μ9 on 20 Ω range 1 μA on 200 mA range	**Maximum Resolution** 1μV on 200 mV range 1 mΩ on 200Ω range 10 μA on 2000 mA range
Basic Accuracy at One Year V dc 0.003% Ohms 0.008% Vac 0.08%	**Basic Accuracy at One Year** V dc 0.005% Ohms 0.013% Vac 0.16%
Reading Rates 2.5, 20, and 100 rps (.31, 1.25, and 100 rps on 20Ω, 20 mV, and 200 mA ranges)	**Reading Rates** 2.5, 20, and 100 rps
Calibration Cycles 24-hour, 90-day, 1-year and 2-year specifications (0.005% basic dc accuracy at **two years**)	**Calibration Cycles** 24-hour, 90-day, and 1-year specifications (0.005% basic dc accuracy at **one year**)
Resistor Network Technology Hermetically sealed thin-film	**Resistor Network Technology** Thin-film
Warranty Two years	**Warranty** One year

Ordering Information

Units

Stock No.	Mfr.'s Type	Description	EACH
739-8840	8840A	DMM, DCV, OHMS	**845.00**
739-8842	8842A	DMM, DCV, OHMS	**1045.00**
739-8841	8840A-09	DMM, DCV, OHMS, True RMS	**1050.00**
739-8843	8842A-09	DMM, DCV, OHMS, True RMS	**1305.00**
739-8844	8840A-05K	IEEE-488 Interface Kit	**180.00**
739-8845	8842A-05K	IEEE-488 Interface Kit	**180.00**

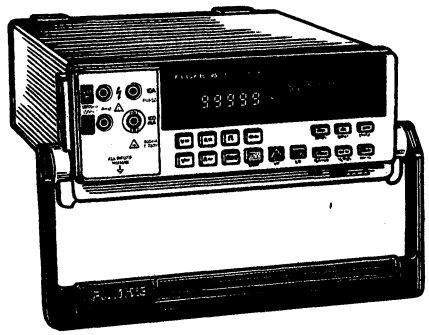
Note: Options for each model operate exclusively with that instrument

Accessories

Stock No.	Mfr.'s Type	Description	EACH
739-8834	Y8834	Single Rack Mount Kit	**65.00**
739-8835	Y8835	Dual Rack Mount Kit	**100.00**
739-8836	Y8836	Single Rack Mount Kit, Center	**65.00**
739-8021	Y8021	1 meter IEEE-488 Cable	**130.00**
739-8022	Y8022	2 meter IEEE-488 Cable	**145.00**
739-8023	Y8023	4 meter IEEE-488 Cable	**155.00**

Model 45

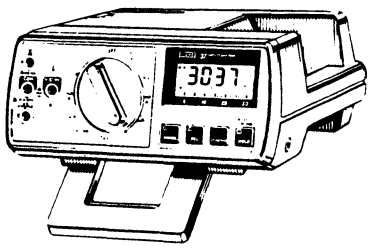
- ► True RMS for Voltage and Current
- ► Touch Hold®, Relative, Min/Max
- ► Compare Function (Hi/Lo/Pass)
- ► dB Function (21 Ref. Impedances)
- ► Diode Test
- ► Multi-Function Dual Display
- ► RS-232 Interface for PC Instrument Applications (Uses DB-9)
- ► Bright Vacuum Fluorescent Primary and Secondary Displays
- ► IEEE-488.2 Option Available for Remote Use and Control of Unit
- ► 1μV and 0.1μA Resolution
- ► Autoranging
- ► Frequency Counter to 1 MHz
- ► Audio Power
- ► Continuity
- ► Data Recorded in Lotus 123 Format



Feature Rich 5-Digit 100,000 count DMM with unique multi-function dual display, allowing measurement of two signal parameters from a single test connection. The standard RS-232 interface allows measurement data to be filed, manipulated, printed or transmitted by modem. The print mode automatically formats measurment data for printing on an RS-232 printer. IEEE-488.2 option available factory installed or as kit for field installation. Does not require removal of RS-232. Calibration preformed via either RS-232 or IEEE-488.2 without opening case. Provides digital read-out of decibles using front panel selection of any of twenty-one references from 2 ohms to 8000 ohms. For 2, 4, 8, and 16 ohms, the meter displays audio power in watts. Using front panel entry of upper and lower limits, unit shows both a Hi/Lo/Pass evaluation and measured value. Touch Hold® captures the measurement, beeps, and locks it on the display until you are ready to use it. It automatically updates with each new stable measurement. Relative mode remembers a reading and shows the change (difference) between it and any readings that follow. Min/Max records the highest and lowest values measured. Either can be displayed at any time. Extended three year warranty option available. **Specifications: Display Counts At Full Range:** 2.5 readings/second (slow) 99,999; 5 readings/second (medium) 30,000; 20 readings/second (fast) 3,000. **Resolution:** DC volts 1 μV; AC volts 1 μV; Ohms 1mOhms; DC Amps 100nA; AC Amps 100nA; Frequency 10mHZ. **Basic Accuracy (Given as +/−% of reading + number of least significant digits):** DC volts .02% + 2; AC volts .2% + 2; Ohms .05% + 2; DC Amps .05% + 10; Frequency .05% + 1. One Year Warranty. **RS-232 Baud Rate:** 300, 600, 1200,2400, 4800 and 9600; Odd, even or no parity; one stop bit, 8 data bits. **Size:** 3.67 in. × 8.50 × 11.27 in. **Weight:** 5.2 lb; with battery 7.0 lb. Includes operators manual, quick reference guide, line cord, test leads.

Stock No.	Mfr.'s Type	Description	EACH
739-0045	45	Mainframe Unit	595.00
739-0046	45-01	With Battery (8 hours typical; 16 hours recharge)	715.00
739-0047	45-05	With IEEE-488.2	745.00
739-0048	45-15	With IEEE-488.2 and Battery (8 hours typical; 16 hours recharge)	865.00
739-0049	45-01K	Battery Kit (8 hours typical; 16 hours recharge)	120.00
739-0050	45-05K	IEEE-488.2 Kit	150.00
739-0042	C40	Soft Case for Model 45	50.00
739-0044	S45	QuickStart 45 Software	95.00
739-0040	RS-40	6′ RS-232 Termination Cable (DB-9 to DB-25 female)	30.00
739-0041	RS-41	6′ RS-232 Modem Cable (DB-9 to DB-25 male)	30.00
739-0043	M00-200-634	Rack Mount Kit	95.00

Model 37 Bench Portable DMM



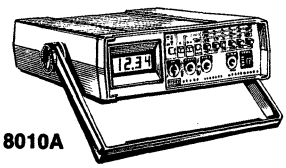
- ► Easy-To-Use Rotary Dial
- ► High Accuracy and Resolution
- ► EMI Shielding
- ► Superior Overload Protection
- ► Min/Max Recording
- ► Relative Mode

Features include: Single rotary dial. Autoranging for maximum resolution, manual ranging. Display annuciator for all major functions. **3200 Count Digital Display:** Offers up to × 10 greater resolution than conventional 3½ digit 2000 count DMMs. **31-Segment Analog Bar Graph:** Measures peaking, nulling, zero adjustments, and capacitor checking. Updated faster than digital display. Stores highest and lowest digital readings, so user can monitor a signal for seconds or days. Remembers a reading and shows the difference between it and any additional reading. **Touch Hold™:** Meter automatically captures the measurement and holds it until user is ready to view it. Case Design, 15° sloping face for a range of viewing angles. Automatic self test of all critical functions and the battery, each time meter is turned on. Auto Polarity, Diode test and Continuity Beepers. Battery eliminator jack. Removeable dual-position tilt stand, built-in handle. Storage compartment for test leads and other accessories. **Specifications: Operating Temp:** – 15°C to 55°C. **Shock and Vibration:** Per MIL-T-28800 class 3. **Power Requirements:** Single 9V battery (NEDA 1604) provided. **Battery Life:** 1,000 hours typical. **DC/AC Voltage. Input Impedance:** 10MΩ nominal. **Overload Protection:** 1000V RMS, 500V RMS on 320 mV range; 10^7 volt-Hertz maximum. **Dimensions:** 3.8 × 8.5 × 9.1″ (97 × 216 × 231mm). **Weight:** 2.9 lbs., (1.31 kg.)

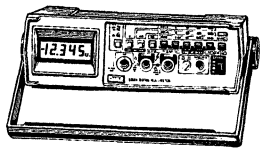
730-0037. Model 37 ..... EACH 269.00

Models 8010A, 8012A and 8050A Bench Portable DMMS

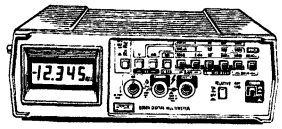
- ► True-RMS AC to 50 kHz
- ► Extensive Overload Protection
- ► High-Power or Low-Power Ohms
- ► Five Voltage Ranges 200mV to 1000V
- ► 80T-H Touch and Hold Probe (optional)
- ► Conductance Function Checks High Resistance



8010A



8012A



8050A

Models 8010A and 8012A

Both meters measure DC Volts; True-RMS AC Volts, AC Amps: DC Amps, Ohms, conductance, and diode test. **Model 8012A.** 3½ digit ohmmeter, also features two low resistance ranges (2 or 20). **Model 8010A.** Includes a 10A current range. True-RMS AC, assures accurate measurement of non-sinusoidal voltage or current waveforms. Custom hybrid circuitry provides low noise and a wide bandwidth. Conductance, measure resistance as high as 10,000 M, useful for checking high-value resistors, leakage in connectors, cables and diodes. **Specifications: Basic DC Accuracy:** 0.1% + 1. **Dimensions:** 2.5 × 8.5 × 10″ (6 × 33 × 25cm); **Weight:** 2.38 lbs., (1.08 kg). One year guaranteed calibration.

Model 8050A

4½ digit meter measures DC Volts, true-RMS as AC Volts, DC amps, true-RMS AC amps, ohms, dBm (with selectable reference impedance) conductance and diode tests. Also features a relative function for all measurements. Relative Reference, with the relative switch on, the displayed value is equal to the difference between the present input value and a previously stored reference value. It's a handy feature to null out test lead resistance or measure the dB gain of the various stages of an audio amplifier. dB function provides digital read-out of dB referenced to any one of sixteen impedance from 8 ohms to 1200 ohms. The internal micro/processor performs the calculations-no need to use manual conversion tables. Two ranges of conductance extend the resistance measuring capabilities to 100,000 M, far beyond ordinary meters. True-RMS AC assures accurate measurement of non-sinusoidal waveforms, as well as pure sinewaves. Each meter includes an operator's manual, line cord, test leads. **Specifications. Basic DC Accuracy:** 0.03% + 2. **Dimensions:** 2.5 × 8.5 × 10″ (6 × 33 × 25cm). **Weight:** 2.38 lbs. (1.08kg).

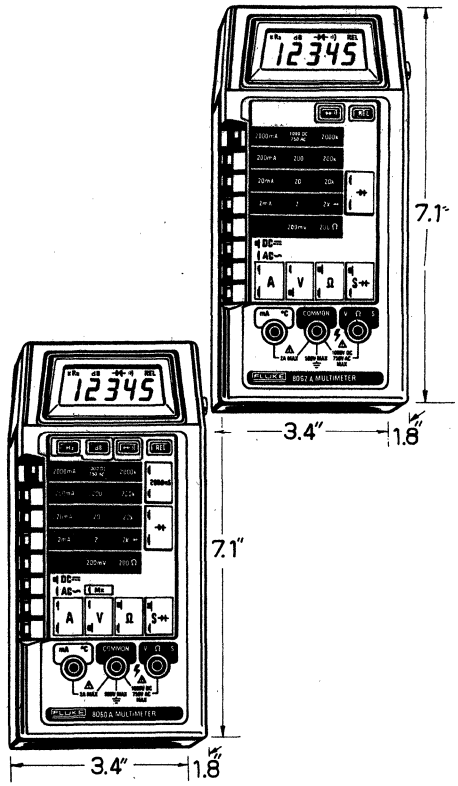
Optionals

Optional Touch and Hold Probe: Hold the displayed reading by simply pushing a button on the probe. Reading will not change until button is released. Use for voltage, resistance, and conductance measurements. **Optional Battery Operations.** Rechargeable battery versions of all three bench/portable DMMs are available as Models 8010A-01, 8012A-01, and 8050A-01.

Stock No.	Mfr.'s Type	Description	EACH
730-8010	8010A	Without Rechargeable Battery	329.00
730-8012	8012A	Without Rechargeable Battery	359.00
730-8050	8050A	Without Rechargeable Battery	449.00
730-8011	8010A-01	With Rechargeable Battery	369.00
730-8013	8012A-01	With Rechargeable Battery	399.00
730-8051	8050A-01	With Rechargeable Battery	489.00
730-8078	80T-H	Touch and Hold Probe	59.00

4½ Digit Handheld DMMS

- ► True-RMS AC Voltage and Current Measurement
- ► Audible/Visual Continuity Tests
- ► Relative Reference (Offset)
- ► Low-Power Ohms on all Resistance Ranges
- ► Constant-Current Diode Test Mode
- ► Measures Resistance to 300M
- ► Model 8060A - Frequency and dB Measurements
- ► UL 1244 Listed



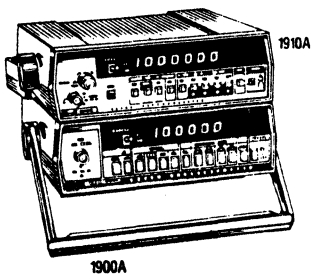
Model 8060A. The 8060A 4-½ digit handheld DMM offers more measurement capabilities than most bench or portable models. This microcomputer-based unit provides unique features never before available in a small low-cost DMM, features like: **dB and Frequency.** Accuracy measurment of the dB gain or loss of amplifiers, filters, or attenuators in a direct dB readout. Rel dB measurement when used with the relative function. Precision frequency measurement. **Relative Reference.** The microcomputer allows user to automatically subtract lead resistance when measuring ohms, and this displays only the difference between a stored reference value and a measured value - even if rate was changed between reading. Works in all functions and ranges. Ideal for use in dB and frequency measurements. **Automatic MΩ Range Selection.** Front panel offers one manually-selectable position above 200kΩ. In that position, the appropriate range - 2MΩ, 20MΩ, or 300MΩ - is automatically selected. **True-RMS AC.** Provides accurate true-RMS AC measurements on non-sinusoidal waveforms and sine waves. **Special Annunciators.** Annunciator symbols appear in the display to remind user which measurement function has been selected. These symbols indicate relative, continuity/diode, dB, and frequency functions as well as low battery and overload conditions. In addition to these features, the 8060A is designed with overload protection and a rugged case with safety-engineered components for excellent precision performance. **Basic DC Accuracy:** 0.04% rdg + 2 digit. **Dimensions: 1.8 × 3.4 × 7.1"** (45 × 86 × 180mm). **Weight:** 0.90 lbs. (0.41 kg). Comes with Y8132 test leads, 9V battery, spare fuse, and operator's manual. One year warranty with guaranteed calibration.

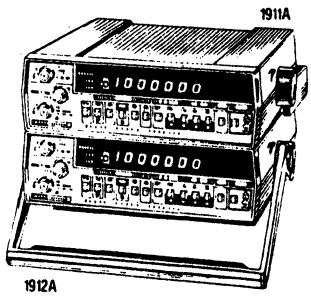
730-8060. Model 8060A ..... **EACH 389.00**

Model 8062A. The 8062A 4-½ digit handheld DMM offers more measurement capabilities than most bench or portable model. This microcomputer-based unit provides unique features never before available in a small low-cost DMM, features like: **Relative Reference.** The microcomputer allows user to automatically subtract lead resistance when measuring ohms and then displays only the difference between a stored reference value and a measured value - even if rate was changed between reading. Works in all functions and ranges. Ideal for use in dB and frequency measurements. **Automatic MΩ Range Selection.** Front panel offers one manually-selectable position above 200k. In that position, the appropriate range - 2MΩ, 20MΩ, or 300MΩ - is automatically selected. **True-RMS AC.** Provides accurate true-RMS AC measurements on non-sinusoidal waveforms and sine waves. **Special Annunciators.** Annunciator symbols appear in the display to remind user which measurement function has been selected. These symbols indicate relative and continuity/diode functions, as well as low battery and overload conditions. In addition to these features, the 8062A is designed with overload protection and a rugged case with safety-engineered components for excellent precision performance. **Basic DC Accuracy:** 0.05% rdg + 2 digits. **Dimensions:** 1.8 × 3.4 × 7.1" (45 × 86 × 180mm) **Weight:** 0.90 lbs (0.41 kg). Comes with Y8132 test leads, 9V battery, spare fuse and operator's manual. 1-yr. warranty and guaranteed calibration.

730-8062. Model 8062A ..... **EACH 329.00**

1900 Series Multifunctional Counters





- ► Frequency, Period, Period Averaging, and Totalize Measurement Functions
- ► Seven-Digit Display (6-Digit on Model 1900A)
- ► Totalize to 9,999,999 Counts (999,999 Counts on Model 1900A)
- ► Autoranging
- ► Available with Rechargeable Battery Pack

Autoranging
Automatic full autoranging fills the display to a maximum 7-digit readout. A unique hystersis capability eliminates the annoying up-and-down ranging for between range signals. Supplemented by a selectable four-range manual operation.

Autoreset
Automatically activated each time a new range is selected - no waiting for a second reading. Saves time and reduces errors.

Automatic Clean Dropout
Model 1911A and 1912A Channel B input circuits automatically monitor the input and provide an instant zero readout whenever an input signal drops below the sensitivity threshold of the trigger circuit. When the signal level returns to an acceptable level, the counter locks on for a correct reading.

Sensitivity
Basic sensitivity is 15 mV - typical 10 mV, extendable from 25 mV to 30 mV for upper frequency ranges. The sensitivity is backed by a conservative design margin for guaranteed reliable, solid readings every time.

Versatile Timebases
Standard 0.5 ppm per month timebase assures excellent long term stability for bench, production, or field use. Features a convenient rear panel, external time base input jack and switch that allows user a 10 MHz frequency standard anytime.
Each counter includes an instruction manual, power cord, and one-year warranty.

Model 1900A

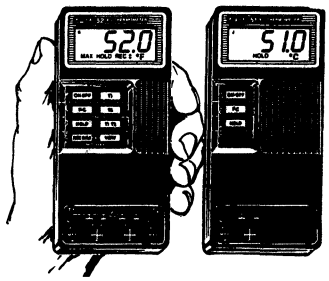
The 1900A counter features a selectable 1 MHz low-pass filter for input signal conditioning to provide accurate low frequency measurements in electrically noisy environments. A selectable 10:1 attentuator is included. This model has a frequency range of 5 Hz to 80 MHz. Also included are four manually-selected gate times of 10ms (100 Hz resolution), 100 ms (10 Hz resolution), 1s (1 Hz resolution), and 10s (0.1 Hz resolution). The autoranging position will automatically seek to fill all six digits of the display, but will not select a gate time greater than 1s (1 Hz resolution). **Dimensions:** 2.52 × 8.55 × 10.65" (64 × 217.2 × 270.5mm).. **Weight:** 2.75 lbs. (1.2 kg). *Battery adds 1.5 lbs to the total weight.

Models 1910S, 1911A, and 1912A

Three rugged, 7-digit counters for high-style performance at a lower cost. These models offer frequency measurements to 125 MHz, 250 MHz, or 520 MHz, depending upon the model. Also, measurements of period of signals to 2 MHz, period average to 10ps resolution, and totalizing to 9,999,999 counts. **Dimensions:** 2.52 × 8.55 × 10.65" (64 × 217.2 × 270.5mm). **Weight:** 3.2 lbs. (1.5 kg). *Battery adds 1.5 lbs to the total weight.

Stock No.	Mfr.'s Type	Description	EACH
730-1900	1900A	80 MHz Counter	**575.00**
730-1901	1900A-01	80 MHz Counter with Battery*	**765.00**
730-1910	1910A	125 MHz Counter	**755.00**
730-1909	1910A-01	125 MHz Counter with Battery*	**930.00**
730-1911	1911A	250 MHz Counter	**925.00**
730-1906	1911A-01	250 MHz Counter with Battery*	**1075.00**
730-1912	1912A	520 MHz Counter	**1025.00**
730-1915	1912A-01	520 MHz Counter with Battery*	**1155.00**
730-1930	1910A-03	Model 1910A w/2 ppm TCXO	**1015.00**
730-1940	1910A-04	Model 1910A w/.5 ppm TCXO	**1060.00**
730-1031	1911A-03	Model 1911A w/2 ppm TCXO	**1185.00**
730-1914	1911A-04	Model 1911A w/.5 ppm TCXO	**1230.00**
730-1932	1912A-03	Model 1912A w/2 ppm TCXO	**1285.00**
730-1942	1912A-04	Model 1912A w/.5 ppm TXCO	**1330.00**

50 Series Thermometers



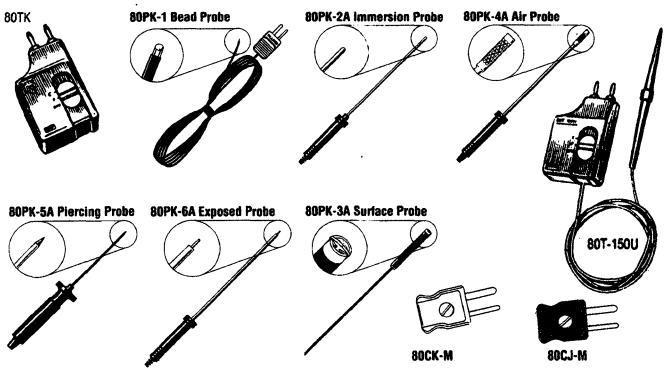
FLUKE 51 Single Point Thermometer. Offers high accuracy, 0.1°C resolution, high repeatability, and low thermal "lurch." Features include digital noise filter, automatic 2-second diagnostic self-test, Farenheit/Celsius conversion, and display freeze function. All functions are pushbutton activated. Operates on a standard 9 V battery (included) — 1200 hours of life. Accepts any K-Type or J-Type thermocouple with a standard mini-connector plug. **Accuracy:** K-Type— + (0.1% rdg. + 0.7°C or 1.3°F); J-Type—(0.1% rdg. + 0.8°C or 1.4°F). **Reading Rate:** 1 second. Comes with a Type 80PK-1 bead probe.

730-0051. Model 51 ..... **EACH 129.00**

FLUKE 52 Dual Point Thermometer. Offers the same great performance and features as the Model 51 plus dual-point or differential measurements, scanning and Min/Max storage capabilities, and selectable high or low resolution readouts. **Accuracy:** K-Type— + (0.1% T1-T2 rdg. + 1.0°C or 1.8°F); J-Type— + (0.1% T1-T2 rdg. + 1.2°C or 2.2°F). **Max. DCMV:** 1 V. **Reading Rate:** 2 thermocouples — 1.7 seconds. Comes with 2 Type 80PK-1 bead probes.

730-0052. Model 52 ..... **EACH 169.00**

Temperature Probes



80TK Thermocouple Module. Use with a standard banana plug to convert any 10M DMM into a thermometer. Uses K-type thermocouple with miniconnectors. Switch-selectable °C, °F. use with interchangeable probes described below (Type 80PK-1 Bead Probe included with this module). **Basic Accuracy:** 0.5% + 2°C (3.6°F).

730-8079. Type 80TK ..... **EACH 65.00**

80PK-1 Bead Probe. For general purpose applications, Teflon tape insulation. Not to be used for liquid immersion. **Measurement Range:** −40° to +260°C (−40° to +500°F).

730-8001. Type 80PK-1 ..... **EACH 12.00**

80PK-2A Immersion Probe. For use with liquids and gels. Inconel sheath protection from tip to handle. Can be used in most general temperature measurement applications. **Measurement Range:** 0° to 927°C (32° to 1700°F).

730-8002. Type 80PK-2A ..... **EACH 39.00**

730-8004. Type 80PK-4A. Air Probe. Similar to 80PK-2A. ..... **EACH 49.00**

730-8005. Type 80PK-5A. Stainless Steel Piercing Probe. FDA Approved. Similar to 80PK-2A ..... **EACH 44.00**

730-8006. Type 80PK-6A. Exposed Probe. Similar to 80PK-2A ..... **EACH 48.00**

80PK-3A Surface Probe. For flat or slightly convex surfaces. Ideal for use with hot rollers and plates. **Measurement Range:** 20° to 260°C (68° to 500°F).

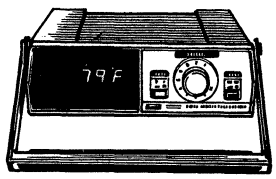
730-8003. Type 80PK-3A ..... **EACH 73.00**

80T-150U Universal Temperature Probe. Highly accurate P-N junction probe converts any DMM into a thermometer. For air, surface, and non-corrosive liquid measurement applications. **Isolation:** 350 VDC or peak AC. **Basic Accuracy:** + 1°C (1.8°F), 0° to 100°C. **Range:** −50° to + 150°C (−58° to + 320°F).

730-8015. Type 80T-150U ..... **EACH 120.00**

2160/2170 Series Digital Thermometers

- **On All Units Temperature Scale (°F or °C) Selection**
- **Temperature Resolution of 1° or 0.1°**
- **High Reliability**
- **Each Thermometer Comes with Instruction Manual and Power Cord**
- **High-Intensity LED Display**
- **12 VDC, Line Power, or Battery Operation**
- **On All Units Temperature Scale (°F or °C) Selection**
- **Superior Accuracy**



Model 2176A

2166A Multipoint Digital Thermometer

Same as Model 2165A plus monitoring capability of up to 10 same-type thermocouples. Front panel rotary switch for channel selection. External 12 VDC or line power.

730-2166. Model 2166A. J-Type ..... **EACH 680.00**

2168A Multitype Digital Thermometer

Portable single-point instrument. Can accept the output from any of 8 thermocouple types — performance specifications same as Model 2160A for each type. External 12 VDC or line power.

730-2168. Model 2168. J-Type ..... **EACH 810.00**

Options

2160A-02 Digital Output

For Model 2160A or 2170A, and bench models powered by line voltage. Provides parallel BCD data equivalent to displayed data. Field installable. Not compatible with Option 2160A-04.

730-6002. Option 2160A-02 ..... **EACH 180.00**

2160A-04 Analog Output

For Model 2160A or 2170A, and bench models powered by line voltage. Provides output voltage proportional to displayed data. Field installable. Not compatible with Option 2160A-02.

730-6004. Option 2160A-04 ..... **EACH 235.00**

2175A Digital Thermometer

Single-point instrument. Same specifications as Model 2170A. Can be equipped with internal, rechargeable batteries.

730-2175. Model 2175A. J-Type ..... **EACH 675.00**

2176A Digital Thermometer

Same basic instrument as Model 2175A plus monitoring capability of up to 10 same-type thermocouples. Front panel rotary switch for channel selection. External 12 VDC or line power.

730-2176. Model 2176A. J-Type ..... **EACH 800.00**

2165A-01 Battery Pack

For Models 2165A or 2175A. Internal mount. 8 hours operation; rechargeable.

730-6001. Model 2165A-01 ..... **EACH 95.00**

Immersion Probes

Thermocouple probes. Available with Inconel sheath for immersion measurements.

730-0010. Model P20E. E-Type ..... **EACH 63.00**

730-0011. Model P20J. J-Type ..... **EACH 63.00**

730-0012. Model P20K. K-Type ..... **EACH 63.00**

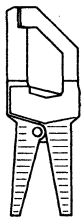
730-0013. Model P20T. T-Type ..... **EACH 63.00**

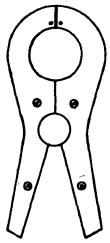
16

Current Measuring Accessory Selection Guide

LCA-10

Y8101


80i-400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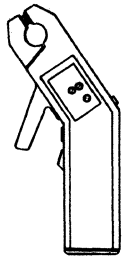
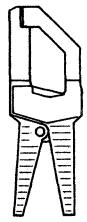
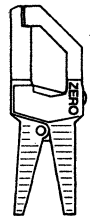
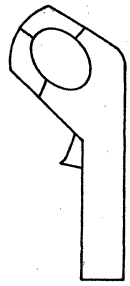

Y8100


80i-410



80i-1010


80i-kW

AC Only Models

Mfr.'s Type	Jaw Size	DC Range	Basic DC Accuracy	AC Range	Basic AC Accuracy	AC Power	Basic AC Power Accuracy	Working Voltage	Battery Life (typ.)	General Comments
LCA-10	NA	NA	NA	0-10A	Negligible error	NA	NA	120V	NA	Safety designed,low cost.
Y8101	1.11 cm (.43″)	NA	NA	1-150A	± (2.5% + 0.15A)	NA	NA	300V	NA	Convenient size.
80i-400	3.3cm (1.25″)	NA	NA	1-400A	± (3% + 0.4A)	NA	NA	660V	NA	Rugged, low cost.
80i-600	5cm (2.0″)	NA	NA	1-600A	± 2% of reading	NA	NA	750V	NA	Best ac accuracy.

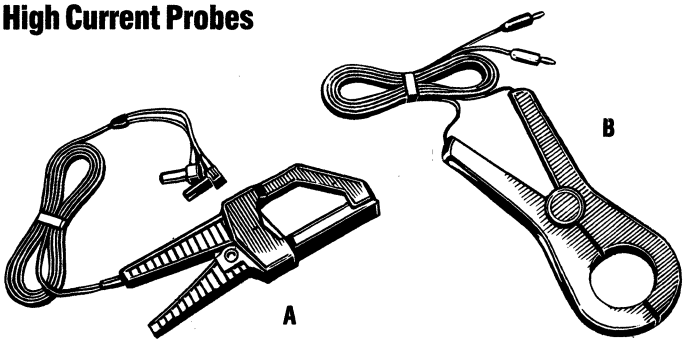
DC or AC Models

Y8100	1.9cm (.75″)	0-200A	± 2% of range	0-200A	± 2% of range	NA	NA	480V	20 hrs.	Good low current accuracy.
80i-410	3.3cm (1.25″)	5-400A	± (5% + 2.5A)	5-400A	± (5% + 2.5A)	NA	NA	660V	600 hrs.	Low cost, easy to use.
80i-1010	3.3 cm (1.25″)	1 to 1000A	± (2% + 1A)	1-700A	± (2% + 1A)	NA	NA	660V	200 hrs.	Highest range.

DC, AC, Power

80i-kW	6cm (2.38″)	1 to 1300A	± (2% + 2A)	1 to 1000A	± (2% + 2A)	to 330 kW	± (3.5% + 0.5kW)	660V	100 hrs.	True power, largest jaw size, ruggedized case.

High Current Probes



80i-410 AC/DC Clamp-On Current Probe (Fig. A). Battery-powered Hall-effect clamp-on probe for conductors up to 30 mm (1.18 in). Output is 1 mV per amp DC or AC. **Accuracy:** ± (5% ± 2.5A). 5A to 400A, DC to 62 Hz. Usable to 400 Hz. **Working voltage:** 660 Vrms.

80i-400 Clamp-On AC Current Probe (Fig. A). Similar in appearance to 80i-410. Measures AC current from 1A to 400A. 1000 to 1 division ratio. **Maximum conductor size:** one 30 mm (1.18 in.) or two 25 mm (0.98 in). **Accuracy:** ± (3% + 0.4A) from 48 Hz to 440 Hz, ± (4% + 0.4A) 440 Hz to 1000 Hz. **Working voltage:** 660 Vrms.

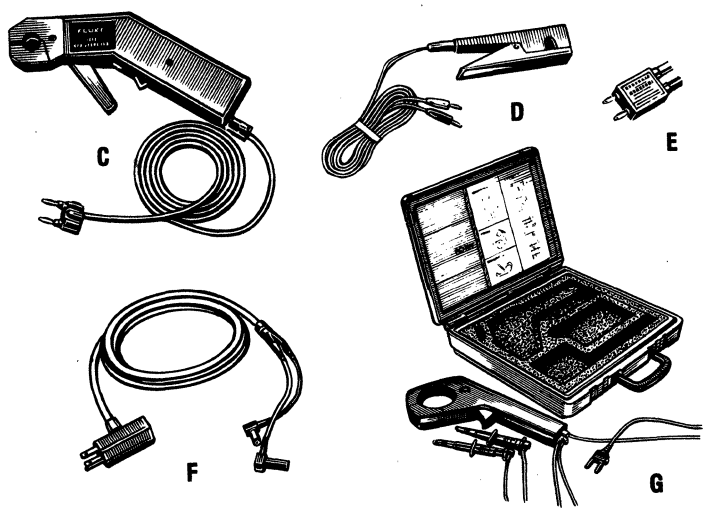
80i-600 Clamp-On AC Current Probe (Fig. B). Measures AC current from 1A to 600A. Division ratio is 1000 to 1. Clamps on conductors to 5 cm (2 in.) in diameter. **Accuracy:** ± 2%, 50 Hz to 1 kHz, ± 3% (typical) 30 Hz to 10 kHz. **Working voltage:** 750 Vrms.

80i-1010 Clamp-On DC/AC Current Probe (Fig. B). A battery powered clamp-on current probe used with a voltmeter to measure DC currents up to 1000 amps or AC currents up to 700 amps. The jaws accommodate a single 750 MCM THHN or two 500 MCM THHN conductors. A convenient thumbwheel ZERO control improves accuracy of DC currents down to 1 amp.

Specified Current Range: 1 to 1000A DC, 1 to 700A AC. **Output Signal:** 1mV per amp DC or AC. **Working Voltage:** 660 Vrms maximum. **Maximum Conductor Size:** 1 each 30 mm (1.18 in.) or 2 each 25 mm (0.98 in.)

Range	DC	AC, 48 to 62 Hz	AC, 62 to 440 Hz
1 to 100A	2% + 1A	2% + 1A	3% + 1A
100 to 700A	3%	3%	5%
700 to 1000A	5%	Not specified	

730-8400. Type 80i-400 ..... **EACH 69.00**
730-8410. Type 80i-410 ..... **EACH 139.00**
730-8600. Type 80i-600 ..... **EACH 119.00**
730-1010. Type 80i-1010. 1000 Amp AC/DC Probe..... **EACH 229.00**



Y8100 Clamp-On AC/DC Current Probe (Fig. C). Hall-effect clamp-on probe; switch selectable 200A or 20A current range. Battery-powered. Produces 2V full range output. For conductors to 0.75″ (1.9 cm). **Accuracy:** ± 2% or range from DC to 200 Hz.
730-8100. Type Y8100 ..... **EACH 259.00**

Y8101 Clamp-On AC Current Probe (Fig. D). Measures AC current from 1A to 150A. For conductors to .43″ (1.1 cm) diameter. **Division Ratio:** 1000:1. **Accuracy:** ± (2.5% + 0.15A) 48 Hz to 440 Hz, ± (3% + 0.15A) 440 Hz to 1200 Hz.
730-8101. Type Y8101 ..... **EACH 69.00**

80J-10 Current Shunt (Fig. E). Precision 0.01 shunt resistor. Passes 10A continuously. 20A for one minute. **Accuracy:** ± 0.25% from DC to 10 kHz.
730-0810. Type 80J-10..... **EACH 35.00**

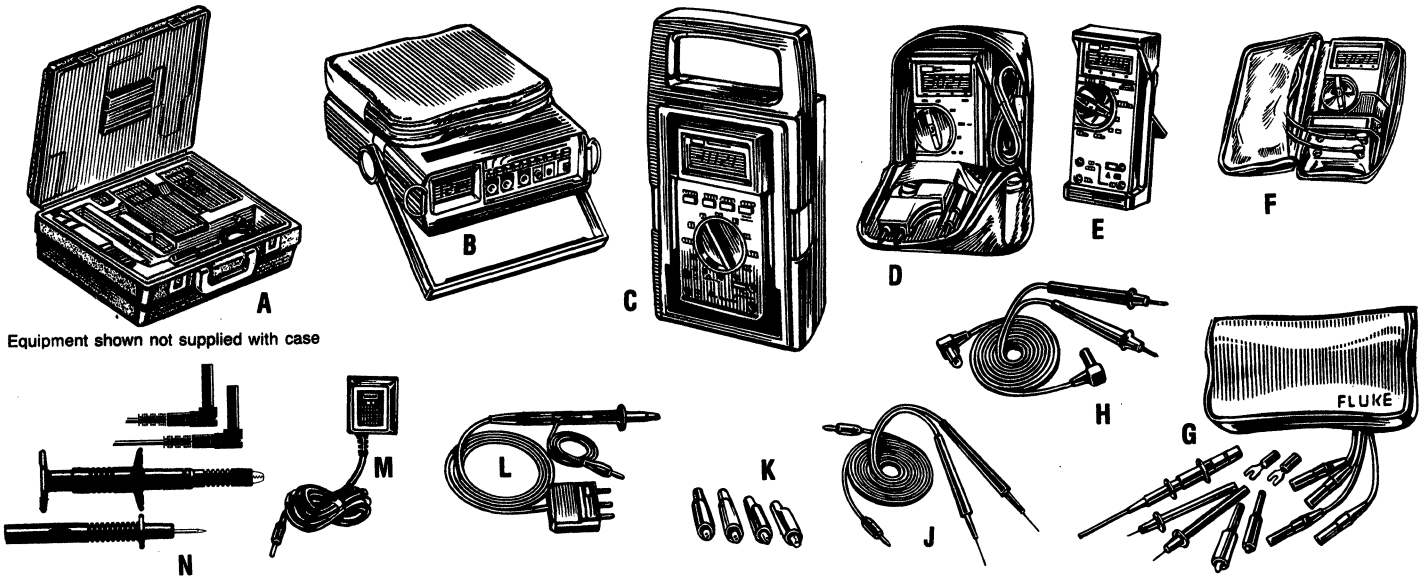
LCA-10 Line Current Test Adapter (Fig. F). Connects directly to 120 VAC receptacle — device being measured plugs into LCA-10 receptacle. Measures AC current to 10 Amps (20 Amps for 30 seconds). Shrouded input plugs complete series connection through meter's 10 Amp input, producing lowest possible measurement error. For use in the United States, Canada, Japan, Mexico, Taiwan and other countries using U.S. style plug.
730-0100. Type LCA-10..... **EACH 13.00**

80i-kW Current/Power Probe (Fig. G). Battery powered clamp-on probe, measures 1A to 1300A DC, 1A to 1000A AC, 0.5 kW to 330 kW (48 Hz to 410 Hz). Includes case and manual. **Basic accuracy:** ± (2% + 2A) for current, ± (3.5% + .5kW) for power. **Jaw Size:** 60 mm (2.38 in.).
730-8000 ..... **EACH 495.00**

16

Carrying Cases and Test Leads

See page 647 for compatibility chart.



A C100 Ruggedized Hard Case. For all Fluke Series handheld DMMs, Thermometers and small accessories.
730-1000. Type C100 ..... **EACH 30.00**

C86 Ruggedized Case (not shown). Similar to Y8105. Holds 8010A, 8012A, 8050A bench DMM. Will hold standard test leads.
730-0086. Type C86 ..... **EACH 20.00**

B Y8205 Soft Case. For 8010A, 8012A, 8050A bench DMMS; storage for test leads in removable upper pouch.
730-8205. Type Y8205 ..... **EACH 35.00**

C C20 Hard Case. Heavy-duty; for Fluke 25 and 27. Top cover doubles as a tilt stand. Storage in cover.
730-0020. Type C20 ..... **EACH 25.00**

D C25 Ruggedized Soft Case. For Fluke 25, 27, or other handheld DMMs. 2 inner pockets for test leads or small accessories; water-resistant zipper.
730-2500. Type C25 ..... **EACH 20.00**

C90 Ruggedized Soft Case (not shown). One inner pocket; holds 70 Series DMM in a C70 holster; also for 20, 8020B, and 8060A Series.
730-0090. Type C90 ..... **EACH 15.00**

E C70 Multipurpose Holster. Comes with Fluke 23 and 77 Series; also for 21 and 70 Series. Lead storage on back. Includes tilt stand and belt hook.
730-7000. Type C70 ..... **EACH 14.00**

F C50 Compact Soft Case. For Fluke Series 21, 23, 50, and 70. Vinyl case with belt loop. Holds meter, manual, and leads. Meter held in place by an elastic strap.
730-0050. Type C50 ..... **EACH 15.00**

G Y8134 Deluxe Test Lead Kit. Carrying pouch includes interchangeable tips; 2 alligator clips, 2 spade plugs, 1 retractable hook top, and 2 standard pointed tips. Also banana plugs.
730-8134. Type Y8134 ..... **EACH 24.00**

Y8133 Standard Test Lead Kit (not shown). Like Y8134 with exposed banana plugs. For Fluke 8010A and 8012A.
730-8133. Type Y8133 ..... **EACH 24.00**

H TL70 Right-Angle Test Leads. Shrouded input plugs — will not pull out of meter while in use. One-piece construction. 1 meter long. Set of 2.
730-0700. Type TL70 ..... **EACH 8.00**

Y8131 Replacement Leads (not shown). Exposed banana plugs with detachable probes. For 8010A and 8012A bench DMMs. Set of 2.
730-8131. Type Y8131 ..... **EACH 11.00**

Y8132 Replacement Leads (not shown). Shrouded banana plugs with detachable probes. For handheld DMMs and Fluke 8050A. Set of 2.
730-8132. Type Y8132 ..... **EACH 11.00**

J Y8140 Slim-Flex Test Leads. Retractable needlepoint probes insulated to tip. Flexible in extended position. Set of 2.
730-8140. Type Y8140 ..... **EACH 21.00**

K AC70 Alligator Clips. Set of 2 red and 2 black slip-on clip for TL70 test leads.
730-0070. Type AC70 ..... **EACH 5.00**

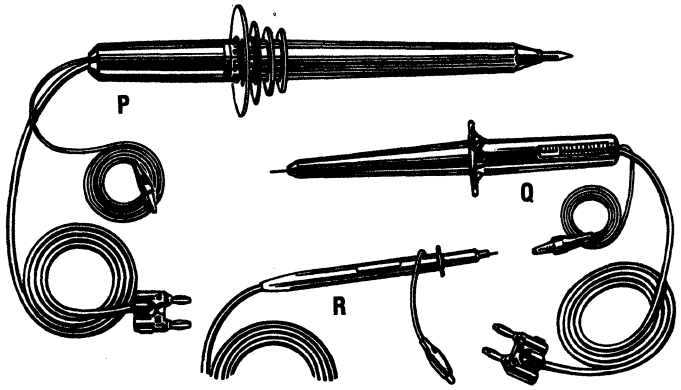
AC75 Banana-Jack Alligator Clips (not shown). Package of 4, insulated Alligator Clips with Banana Jacks. Standard .313″ jaw opening. Maximum voltage of 1000V, maximum current of 10A. Two red and two black clips. Compatible with test leads Y8131 and Y8134.
730-0750. AC75 ..... **EACH 6.00**

Y9104 Alligator Clips (not shown). Package of 6 black slip-on insulated clips for ground connections. Compatible with pin-tip size probes.
730-9104. Type Y9104 ..... **EACH 12.00**

L 80T-H Touch and Hold Probe. Touch button to hold volt or ohm reading. For Fluke 23, 25, 27, 37, 77, 8010A, 8012A, or 8050A.
730-8078. Type 80T-H ..... **EACH 59.00**

M A81-115 Battery Eliminator. 100, 115, or 230VAC operation. For Series 8020A, 8060A, and Model 37 DMMs.
730-8115. Type A81-115 ..... **EACH 21.00**

N TL20 Test Leads. Shrouded right-angle input plugs. 1000 volt insulation rating with 10 amp continuous current rating. Length is 1.6m (63″). Set of 2 safety alligator clips, 2 needle point probes, 2 silicone rubber insulated test leads.
730-0200. Type TL20 ..... **EACH 35.00**



High Voltage and High Frequency Probes

These probes measure AC current to 600A, temperature to 925°C, and voltage to 40 kV.

P 80K-6 High Voltage Probe. Extended measurement capabilities to 6000 VDC or peak AC. **Division Ratio:** 1001:1. **Accuracy:** ± 1%, DC to 500 Hz; ± 2%, 500 Hz to 1 kHz.
730-8016. Type 80K-6 ..... **EACH 49.00**

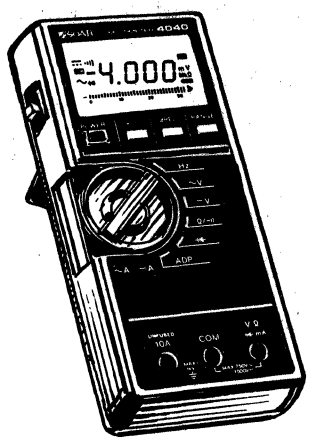
Q 80K-40 High Voltage Probe. Measures up to 40kV DC or 28kV RMS AC. **Division Ratio:** 1000:1. **Input Resistance:** 1000 M. **DC Accuracy:** ± 2% from 20kV to 30kV. Changes linearly from 2% at 30kV to 4% kV, and from 2% at 20kV to 4% at 1kV. **AC Accuracy:** ± 5% at 60 Hz.
730-8040. Type 80K-40 ..... **EACH 85.00**

R 85RF High Frequency Probe. DC output for high frequency AC voltage inputs from 0.25 to 30V RMS. **Frequency Range:** 100 kHz to 500 MHz. **Accuracy:** ± 0.5 dB above 0.5V.
730-0085. Type 85RF ..... **EACH 85.00**

83RF High Frequency Probe (not shown). Similar to 85RF, with frequency range from 100 kHz to 100 MHz. **Accuracy:** ± 1 dB above 1V.
730-0083. Type 83RF ..... **EACH 60.00**

16

4000 Series



The 4000 Series features the unique analog/digital display which makes the series one of the most versatile meters on the market. The 4000 count display delivers highly accurate reading and clear resolution. The analog bar graph is superior for observing changing signals. They also feature a dust proof, heavy duty rugged case, high speed sampling for both numerical and analog display, auto power off, auto or manual ranging, data hold, diode test and continuity test. **Specifications. DC Volts:** Maximum range 1000V. Accuracy 0.3%. Resolution 0.1mV. **AC Volts:** Maximum Range 750V. Accuracy 1.0%. Frequency Response < 1KHz. Resolution 0.1mV. **AC/DC Current:** maximum range 10A. Resolution 10μA. **Resistance:**maximum range 40MΩ. Resolution 0.1Ω. **Continuity Check:** < 40Ω. 3 year warranty.

949-4030. Model 4030 ..... **EACH 159.95**

In addition to the above specs, Model 4040 includes basic accuracy of 0.3%, a back lit LCD display, and data memory functions.

949-4040. Model 4040 ..... **EACH 179.95**

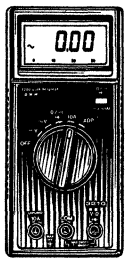
In addition to the above specs, Model 4050 includes basic accuracy of 0.1%, min./max., temperature, and frequency functions.

949-4050. Model 4050 ..... **EACH 199.95**

Same as model 4050 with a water resistant, rugged and sealed high impact ABS yellow case.

949-4055. Model 4055 ..... **EACH 229.95**

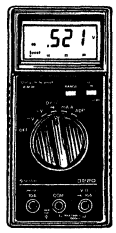
Model 3210



Unit has high speed sampling analog bar graph, diode test, adaptor range. Long battery life (over 2500 hours on AA size alkaline batteries). Includes tilt stand and 3 input jacks for easy use. **Specifications. Ranging:** ±3200 counts maximum. Auto ranging. 18 ranges. LCD readout. **DC Volts:** 300mV, 3V, 300V, 1000V. Accuracy 0.7%. Resolution 0.1 mV, **AC Volts:** 3V, 30V, 300V, 750V. Resolution 1mV. Accuracy 1.5%. Frequency response < 500 Hz. **AC/DC Current:** maximum range 10A. Resolution 10mA. **Resistance:** 300Ω, 3KΩ, 30KΩ, 300KΩ, 3MΩ, 30MΩ. Resolution 0.1Ω. **Continuity Check:** < 20Ω. 3 year warranty. **Supplied Accessories:** TL17 test leads, 2 batteries (1.5V AA size, UM-3), spare fuse, instruction manual.

949-3210. Model 3210 ..... **EACH 79.95**

Model 3220



Unit has high speed sampling analog bar graph, diode test, adaptor range. Long battery life of over 2500 hours on AA size alkaline batteries. Includes tilt stand and 3 input jacks for easy use. **Specifications. Ranging:** ±3200 counts maximum. Manual and auto ranging. 18 ranges. LCD readout. **DC Volts:** 300mV, 3V, 30V, 300V, 1000V. Accuracy 0.5%. Resolution 0.1mV. **AC Volts:** 3V, 30V, 300V, 750V. Resolution 1mV. Accuracy 1.5%. Frequency response < 500 Hz. **AC/DC Current:** 30mA, 10A. Resolution 10μA. **Resistance:** 300Ω, 3KΩ, 30KΩ, 300KΩ, 3MΩ, 30MΩ. Resolution 0.1Ω. **Continuity Check:** < 20Ω. 3 year warranty. **Supplied Accessories:** TL17 test leads, 2 batteries (1.5V AA size, UM-3), spare fuse, instruction manual.

949-3220. Model 3220 ..... **EACH 89.95**

Model 3230

Unit has high speed sampling analog bar graph, diode test, adaptor range. Long battery life of over 2500 hours on AA size alkaline batteries. Includes tilt stand and 3 input jacks for easy use. **Specifications. Ranging:** ±3200 counts maximum. Manual and auto ranging. 18 ranges. LCD readout. **DC Volts:** 300mV, 3V, 30V, 300V, 1000V. Accuracy 0.35%. Resolution 0.1 mV. **AC Volts:** 3V, 30V, 300V, 750V. Resolution 1 mV. Accuracy 1.0%. Frequency response < 500 Hz. **AC/DC Current:** 30mA, 300mA, 10A. Resolution 0.1ΩA. **Resistance:** 300Ω, 3KΩ, 30KΩ, 300KΩ, 3MΩ, 30MΩ. Resolution 0.1Ω. **Continuity Check:** < 20Ω. Data hold function. 3 year warranty. **Supplied Accessories:** TL17 test leads, 2 batteries (1.5V AA size, UM-3), spare fuse, instruction manual.

949-3230. Model 3230 ..... **EACH 99.95**

Model 3250

Unit has high speed sampling analog bar graph, diode test, adaptor range. Long battery life of over 1000 hours on AA size alkaline batteries. Includes tilt stand and 3 input jacks for easy use. Features dust proof case. **Specifications. Ranging:** ±3200 counts maximum. Manual and Auto ranging. 18 ranges. LCD readout. **DC Volts:** 300mV, 3V, 30V, 300V, 1000V. Accuracy 0.35%. Resolution 0.1 mV. **AC Volts:** 3V, 30V, 300V, 750V. Resolution 1mV. Accuracy 1.0%. Frequency response < 500 Hz. **AC/DC Current:** 300μA, 3000μA, 30mA, 300mA, 10A. Resolution 0.1ΩA. **Resistance:** 300Ω, 3KΩ, 30KΩ, 300KΩ, 3MΩ, 30 MΩ. Resolution 0.1Ω. **Continuity Check:** < 20Ω. Data hold function. Temperature function. Shock and dust proof case. 3 year warranty. (1 year on calibration). **Supplied Accessories:** TL17 test leads, 2 batteries (1.5V AAA size, UM-4), spare fuse, instruction manual.

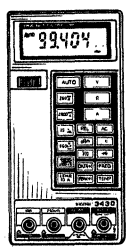
949-3250. Model 3250 ..... **EACH 149.95**

Model 3255

Unit has high speed sampling analog bar graph, diode test, adaptor range. Long battery life of over 1000 hours on AAA size alkaline batteries. Includes tilt stand and 3 input jacks for easy use. Features water proof and dust proof heavy duty case in high impact yellow ABS. **Specifications. Ranging:** ±3200 counts maximum. Manual and Auto ranging. 18 ranges. LCD readout. **DC Volts:** 300mV, 3V, 30V, 300V, 1000V. Accuracy 0.35%. Resolution 0.1mV. **AC Volts:** 3V, 30V, 300V, 750V. Resolution 1 mV. Accuracy 1.0%. Frequency response < 500 Hz. **AC/DC Current:** 300μA, 3000μA, 30mA, 300mA, 10A. Resolution 0.1μA. **Resistance:** 300Ω, 3KΩ, 30KΩ, 300KΩ, 3MΩ, 30MΩ. Resolution 0.1Ω. **Continuity Check:** < 20Ω. Data hold function. Temperature function. Shock proof and dust proof case and 3 year warranty. (1 year on calibration). **Supplied Accessories:** TL17 test leads, 2 batteries (1.5V AAA size, UM-4), spare fuse, instruction manual.

949-3255. Model 3255 ..... **EACH 169.95**

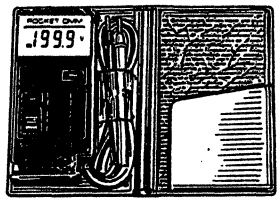
Model 3430



The model 3430 features 5-digit display, enhanced accuracy and resolution, true RMS, relative reference function, data hold and peak hold. It will measure frequency, temperature, and relative DBM. **Specifications. Ranging:** maximum count ±24,999. Auto and manual ranging. LCD readout. **DC Volts:** 250mV, 2.5V, 25V, 250V, 1000V. Resolution 0.01 mV. Accuracy 0.04%. **AC Volts:** 250mV, 2.5V, 25V, 250V, 750V. Resolution 0.01 mV. Accuracy 0.5%. Frequency response < 80 KHz. True RMS, crest factor 3. **AC/DC Current:** 250mA, 10A. Resolution 10μA. **Resistance:** 250Ω, 2500Ω, 25KΩ, 250KΩ, 2.5MΩ, 25MΩ. Resolution 0.01Ω. **Continuity Check:** < 20Ω. Will measure frequency from 10 Hz to 100 KHz, temperature in both Fahrenheit and Celsius, plus make relative DB measurements. **Supplied With:** test leads, spare fuse, battery, and instruction manual. One year warranty.

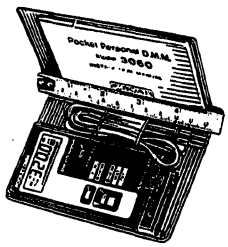
949-3430. Model 3430 ..... **EACH 399.95**

Model 3020 Pocket Personal DMM



Ultra compact size and useful one hand operation. Auto or manual range selection. Fully protected up to 450 volts. Low power consumption for long battery life. User has choice of manual or auto range selection. Continuity test by buzzer. Virtually "Drop Proof" thanks to its light weight and hard cover case. Attached test leads always ready to use. **Specifications. DC and AC Volts:** 2000 mV, 20 V, 200 V, 450 V. **Resistance:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ. Continuity check has audio buzzer when resistance is below 200Ω. Dual slope integration measuring method. 3½ digit LCD display with max. reading of 1999 counts. Auto or manual range selection. Automatic polarity with (–) minus sign for negative polarity, no indication for positive polarity. Two times per second sampling rate. Low battery mark is displayed when the battery voltage drops below operating voltage. Uses two LR-44 or two SR-44 batteries for power. Unit has a 5 mW typical power consumption. Size is 51(W) × 106(H) × 10(D)mm. Weighs approx. 100g including batteries and case. Supplied accessories include 2 batteries, 1 hard cover case and one instruction manual. One year warranty.

949-3020. Model 3020 ..... **EACH 34.95**



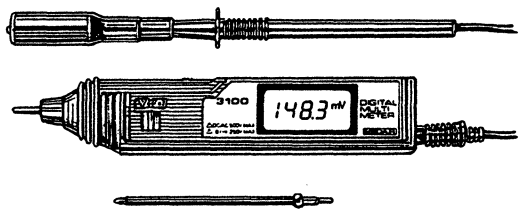
Model 3060
Pocket Personal DMM with Bar Graph, Auto Power Shut-Off

Ultra compact size and useful one hand operation. Auto or manual range selection. High speed auto ranging. High speed sampling rate for bar graph display. Auto power off function. Fully protected up to 450 volts. Low power consumption for long battery life (typically, over 250 hours). Diode test and continuity test by beeper. Virtually "Drop Proof" thanks to its light weight and hard cover case. Attached test leads remain with unit. **Specifications. DC and AC Volts:** 300mV, 3V, 30V, 300V, 450V. **Resistance:** 300Ω, 3KΩ, 30KΩ, 300KΩ, 3MΩ, 30MΩ. Continuity check has audio buzzer when resistance is below 200Ω. Diode test is 0 ≈ 2000 mV. Dual slope integration measuring method. 3½ digit LCD display with max. reading of 3200 counts and annunciators. Auto or manual range selection. Automatic polarity with (–) minus sign for negative polarity, no indication for positive polarity. Two times per second sampling rate. Low battery mark is displayed when the battery voltage drops below operating voltage. Uses two LR-44 or two SR-44 batteries for power. Unit has a 5 mW typical power consumption. The meter is powered off 10 minutes after the last operation was made. Size is 51(W) × 106(H) × 10(D)mm. Weighs approx. 100g including batteries and case. Supplied Accessories include 2 batteries, 1 hard cover case and one instruction manual. One year warranty.

949-3060. Model 3060 ..... **EACH 49.95**

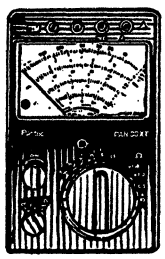
Model 3100

Large display with automatic indication of symbols and functions for easy readout. 3½ digits pen type with auto ranging. Extended measuring ranges. Interchangeable probe tips and alligator clip are supplied with unit for easy measurements. Data hold function. Continuity test by buzzer for quick go/no go decisions. Auto range selection. **Specifications. DC and AC Volts:** 200 mV (DC only), 2000 mV, 20 V, 200 V, 500 V. **Resistance:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. Continuity check has audio buzzer when resistance is below 200Ω. 3½ digit LCD display with max. reading of 1999 counts and annunciators. Auto range selection. Automatic polarity with (–) minus sign for negative polarity, no indication for positive polarity. Two times per second sampling rate. Data hold in all ranges by turning the hold switch "on". "B" mark is displayed when the battery voltage drops below operating voltage. **Maximum Input:** DCV/ACV 700 VDC or AC peak. **Input Protection:** resistance or continuity is 250 VDC or AC peak for 1 minute. Uses two LR-44 batteries. Uses only 5.0 mW power consumption. Battery life is approximately 50 hours. **Size:** 162(L) × 20(W) × 30(H)mm. **Wt:** approx. 65g (with battery). **Supplied Accessories:** (2) batteries, alligator clip, (2) probe tips, soft case, instruction manual.



949-3100. Model 3100 ..... **EACH 74.95**

Model PAN 30XT
Analog Multimeter for Industrial Maintenance



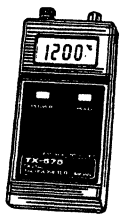
Extra rugged self-extinguish plastic case (UL-94 V-O). Extensive overload protection. Made to IEC 348 safety requirements. Safety designed input jacks and test leads. Tilt stand provided for bench use. **PAN 30XT:** Unit features high current measuring range. Both 1 Amp and 5 Amp input ranges allow the use of standard or clamp-on type current transformers. A phase sequence indicator is provided along with a phase detector. Audible buzzer used for continuity testing. **PAN 10XT:** 40 measuring ranges. Diode test. Continuity test by buzzer. **Specifications. Sensitivity:** 20 KΩ/V DC; 5 KΩ/V AC. **Microammeter:** 40 μA; 3KΩ; Moving coil, core magnet, mounted on antishock jewels. **Volt Ranges: DC:** 0.15 V (PAN 10XT only) 1.5 V; 5 V; 15 V; 50 V; 150 V; 500 V; 1500 V (Max. 1000 V available on 1500 V range). **AC:** 7.5 V; 25 V; 75 V; 250 V; 750 V. **Amp Ranges: PAN 10XT DC:** 50 μA; 0.5 mA; 5 mA; 50 mA; 500 mA; 2.5 A; **AC:** 100 mA; 1 A; 10A. **AC:** 7.5V; 25 V; 10 A. **DC:** 500 mA; 5 A; 30 A. **AC:** 100 mA; 1 A; 5 A; 30 A. **Ohm Ranges:** X1 (5 KΩ); X100 (500 KΩ). Neon lamp phase detector (100 ≈ 500 V). Phase sequence indicator by pointer (50 ≈ 500 V). Continuity test on the Ω × 1 range causes the buzzer to sound when the resistance value is less than 50Ω. **Accuracy: DC:** ±2.5%; **AC:** ±3%. **Power:** two "AA" batteries. **Overload Protection:** quick blow fuse (FF 3.15A; 500 V; 6 × 32 mm); 5A and 30A are unfused. **Size:** 160 × 100 × 40 mm. **Wt:** 500 g. **Supplied Accessories:** shock proof plastic case; test leads; spare fuse; instruction manual.

949-0030. Model PAN 30XT ..... **EACH 113.95**

949-0010. Model PAN 10XT ..... **EACH 99.95**

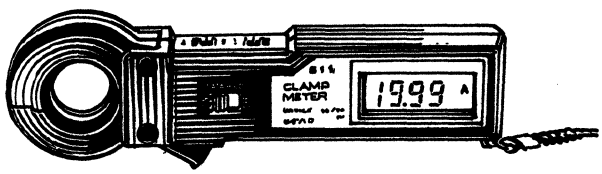
Model TX-570/TX-571

Three digit heavy duty digital thermometer. Uses K-type thermometer. Drop proof, water resistant, rugged and high impact ABS plastic case. Highly accurate for industrial use. Low power consumption results in over 1000 hours (typical) of battery life. Wide range of temperature probes available as special order items. Separate power on/off and data hold buttons. **Specifications. Sensor:** K-type thermocouple. **Measurement Range:** –60° to 1300°F. **Display:** 3 digit LCD with low battery indication. **Sampling Rate:** 2 times/second. **External Output: Analog Signal Output:** 0.5 mV/°F; **Digital Output:** BCD serial data. **Power Supply:** two (2) 1.5 V "AA" batteries; over 1100 hours continuous operation. **Power Consumption:** 5 mW. **Dim:** 70(W) × 140(H) × 31.5(D) mm. **Wt:** Approx. 200 g. **Supplied Accessories:** two (2) 1.5 V "AA" size batteries; instruction manual.



949-0571. Model TX-571 ..... **EACH 121.95**

949-0570. Model TX-570 (as above but reading –50° to 700°C) ..... **EACH 121.95**



Model 611 Digital Clamp Meter

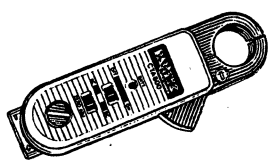
New custom LSI for enhanced accuracy and reliability. Unit has light weight and ultra compact size. Additional features include data hold function, low power consumption, and high resolution. Uses dual slope integration measuring method. The display is a 3½ digit LCD with a max. reading of 1999 counts. **Specifications. Range:** 0 ≈ 20A/200A. **Maximum Jaw Opening Capability:** 23 mm. **Overload Indication:** blanking of all digits except MSD1. **Low Battery Indication:** "B" mark on LCD readout. **Sampling Rate:** 2 times/sec. **Limitation of circuit voltage:** less than 600 VAC. **Power Supply:** two SR-44 (100 hours) or two LR-44 (50 hours). **Power Consumption:** 5 mW. **Size:** 48(W) × 146(H) × 20(D)mm. **Wt:** 80g. **Supplied Accessories:** soft case, instruction manual, batteries (LR-44).

949-0611. Model 611 ..... **EACH 99.95**

949-0610. Model 610. As above, except 0-200mA/20 DC Amps and jaws open to 18mm dia. ..... **EACH 349.95**

Model CTA 600 Clamp-on Current Probe, AC or DC Amps

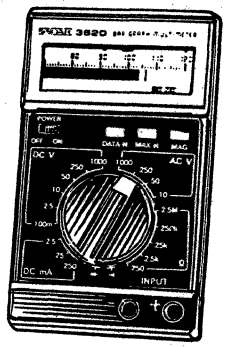
Hall-effect clamp-on probe for AC/DC current measurements up to 600A. Linearized output of 1 mV/A (600 mV at full range current). Suitable for any digital or analog multimeter. **Specifications. Max. Measuring Range:** 600A DC or AC. **Transformation Ration:** 1mV/A DC or AC. **Max. Cable Dia:** 24mm. **Min. Load Impedance:** 40KΩ/V. **Withstand Voltage:** 2KVDC. **Indications:** LED for low battery indication. **Power:** one 9V battery. **Power Consumption:** < 20mA. **Output Connectors:** 4 mm dia. standard jacks. **Size:** 180 × 48 × 40mm. **Wt:** 250g. **Supplied Accessories:** one pair connecting cables (red/black), carrying case, instruction manual.



949-0600. Model CTA 600 ..... **EACH 129.95**

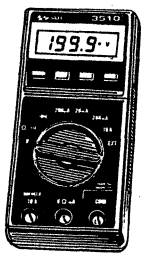
16

Model 3620 Analog Bar Graph DMM



The Model 3620 is a bar graph digital multimeter. It features the benefit of analog indication with the advantages of a digital multimeter. The high sampling rate provides accuracy and quick response. Dedicated scales for each range are automatically shown on the display. Linear scales for resistance measurements ensure higher accuracy. Magnification function enables measurement scales to be expanded 5 or 10 times. Data hold and max. hold functions to memorize the measured data as well as the max. value. Diode and continuity test provided along with 5 MΩ input sensitivity. **Specifications. DC Volts: Ranges:** 100mV-2.5V-10V-50V-250V-1000V. **Input Resistance:** 5 MΩ. **Accuracy:** ±1%Rdg ±1 digit. **AC Volts: Ranges:** 10V-50V-250V-1000V (Max 750V). **Input Resistance:** 5 KΩ/V-On 10V. **Range:** 25 KΩ/V. **Accuracy:** ±3% F.S. **DC Amps: Ranges:** 2.5mA-25mA-250mA (100mV Burden Voltage). **Resistance: Ranges:** 250Ω-2.5KΩ-25KΩ-250KΩ-2.5MΩ. **Continuity Check:** Range 250Ω; Continuity beeper < 100Ω. Diode test. Data hold applicable in DC/AC V DC A, Ω, beeper, diode test. Max. hold applicable in DC/AC V, DC A, Diode test. **Display Magnification:** X5 or X10. **Input Protection: DC Amp:** 500mA/250V fuse protection. **Resistance:** 250Vrms PTC protection. Dual slope integration measuring method. **Display:** LCD showing 105 segments bar graph display and annunciators. **Indicators:** negative, overflow, underflow, low battery. **Sampling Rate:** 10 times/sec. **Power:** two 1.5V (AA size). Life is approx. 800 hours. **Size:** 86(W) × 145(H) × 34(D)mm. **Wt.:** 250g. **Supplied Accessories:** two batteries, one spare fuse (500mA/250V), test lead set, instrumental manual.

949-3620. Model 3620 ..... **EACH 102.95**

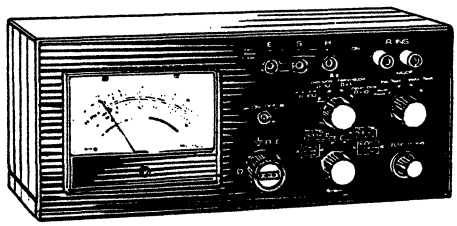


Model 3510 Heavy Duty DMM

Data hold and range hold functions. Protect from transient noise up to 6KV. Safety test leads and input jacks. Very compact size and light weight make this unit easy to get around with. The DMM has one rotary dial operation and comes with a useful tilt stand. **Specifications. DC Volts:** 200mV, 2V, 20V, 200V, 1000V. **AC Volts:** 2V, 20V, 200V, 750V. **DC and AC Amps:** 200μA, 20mA, 200mA, 10A. **Resistance:** 200, 2K, 20K, 2M, 20M Ohms. Diode. Continuity beeps sounds when resistance is below 200Ω. Adaptor readings on 2000 range for both DC and AC. Dual Slope Integration Measuring Method. **Display:** 3½ digit display with total counts of 1999. Automatic polarity. **Sampling Rate:** 2 times/sec. **Power:** two 1.5V AA size cells. Approx 500 hours. **Size:** 70(W) × 141(H) × 34(D)mm. **Wt.:** 180g. **Supplied Accessories:** test leads set, 2 AA size batteries, 1 spare fuse (250V, 0.2A), instruction manual.

949-3510. Model 3510 ..... **EACH 89.95**

MIT 800 Ground Resistance Tester



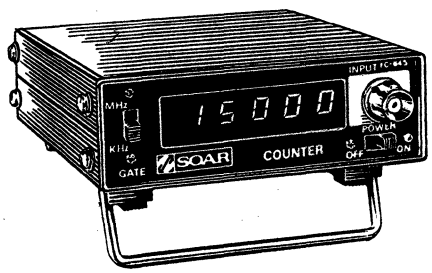
Easy to use earth and insulation resistance meter. Easy read-out of earth resistance value by means of numerical indication of the multi-turn potentiometer. Unit is battery powered for ease of moving unit to testing site. Internal 108Hz generator is insensitive to stray currents and bias voltages. Manufactured according to VDE 0413 (Par. 5/7.77 and 1/4.71). **Specifications. Measuring Ranges: Earth Resistance Meter:** 0 ≈ 9.99Ω; 0 ≈ 99.9Ω; 0 ≈ 999Ω; 0 ≈ 9.99KΩ. **Reading Method:** numerical, direct read-out on multiturns potentiometer. **Insulation Meter: Measuring Ranges:** 0 ≈ 10MΩ; 0 ≈ 20MΩ; 0 ≈ 1000MΩ; 0 ≈ 2000MΩ; **Nominal Voltage:** 250V; 500V (A); 500V (B); 1000V. **Nominal Current:** 1mA; ≥ 20μA; ≥ 20μA. **Internal Resistance:** 60KΩ; 120KΩ; 6MΩ; 12MΩ. **Microammeter Movement:** moving-coil, core magnet. **Power:** four 1.5V batteries. **Battery Life:** 100 measurements of 20″ each. **Size:** 140 × 125 × 300mm. **Wt:** 3600g. **Supplied Accessories:** carrying case with shoulder strap, test leads set, instruction manual.

949-0800. Model MIT 800 ..... **EACH 524.95**

Optional Accessories

Tool case containing: 2 anodized steel electrode rods, cable winder with 40 meters of cable, cable winder with 20 meters of cable, 5 meters of cable with crocodile clip, hammer weight approx. 800g.

949-0801. MIT BA ..... **EACH 99.95**



FC-863, FC-842 and FC-845 Mini Battery Operated Frequency Counters

Battery power or optional AC adapter combined with ultra compact size make these counters both easy to work with and easy to carry where they are needed. Excellent for field service or teaching institutions. Red LED display provides for easy readout over the wide frequency range. **Specifications: FC-842: Measurement Range:** 5Hz-1MHz (Lo Range); 10 KHz-50MHz (Hi Range). **Display:** 4 digits, 7-segment red LED. **Input Impedance:** 1MΩ/20pF. **Power Consumption:** Approx. 100mA. **FC-845: Measurement Range:** 5Hz-2MHz (Lo Range); 1MHz-160MHz (Hi Range). **Display:** 4½ digits, 7-segment red LED. **Input Impedance: Lo Range:** 150KΩ/35pF; **Hi Range:** 2, 5KΩ/15pF. **Power Consumption: Lo-Freq. Range:** 80mA; **Hi-Freq. Range:** 140mA. **Common Specifications.** AC Coupling. **Power:** Six 1.5 AA size batteries. **Size:** 111(W) × 36(H) × 125(D). **Wt:** 420g. **Accessories Supplied:** test leads set, 6 AA size batteries, instruction manual.

949-0842. Model FC-842 (5Hz-50MHz) ..... **EACH 141.95**

949-0845. Model FC-845 (5Hz-160MHz) ..... **EACH 167.95**

949-0863. Model FC-863 (10Hz-1.3GHz) ..... **EACH 375.95**

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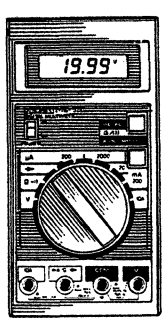
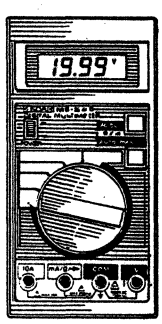
Model ME 530



3½ digit DMM with auto or manual range selection. Dual slope integration measuring method. Single rotary dial range selector knob. Basic accuracy of 0.5%. **Specifications. DC Volts:** 200mV, 2V, 20V, 200V, 1000V. **AC Volts:** 2V, 20V, 200V, 750V. **DC and AC Amps:** 200μA, 2mA, 20mA, 200mA, 10A. **Resistance:** 200, 2K, 20K, 2M, 20M Ohms. **Diode:** 0 ≈ 1000mV. **Continuity Check:** 0 ≈ 200Ω. Beeper sounds for less than 200 ohms. **Power:** Two 1.5V AA size batteries. **Size:** 80(W) × 160(H) × 30(D)mm. **Wt:** 250g. **Supplied Accessories:** test lead set, spare fuse, two batteries (AA size), instruction manual.

949-0530. Model 530 ..... **EACH 79.95**

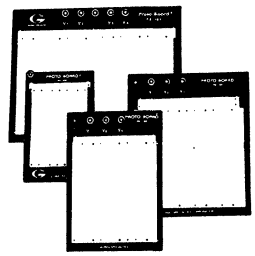
Model ME 540



3½ digit DMM with auto or manual range selection. Dual slope integration measuring method. Single rotary dial range selector knob. .35% basic accuracy. **Specifications. DC Volts:** 200mV, 2V, 20V, 200V, 1000V. **AC Volts:** 2V, 20V, 200V, 750V. **DC and AC Amps:** 200mA, 10A. **Resistance:** 200, 2K, 20K, 2M, 20M ohms. **Diode:** 0 ≈ 1000mV. **Continuity Check:** 0 ≈ 200Ω. Beeper sounds for less than 200 ohms. **Power:** Two 1.5V AA size batteries. **Size:** 80(W) × 160(H) × 30(D)mm. **Wt:** 250g. **Supplied Accessories:** test lead set, spare fuse, two batteries (AA size), instruction manual.

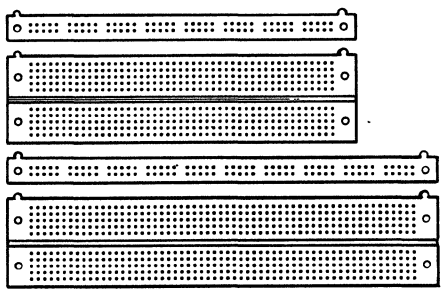
949-0540. Model ME 540 ..... **EACH 74.95**

Protoboard



Stock No.*	Mfr.'s Type	Sockets	Bus Strips	IC Capacity*	Terminals	Tie Points	Binding Posts	Length In. (mm)	Width In. (mm)	Height In. (mm)	Weight ozs.	EACH
761-0010†	PB-10	UBS-100	—	8	180	900	3	7.0 (178)	4.0 (102)	1.4 (36)	6.5	16.95
761-0102‡	PB-102	2/QT47S	1/QT35B-3/QT47B	12	248	1240	1	7.4 (187)	4.5 (114)	1.4 (36)	10.0	34.95
761-0103‡	PB-103	3/QT59S	1/QT47B-4/QT59B	24	450	2250	4	9.0 (229)	6.0 (152)	1.4 (36)	21.0	53.00
761-0104‡	PB-104	4/QT59S	7QT59B	32	612	3060	4	9.8 (249)	8.0 (203)	1.4 (36)	29.0	59.95
761-0105‡	PB-105	6/QT59S	4QT47B-7QT59B	48	912	4560	5	9.2 (234)	11.4 (290)	1.4 (36)	29.0	86.95

*No Power; Shipped Assembled. †Plastic Backplate. ‡Aluminum Backplate.



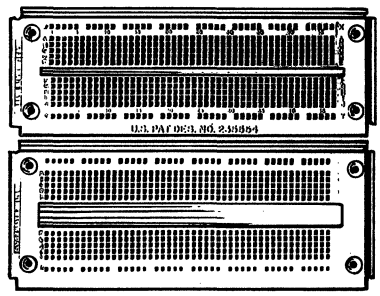
Quick Test Sockets and Bus Strips

Universal solderless breadboarding system includes Quick-Test sockets and bus strips. Socket terminals are arranged with two rows of five pre-constructed tie points running crosswise. Bus strip terminals are arranged in two rows of five pre-connected tie points running lengthwise. Base is molded of high-temperature plastic. Contacts are pre-stressed, spring loaded, nickel silver alloy. **Wire sizes:** .015″ to .032″. Units feature snap-lock mechanism for mating two or more units together.

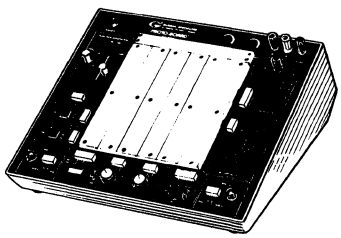
Stock No.	Mfr.'s Type	Strip Length (Ins.)	Strip Width (Ins.)	Mount Dimen. (Ins.)	Tie Points	Term. Points	IC Qty. (14-pin)	EACH
761-0059	QT-59S	6.5	1.32	6.2	590	118	8	7.95
761-0060	QT-59B	6.5	.36	6.2	100	20	—	2.50
761-0047	QT-47S	5.3	1.32	1.0	470	94	6	6.50
761-0048	QT-47B	5.3	.36	5.0	80	16	—	2.50
761-0035	QT-35S	4.1	1.32	3.8	350	70	5	5.50
761-0036	QT-35B	4.1	.36	3.8	60	12	—	1.95

Experimentor Breadboarding Sockets

Solderless breadboarding sockets accept DIPs, transistors, LEDs, resistors, capacitors, and most of all types of discrete components, as well as AWG22-30 solid hookup wire. An interlocking system permits boards to be snapped together. Sockets are molded of durable, abrasion resistant material and feature prestressed, nickel-silver contacts. A vinyl plastic backing prevents shorts when sockets are mounted on metallic surfaces. Tie-points are alphanumerically identified for faster wiring and circuit tracing. Sockets can be used loose or fastened to a mounting surface.



Stock No.	Mfr.'s Type	Center Channel (Ins.)	Strip Length (Ins.)	Strip Width (Ins.)	Tie Points.	Term. Clips	IC Cpty	EACH
761-0600	EXP-600	0.6	6.0	2.4	550	110	3 (28 Pins)	9.95
761-0300	EXP-300	0.3	6.0	2.1	550	110	6 (14 Pins)	7.95
761-0004	EXP-4B	—	6.0	1.0	160	32	—	3.99
761-0650	EXP-650	0.6	3.6	2.4	270	54	1 (40 Pins)	8.75
761-0350	EXP-350	0.3	3.6	2.1	270	54	3 (14 Pins)	6.75
761-0325	EXP-325	0.3	1.9	2.1	130	26	1 (22 Pins)	3.50



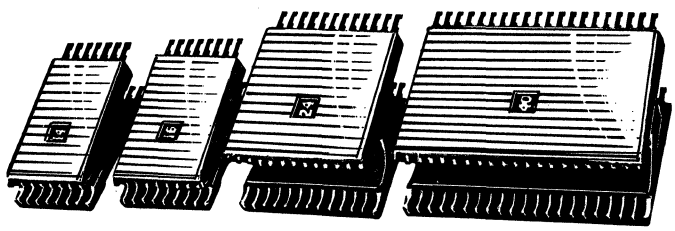
PB-503 Protoboard

Global's professional Proto-Board® design station puts a workbench full of circuit design tools on your desktop. The PB-503 offers you .1 to 100kHz function generator with sine, TTL square and triangle outputs. Triple voltage +5V, and variable ±5-15 VDC power supplies. Large solderless breadboard areas. Ideal for all types of circuits both analog and digital. 6″H × 13″W × 11.5D″. **Weight:** 7 lbs.

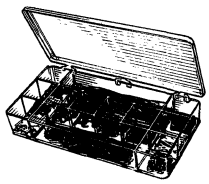
761-0503 ..... **EACH 299.95**

Protoclips

Dual spring clip design provides you with superior contact time after time. The PC-14, PC-16, PC-24, and PC-40 dual spring construction insures you a positive connection to all pin ICs. It's non-corroding nickel-silver contacts and clip notch test pins give you trouble free testing. Quality materials and a short-proof design for "No smoke" testing.



761-0014. Model PC-14 ..... **EACH 3.95**
761-0016. Model PC-16 ..... **EACH 4.50**
761-0024. Model PC-24 ..... **EACH 6.95**
761-0040. Model PC-40 ..... **EACH 10.95**

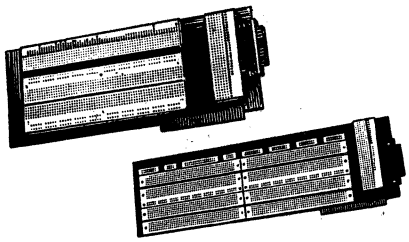


WK-1 Wire Jumper Assortment

WK-1 jumper kit contains 350 pre-cut, pre-stripped and pre-formed #22 gauge solid hook-up wire jumpers in color coded lengths. Thirteen different lengths are supplied to insure the right jumper for every design. Use WK-1 with all of Global's solderless breadboarding products for added simplicity and reduced design time.

761-0002 ..... **EACH 13.95**

PB-88 and PB-88/2



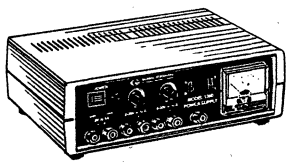
PB-88. Design your own interface and custom accessory cards for IBM or compatible PC/XT computer. Plugs directly into a slot inside your PC. 1680 solderless breadboard contact points. Requires full card slot, 10″ × 4.2″. Power from host system, ± 5 VDC, ± 12 VDC.

761-0088 ..... **EACH 64.95**

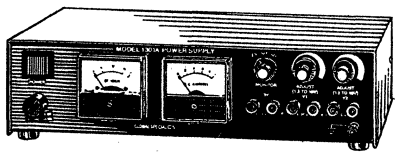
PB-88/2. Same features as the popular PB-88, just expanded breadboarding area for larger more complex circuits, 2040 solderless breadboard contact points. Requires full card slot, 13.2″ × 4.2″.

761-0089 ..... **EACH 99.95**

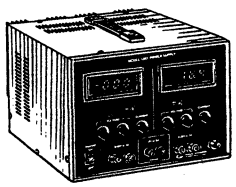
Power Supplies



1300



1301A



1302

Model 1300. Fixed output is 5VDC (± 0.25V) at 1.0A max., with line regulation of 0.2%, load regulation of 1.0% and max. ripple of 10mV p-p. Variable outputs are 0 to 20VDC at 0.25A max. with line regulation of 0.05%, load regulation of 0.1% and max. ripple of 10mV p-p. **Size:** 3 × 10 × 7″ (76 × 254 × 178mm). **Wt.:** 6 lbs. (2.7g) maximum.

761-0130 ..... **EACH 149.95**

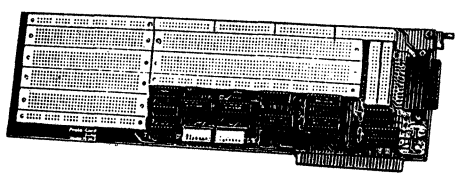
Model 1301A. Fixed output is 5V (± 0.2V) at 1.0A max., with line regulation of 0.2%, load regulation of 1.0% and max. ripple of 5mV p-p. The two continuously variable outputs are 1.3 to 18VDC at 0.5A max., with line regulation of 0.5%, load regulation of 1% and max. ripple of 10mV p-p. **Size:** 4 × 14 × 7″. **Wt.:** 3 lbs.(2.27g) maximum.

761-0130 ..... **EACH 229.95**

Model 1302. Provides a fixed output of 5V(± 0.1V) at 5.0A max., with line regulation of 0.05%, load regulation of 0.02% and max. ripple of 55mV p-p. Variable outputs are 0 to 30 VDC at 1.0A max., with line regulation of 0.5%, load regulation of 0.1% and ripple of 10mV p-p max. Digital current and voltage metering is an additional feature. **Size:** 6.6 × 9.3 × 10.8″. **Weight:** 18 lbs. (8.1kg) maximum.

761-0132 ..... **EACH 375.00**

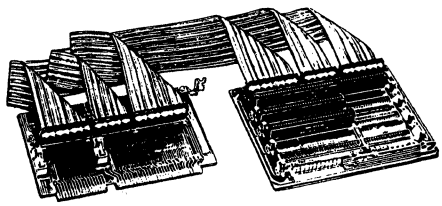
PB-88/3



Breadboard PC accessory cards quickly and easily. Large breadboard area contains 1702 solderless tie points. Breadboards have life-time guarantee. The built in basic decoding circuits shorten construction time. PC data bus is buffered, eight fully decoded I/O read and write lines are provided. On board memory decoding addresses in 4K blocks, from 0-64K bytes. Address selection via dip switches. Requires full size slot 13.25″ × 3.88″.

761-0090 ..... **EACH 150.00**

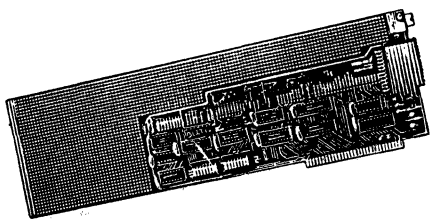
SE-75



Slot expansion card for extending PC/XT, PC/AT bus outside the computer cabinet. Supplied with two XT compatible slots, and one AT compatible slot. Expandable to 4 full AT compatible slots. Has connector for external power supplies. Includes external cable and plug-in card. Fused + 5V and + 12V power line. Use for troubleshooting and repair or expand PC to handle additional accessory cards. Expansion card is 5.″ × 6.75″. Plug in card requires half size card slot.

761-0075 ..... **EACH 125.00**

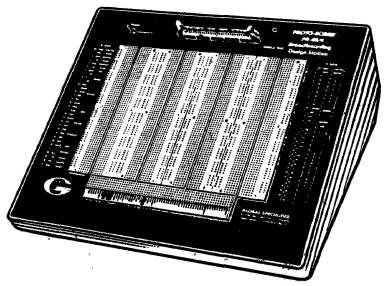
BP-7500



Develop and prototype PC accessory cards easily and quickly. 2470 solder pads for constructing your circuit, enough space for 24 ICs. The card plugs into a standard PC slot. Built-in basic decoder circuits eliminate time and labor. PC data bus signals are buffered to prevent overload. 8 fully decoded I/O read and write lines provided. Memory space can be addressed from 4K-64K bytes. Requires full card slot, 13.2″ × 3.8″.

761-7500 ..... **EACH 99.00**

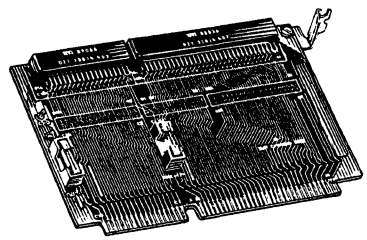
PB-88/4



Our largest breadboarding workstation for your PC. 3360 contact points, allows construction of large circuits. Includes IBM bus buffer card with 60 conductor shielded cable. All IBM bus signals are brought to labeled solderless interface sockets. Jumper selectable interrupt address allows use of disk and printer card simultaneously. Breadboard system is 6″ × 13″ × 11.5″. **Weight:** 4 lbs.

761-0091 ..... **EACH 360.00**

SE-7



Slot extension card for the IBM PC/XT, PC/AT or compatible. Pin to pin extension for the PC bus. Fused + 5V and + 12V power line protects PC from shorts on card under test. Raises accessory cards above the computer cabinet allowing easy testing. Test point pins provided for + 5V and ground make connecting a logic probe simple. Half size card 4.25″ × 6.50″.

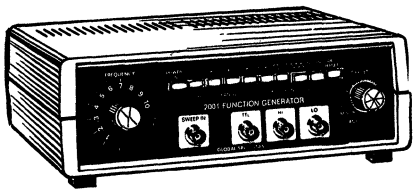
761-0007 ..... **EACH 59.00**

PB-204

The PB-204 is a complete prototyping workstation, offering the ultimate flexibility for circuit design. New product development and design alterations can be achieved quickly. Triple Voltage Power Supply, + 5V, + 12V, − 12V, Current Limited DC Power Supply. Large Breadboarding Area, 2250 Tie Points. 24 IC Capacity, 14 Pin Dips. **Power:** + 5 VDC Voltage: 5.0, ± 0.25, + 12 VDC voltage + 12.0 ± 0.6, − 12 VDC voltage − 12.0 ± 0.6. **Size (L × W × H):** 9.8 × 6.6 × 3.3″. **Weight:** 5.5 lbs. (2.5kg).

761-0204 ..... **EACH 119.95**

2001 and 2002 Function Generators



Freq. Range: 1 Hz to 100KHz. **Dial Acc:** ± 5% of dial setting typ. **Sine Wave Distor.:** Less than 2% THD typ. **Triangle Wave Linearity:** Better than 2%. Sq. **Wave rise and Fall Times:** Less than 100 nsec into 600 Ohms, 20 pF. **Sq. Wave Time Symmetry:** 2% typ. **Sweep Range:** 100:1 max.; linear range, 10:1 max. **Sweep Input:** 0-10V. **Outputs:** High, Low, TTL. **High Output Level:** 10V p-p. **Low Output Level:** – 40 dB of high output. **TTL Output:** TTL, buffered to drive 10 TTL loads; rise and fall times, less than 25 nsec; sync. with Hi and Lo outputs. **High Output DC Offset:** Vari. from – 5 to + 5 VDC. **Low Output DC Offset:** ± 50 mV max. **Oper. Temp.:** 0-50°C; cal. at 25°C ± 5%. **Power Reg.:** 105-135 VAC, 47-63 Hz, 6 VA max.; 215-250 VAC, 50-60 Hz optional. **Size:** 3″H × 10″W × 7″D. **Weight:** 2.2 lbs.

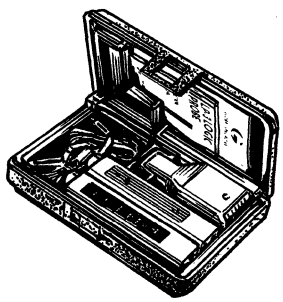
761-2001. 1 Hz to 100 KHz ..... **EACH 178.50**
761-2002. .2 Hz to 2MHz. ..... **EACH 219.95**

5001 Universal Counter-Timer

Input Impedance: 1 MegOhm, 25 pF. **Response:** 10 MHz max. at A input; 2 MHz max. at B input. **Sensitivity:** 20 mV rms. **Freq. Mode:** 10 MHz max. 4 ranges, with gate times of .01, 0.1, 1.0, 10 sec.; display in KHz; A input only. **Period Mode:** 400 nsec to 10 sec., 4 ranges, with 1, 10, 100, 1000 cycle average; display in sec.; A input. **Freq. Ratio:** 10 MHz max. at A input, 2 mHz max. at B input in 4 ranges cycle is counted. **Time Interval:** up to 10 sec., 4 ranges; measurement starts with signal at A input and ends with 1st, 10th, 100th, or 1000th signal at B input. **Unit Count:** Max. count, 10^8; max. freq., 10 MHz; A input only; 1 range. **Display:** 8-dig., 7-seg., 0.43″ LED. Dec. point indicates time in sec; freq. in KHz. Discrete LEDs indicate Overflow and Gate Open. **Oper. Temp.:** 0-40°C, cal. at 25°C ± 5%. **Power reg.:** 105-135 VAC, 57-63 Hz, 10 VA max.; 215-250 VAC, 50-60 Hz optional. **Size:** 3″H × 10″W × 7″D. **Weight:** 3 lbs.

761-5001 ..... **EACH 349.95**

Logic Test Kit



Model LTC-2. A complete, high-speed logic analysis kit contained in a handsome light-weight, custom-molded carrying case. Captures pulses less than 10 nsec., repetitive rates to 50 MHz. Ideal kit for service, design, testing, production and trouble-shooting applications. Kit includes Model LP-3 Logic Probe, Model DP-1 Digital Pulser, and Model LM-1 Logic Monitor (all described in detail on this page). Kit also contains two 1½″ (38mm) probe tips, two 2½″ (64mm) probe tips, 3″ (76mm) 'easy clip' adaptor, two 3″(76mm) ground leads, test probe tip adaptor, banana plug adaptor, two 36″(91.4cm) power/ground leads, plus complete manuals/application guides. **Dimensions:** 9.1 × 7.5 × 2.25″(23.1 × 19.1 × 5.7cm). **Weight:** 23 ounces (652 grams).

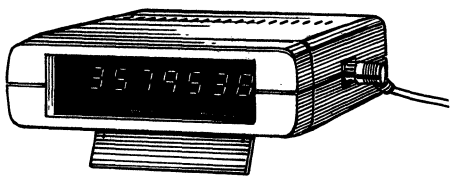
761-1300 ..... **EACH 199.95**
LTC-5. Contents: Same as LTC-2 except LP-5 replaces LP-3.
Part No. 761-1299 ..... **EACH 254.95**

3001 Digital Capacitance Meter

Model 3001. Direct, highly accurate 3½-digit readout of capacitance from 1 pF to 199,900 μF. Unique dual threshold technique delivers 0.1% accuracy on seven of its nine ranges and eliminates errors due to dielectric absorption. uses DC charging characteristics to determine true capacitance, even in wires, switches and other components. Zero Calibrate knob allows nulling of spurious capacitance up to 100pF. **Timebase:** 2MHz cystal oscillator. **Accuracy:** ± 0.1% of reading on seven lower ranges (up to 1999 μF), ± 0.5% on upper ranges; ± 2pF. ± 1 count, at 23°C (± 5°). **Power Required:** 105-135VAC, 57-63Hz, 6VA, max. **Size:** 3 × 10 × 7″ (7.6 × 25.4 × 17.8cm). **Wt.:** 3.0 lbs. (1.4kg).

761-3001 ..... **EACH 299.95**

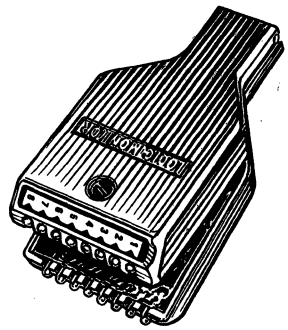
Max-100A (100MHz) Frequency Counter



Input Impedance: 1.5 MegOhms, 10 pF. **Response:** 5 Hz to 100 MHz. **Sensitivity:** 40 mV rms from 5Hz to 1 KHz; 30 mV rms from 1 to 100 KHz; 10 mV rms from 100 KHz to 10 MHz; 40 mV rms from 10 to 60 MHz; 120 mV rms from 60 to 100 MHz. **Ref.:** 3.579545 MHz crystal oscillator; ± 4ppm from 5 to 45°C. **Gate Time:** 1 sec. **Res.:** 1 Hz. **Acc.:** ± 1 count ± timebase error. **Display:** 8-Dig. 7-Seg. 0.43″ LED display, Lead Zero Blanking. Dec. point indicates MHz position. **Overflow:** When input exceeds 100 MHz, left-most digit flashes. **Display Update:** 1.16 sec., 1 sec. gate time. **Low-Battery Indication:** Entire Display Flashes at 1 Hz. **Oper. Temp.:** 5-45°C; cal. at 25°C ± 5%. **Power Req.:** 6 'aa' cells (internal), 110 or 220 VAC charger/eliminator, auto cigarette lighter adapter, or 7.5 to 10 VDC external supply. **Battery Charging Time:** 12 to 14 hours. **Size:** 1.75″H × 5.63″W × 7.75″D. **Weight:** less than 1 ½ lbs. with batteries.

761-0100 ..... **EACH 149.95**

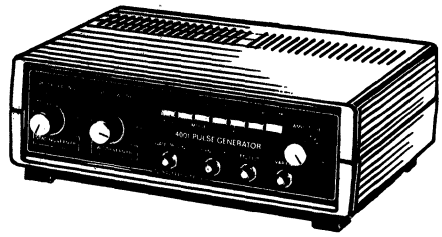
Logic Monitor



Model LM-1. Self-contained, pocket-size unit simultaneously reads the logic state of every mode of any DTL, TTL, HTL or CMOS DIP IC with up to 16 pins. Completely automatic—needs no set-up, calibration or adjustment. Automatically seeks IC's supply pins, drawing its power from them with power seeking gate network. Each clip contact connects to a single logic comparator with LED readout, activated when applied voltage exceeds a fixed threshold. Fast, accurate, reliable. Permits step-by-step or dynamic signal tracing—even through mixed logic systems. **Input voltage:** 4-15VDC. **Max input frequency:** 10 kHz, 4.0 × 2.0 × 1.5″ (10.2 × 5.1 × 3.8cm). **Wt.:** 3 oz. (85 gm).

761-1400 ..... **EACH 59.95**

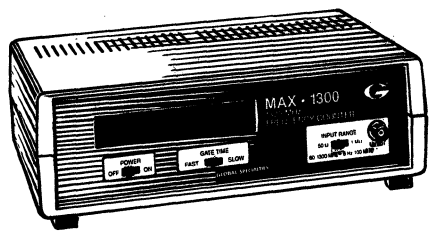
4001 Digital Pulse Generator



Freq. Range: 0.5 Hz to 5 MHz. **Pulse Width and Spacing:** Indep. variable from 100 nsec to 1 sec with 10:1 verniers over 7 decade ranges. **Acc.:** ± 5%; cal. at min. and max. settings. **Operating Modes:** Run Mode, Trig. Mode, Gate Mode, One-Shot Mode. **Outputs:** Sq. Wave, converts output to symmetrical sq. wave in any mode. **Complements:** Inverts out signal. **Trig./Gate Input Signal:** 1.7 V rms sine wave, 2.4 V pk. **Pulses:** TTL compat. **VAR OUT:** Amp., 0.5-10V, open circuit; 0.25 V into 50 Ohms; variable with Amp. control; rise/fall time, less than 30 nsec. **TTL Drive:** Standard TTL levels, buffered to drive up to 40 TTL Loads. **Sync. Out:** 2.4 V, TTL compat. pulse, buffered to drive 10 TTL loads. **Sync Timing:** 20 nsec pulse width, leads main outputs by more than 20 nsec. **Oper. Temp.:** 0-40°C; cal. at 25°C ± 5%. **Power Req.:** 105-135 VAC, 57-63 Hz, 6 VA max.; 215-250 VAC, 50-60 Hz optional. **Size:** 3″H × 10″W × 7″D. **Weight:** 2.2 lbs.

761-4001 ..... **EACH 199.95**

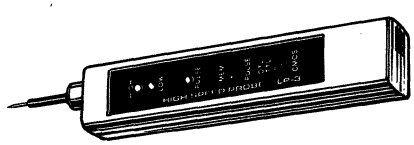
Max-1300 (1300MHz) Frequency Counter



A high range frq. counter. Ideal for CATV, HAM, and satelite commu. work. PLUS, selectable gate times for faster readings. **Input:** 1 Input, AC coupled BNC connector. **Response:** 5Hz to 100MHz, 80 MHz to 1300 MHz in 2 ranges. **Impedance:** 1 Megohm, 5Hz to 100MHz; 50 Ohms, 80MHz to 1300MHz. **Sensitivity:** Low Freq. **Range:** 5Hz to 80MHz-25 millivolts. 80MHz to 100MHz-50 millivolts. **Hi Freq. Range:** 80MHz to 400MHz-50 millivolts. 400MHz to 600MHz-75 millivolts. 600MHz to 1300MHz-150 millivolts. Max. Input Volt.; **Low Freq. Range:** 150VRMS 5Hz to 10kHz, 70VRMS 10kHz to 50kHz, 50VRMS 50kHz to 100kHz, 15VRMS 100kHz to 1MHz, 4VRMS 1MHz to 10MHz, 2VRMS 80 MHz to 100MHz. **Hi Freq. Range:** 1VRMS 80MHz to 1300MHz. **RES. Low Freq. Range:** 1Hz, 10Hz switch selectable. **Hi Freq. Range:** 100Hz, 1kHz switch selectable. **Controls:** Power, Gate time, Input Range.

761-1301 ..... **EACH 249.95**

Logic Probes



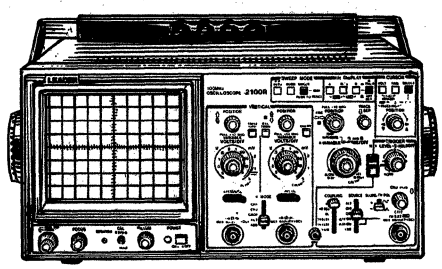
Our multi-family Logic Probes detect, memorize and displays logic level, pulses and voltage transients in mixed and single logic family systems. They detect out-of-tolerance logic signals, open circuit nodes, as well as transient events down to (5) nsec. (LP-5), while providing the user with an instant, easily interpreted and high-intensity LED readout. 4 models to choose from. **Memory:** All models.

Stock No.	Mfr.'s Type	Frequency	Min. Pulse	Logic Family	EACH
761-1000	LP-1	10 MHz	50 ns	TTL/CMOS	**19.95**
761-1100	LP-3	50 MHz	10 ns	TTL/CMOS	**44.95**
761-1150	LP-4	100 MHz	3 ns	ECL	**104.95**
761-0005	LP-5	100 MHz	5 ns	TTL/CMOS	**99.95**

16

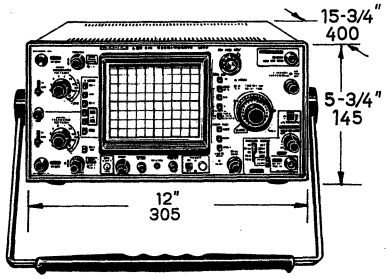
Model 2100R

NEW



The Model 2100R is a 100 MHz CRT readout oscilloscope with cursors which allows the user to observe waveform setting conditions and measured values on the screen at the same time. Cursors provide readout of voltage, time, frequency and phase as well as voltage and time ratios. The voltage ratio is ideal for performing overshoot measurements, and the time ratio is ideal for measuring duty cycles. The 2100R offers 3-channel operation, alternate triggering for simultaneous display of two asynchronous signals and alternate time base with six trace capability. Excellent triggering sensitivity along with auto time base ranging displays the optimal number of cycles. Relative holdoff and video sync separators with video line selector to display lines 1 through 263 of field 1 and lines 1 through 262 of field 2 make obtaining a jitterfree display a simple task. **Specifications. Vertical Deflection: DC:** DC-100 MHz; **AC:** 10Hz-100 MHz. **Input Coupling:** AC, GND, DC. **Input Impedance:** 1 Meg Ω ± 1.5%, 30 pF ± 5 pF. **Max. Input:** 400 VDC + AC Peak. **Display Mode:** CH-1, CH-2, Alternate, Chop, Add, Subtract (CH-2 Invert), Triple. **Output:** CH1 output on rear panel. **Horizontal Deflection:** Main time base, main time base intensified by delayed time base, main and delayed alternate time base, delayed time base, delayed time base triggered. **Main Time Base:** .05 μS/DIV to .5 μS/DIV in 22 steps (1-2-5 sequence) continuously variable between steps. **Delayed Time Base:** 0.05 μS/DIV to 0.5 μS/DIV in 13 steps, 1-2-5 sequence. **Magnifier:** X10. Automatic sweep range sets the sweep rate to display the optimum waveform. **Main Time Base Triggering: Sources:** CH-1 and CH-2, Alternate, Line, External, CH-3. **Modes:** P-P Auto, Normal, Single. **Coupling:** AC, HF Reject, DC, TV-FLD1, TV-FLD2, TV-Line. + or – slope. **Max. Input:** 400V (DC + AC Peak). **Relative Hold-Off:** Permits stable triggering even after changing the sweep time. **Delayed Time Base Triggering:** Immediate and triggered. **Power:** 90-250 VAC (No external switching); 48-440 Hz, 50 W. **Size:** 12¼" × 5⅞" × 15¾". **Wt.:** 19¾ lb. **Supplied Accessories:** Instruction manual, 2 LP-101X probes, 2 BNC to post adapters, 1 spare fuse.

843-2100. Model 2100R ..... **EACH 2195.00**

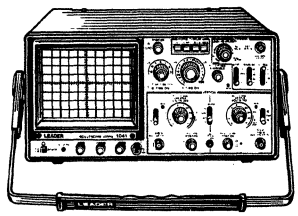


Model LBO-516

The LBO-516 is an economical 100 MHz, 3-channel, alternate time base oscilloscope. It has all the important features that are expected in a 100 MHz oscilloscope such as full front panel operation, alternate triggering for simultaneous view of asynchronous signals and independent or simultaneous display of main and delayed time bases. Eight trace capability is possible by displaying main and delayed versions of CH-1, CH-2, CH-3, and CH-1 + CH-2. **Specifications: Vertical Deflection:** DC to 100 MHz; 10 to 100 MHz AC. **Input Impedance:** 1 MΩ ± 2%, 25 pF ± 3 pF. **Deflection:** 5 mV/DIV to 5 V/DIV in 10 calibrated steps in 1-2-5 sequence; continuously variable between steps. X10 multiplier provides 500 μV/DIV sensitivity up to 5 MHz; CH-3 is 0.2 V/DIV to 2 V/DIV. **Max. Input Voltage:** 400 V (DC + AC P-P). **Display Modes:** CH-1, CH-2, Alternate, Chop, Add, Subtract (CH-2 Invert), Triple, Quad, X-Y (Chop Freq. 250KHz). **External Horizontal Deflection (X-Y Mode): Bandwidth:** DC to 3MHz; 10 Hz to 3MHz AC. **Internal Horizontal Deflection (Sweep Mode): Display Mode:** Main time base, delayed time base, main time base intensified by delayed time base, alternate main and delayed time base. **Main Time Base:** 20 nS/DIV to 0.5 S/DIV in 23 calibrated steps, 1-2-5 sequence. **Delayed Time Base:** 20 nS/DIV to 50 mS/DIV in 20 STPES, 1-2-5 sequence. **Magnifier:** X10 magnifier at any sweep speed setting both time bases. **Main Time Base Triggering: Sources:** CH-1, CH-2 alternate, Line, external. **Modes:** automatic, normal, single shot. **Coupling:** AC, HF Reject, DC, TV-Vertical, TV-Horizontal. **Slope:** + or –. **Level:** Preset or variable. **Holdoff:** Normal variable B-ends-A. **Input Impedance:** 1 MΩ ± 2%, 25 pF ± 3 pF. **CRT Adjustments:** rotation, focus, main and delayed time base intensity, graticule illumination. **Size:** 12W × 5¾H × 15¾D. **Wt.:** 8.9 Lbs. **Power:** 100, 120, 200, 220, 240 VAC; 50/60 Hz; 65 W. **Supplied Accessories:** Instuction manual, 2 ea. LP-100X probes (X10/X1), 2 ea. BNC to post adapters, 1 ea. extra fuse.

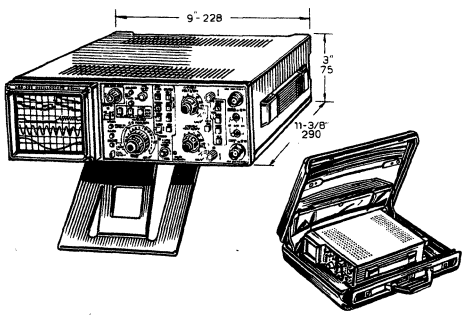
843-0516 ..... **EACH 1495.00**

Model 1041



The Model 1041 is designed to meet a broad range of applications in design, testing and servicing of both analog and digital circuits and equipment. Holdoff and delayed sweep triggered functions permit stable displays of even the most complex signals. With 1 millivolt sensitivity, extremely low level signals can easily be observed. A channel 1 output is available on the rear panel. Dual time base permits accurate observation and time interval measurements of complex waveforms. **Specifications: Vertical Deflection: Bandwidth: DC:** DC-40 MHz. **AC:** 10 Hz-40 MHz. **Input Impedance:** 1 MΩ ± 1.5%, 30 pF ± 5 pF. **Max. Input:** 300 VDC + AC Peak. **Display Modes:** CH-1, CH-2, Alternate, Chop, Add, Subtract (CH-2 Invert). **CH-1 Output:** 20 mV P-P/DIV into 50Ω, 50 Hz to 5 MHz, Max. amplitude 6 DIV. **Horizontal Deflection: Display Modes:** Main time base, main time base intensified by delayed time base, delayed time base, delayed time base triggered. **Main Time Base:** .2 μS/DIV to 20 μS/DIV in 19 steps (1-2-5 sequence) continuously variable between steps. **Magnifier:** X10. **Main Time Base Triggering: Sources:** Internal, CH-1, CH-2, Line, External. **Modes:** Auto, Normal, TV-V, TV-H. **Coupling:** AC, HF-REJ, LF-REJ, DC. + or – slope. **Delayed Time Base Triggering:** Immediate and triggered. **Power:** 100/120/220/240 VAC, 50/60 Hz, 35W. **Size:** 11⅜" × 5¾" × 14¾". **Wt.:** 19¾ lb.

843-1041. Model 1041 ..... **EACH 945.00**



LBO-315 60 MHz Attache Case Oscilloscope

► **Two-Time-Base Alternate Sweep Operation** ► **Complete Two-Channel Operation** ► **1mV Sensitivity with X5 MAG**

The LBO-315 is the utlra-compact portable oscilloscope with big scope features. It's perfect for field service and crowded workbenches. It weighs only 9 pounds and is so small it fits into a 3-inch attache case. You can take it on every call, use it at your desk and still solve complex problems.

The LBO-315 is a 60 MHz, two channel, dual time base oscilloscope. It features the alternate triggering mode and the complete triggering facilities found on all Leader scopes. Its 3½-inch, 12 kV PDA CRT with illuminated graticule makes critical waveforms easy to see. A calibrated delayed time base with alternate sweep mode permits viewing the main signal and magnified details at the same time.

It's rugged enough to go anywhere. Now you have full performance at your fingertips everytime you need it, wherever you need it. **Power Requirements:** 3-way battery pack. **Size:** (9W × 3H × 11⅜D"): (320 × 75 × 290mm). **Weight:** 9 lbs. (4kg). **Supplied Accessories:** 2 LP-060X × 1/ × 10 probes, 2 BNC to post adapters, spare fuse, front panel cover, carrying case, CRT hood.

843-0315 ..... **EACH 1995.00**

The LBO-325 is the ultra compact portable oscilloscope with the same specifications as the LBO-315 except power requirements are 100/120/220/240 VAC, (±10%), 50/60 Hz, 20W.

843-0325 ..... **EACH 1645.00**

Digital Multimeter Storage Oscilloscope and Model 710 Thermal Printer

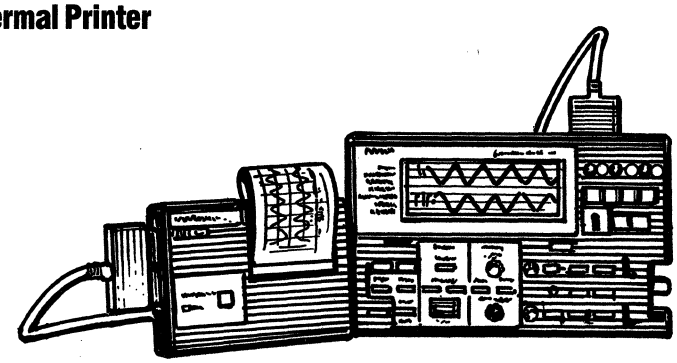
Digital Multimeter Storage Oscilloscope

The Model 200 is a combination of 2-channel digital storage oscilloscope and a digital multimeter. Dual channel operation allows two channel comparisons, addition or subtraction of two signals as well as X-Y capability. The oscilloscope is equipped with a 3 MS/S maximum sampling rate and is auto-ranging for time base as well as volts per division for each channel. On-screen display of setting conditions include time base, sensitivity, sweep mode, trigger slope and source, bank number and display mode. The standard printer interface enables waveforms and setting conditions to be output from the working memory or memory banks to an optional dedicated printer. The three memory banks are battery backed to provide long term storage of up to 6 waveforms total. The auto-ranging DMM now has manual override as well as audible continuity and overload indicator. Measurement functions include AC and DC for voltage and current as well as resistance and low power resistance for in-circuit measurments. **Specifications: Oscilloscope Section: Vertical Deflection:** DC to 200 KHZ; AC to 200 KHZ. **Input Impedance:** 1 MΩ ± 2%, 30 pF ± 5 pF. **Vertical Modes:** CH-1, CH-2, Dual, Add, Sub, X-Y. **Coupling:** AC-Ground-DC. **Max. Input Voltage:** 400 V (DC + AC P-P). **Horizontal Section: Sweep Rate:** 5 μS/DIV to 20 S/DIV in 21 calibrated steps, 1-2-5 sequence. **Roll Mode:** 50 MS/DIV to 20 S/DIV. **Auto Range:** 5 μS/DIV to 20 MS/DIV. **Triggering Modes:** Automatic, Normal, Single Shot. **Source:** CH-1, CH-2, External. **Slope:** + or –. **Memory Capacity:** 256 words × 4 waveforms × 2 channels. **Storage:** 6 waveforms may be stored and recalled for later comparison. **DMM Section: Measuring Function:** DC and AC voltage, DC and AC current, resistance, low power resistance/diode test and continuity check. **Voltage Range: DC Range:** 1000 V ± 0.6% reading ± 3 digits. **AC Range:** 750 V ± 1.2% reading ± 5 digits. **Bandwidth:** 40 HZ to 500 HZ. **Digital Display:** 3½ digit, 3200 count. **Range:** Automatic/manual. **Polarity:** + or – indication, auto switched. **Display:** LCD 64 × 192 dot matrix. Contrast adjustable from front panel control. **Power: Oscilloscope Section:** 4 NI-CAD batteries 700 mAH. 1 NI-CAD Battery for memory. **DMM Section:** 2 AA cells. **Operating Time (Approx.): Oscilloscope:** 1½ hours. **DMM:** 100 hours. **Charging Time:** Approx. 15 hours with power switch off. **Size:** 8⅞W × 2H × 5¼D inches. **Weight:** 2½ lbs. **Supplied Accessories:** Instructions manual, (2) LP-16BX probes (X1/X10), 1 pair DMM leads, carrying case, external trigger cable, spare fuse, 2 AA cells, AC adapter. **Available Accessories:** Model 710 printer.

843-0200. Model 200 ..... **EACH 1695.00**

843-0100. LCD-100 (Single Channel; Not printer adaptable) ..... **EACH 895.00**

843-0101. Model 100P (Single channel with printer 710 only) ..... **EACH 1645.00**



Model 710 Printer Model 200

Model 710 Thermal Printer

Specifications. Print Signal: 8 bit parallel data, handshaking by strobe and busy signals. **Connector:** 32 PIN Amphenol Centronics. **Printer Section:** Thermosensitive serial thermal dot system. **Print Direction:** left to right. **Character Size:** 7 × 5 dot matrix. **Print Speed:** Approx. 27 CPS. **Power:** 4.8V 500mAH (4 NI-CAD Batteries). **Operating Time:** 150 Screens of data. **Charging Time:** Approx. 15 hours with power switch off. **Size:** 5⅜W × 1½H × 3⅞D. **Weight:** 14 oz. with paper. **Supplied Accessories:** Instruction manual, one roll paper, interface cable.

843-0710. Model 710 Printer ..... **EACH 480.00**

Laboratory Frequency Counters

Model LDC-825. An 8-digit counter with a bandwidth of 10 Hz to 1 GHz. The resolution ranges from 0.1 Hz at 10 Hz to 100 Hz at 1 GHz with a time base accuracy of 0.03 ppm. Has two selectable frequency ranges, two sensitivity ranges and six gate times, fluorescent display, and period measurement capability. **Specifications. Frequency Measurement. Range:** 10 Hz to 1 GHz. **Accuracy:** ± time base accuracy ± 1 count. **Period Measurement. Range:** 100mS to 1μS. **Input Sensitivity:** 20mV rms (10 Hz to 80 MHz); 50mV rms (50 MHz to 1000 MHz).**Input Impedance:** Approx. 1M ohm and 50 ohm switchable (10 Hz to 80 MHz); 50 ohm only (50 MHz to 1000 Mhz). **Time Base Frequency:** 1 MHz (crystal controlled). **Power Source:** 115/220VAC, 50/60 Hz approx. 15VA. **Size:** 9″W × 3½″H × 11¼″D. **Weight:** 5½ lbs. Accessories include clip cable with BNC connector, BNC/BNC cable.

843-0825 ..... **EACH 1445.00**

Model LDC-823S. Standard time base accuracy of 1 ppm from 10 Hz to 250 MHz. **Frequency Measurements. Range:** 10 Hz to 250 MHz in two ranges. **Gate Time:** 0.1, 1, 10S. **Input Section. Sensitivity:** 20mV (50mV above 100 MHz). **Attenuator:** Times 1 and 10. **Coupling:** AC. **Maximum Input:** 10 to 400 Hz; 100V rms. 400 Hz to 100 kHz; 20V rms. 100 kHz to 250 MHz; 5V rms. **General. Display:** 8 digits, 0.5″ fluorescent. **Physical. Size (W × H × D):** 8 × 3 × 10″ (203 × 76 × 254mm). **Weight:** 6 lbs. (2.6k). **Accessories Supplied:** One pair test leads.

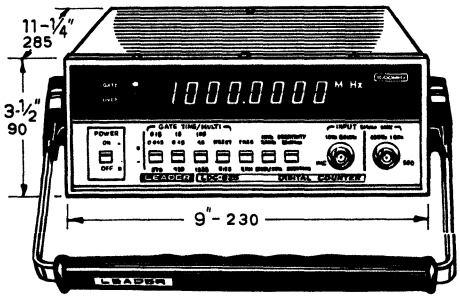
843-0823 ..... **EACH 545.00**

Model LDC-824S. Standard time base accuracy of 1 ppm. 10 Hz to 520 MHz frequency range. **Frequency Measurements. Range:** 10 Hz-520 MHz in two ranges. **Input Section. Sensitivity:** 20mV (50mV above 80 MHz). **Attentuator:** Times 1 and 10. **Coupling:** AC. **Impedance:** 1 MΩ or 50Ω switchable. **Maximum Input:** 10 to 400 Hz; 100V rms. 400 Hz to 100 kHz; 20V rms. 100 kHz to 520 MHz; 5V rms. **General. Display:** 8 digits. **Physical. Size:** 8″W × 3″H × 10″D (203 × 76 × 254mm). **Weight:** 6 lbs. (2.6kg). **Accessories Supplied:** One pair test leads.

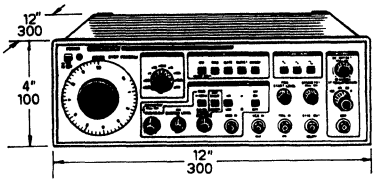
843-0824 ..... **EACH 645.00**

Model LDC-831. Provides up to 6 digits of resolution. The basic accuracy of the LDC-831 is ± 10 ppm. **Specifications. Frequency Range:** 5 Hz to 150 MHz. **Resolution. Low Range:** 100 Hz (0.01S gate time). 1 kHz (1S gate time). **High Range:** 10 kHz (0.01S gate time), 100 Hz (1S gate time). **Display:** 4½ digit LED. **Time Base. Frequency:** 3.2768 MHz. **Accuracy:** 10 ppm, 23 ± 3°C, 50 ppm, 0-40°C. **Size:** 6³/₁₆″W × 2¼″H × 4¾″D (160 × 58 × 122mm). **Weight:** 1.1 lbs. (500g), without batteries.

843-0831 ..... **EACH 245.00**



LDC-825



LFG-1310 10 MHz Sweep/Function Generator

► **Sine, Square, Triangle, Ramp and Pulse Output** ► **Adjustable Symmetry for All Waveforms** ► **CW, Triggered, Gate, Burst plus Linear and Log Sweep Modes**

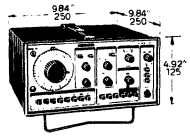
The LFG-1310 is a feature-packed sweep/function generator with outputs that include every required waveform: sine, square, triangle, ramp and pulse. Five different operating modes enable the LFG-1310 to be used as a source for general and specialized measurement techniques. Output controls enable all types of signal conditions to be established, including different bias levels for amplifier work. The output may also be frequency or amplitude modulated by an external signal. The LFG-1310 is housed in a compact metal enclosure. **Power Requirements:** 100, 120, 200, 220, 240VAC ± 10%, 50/60 Hz. **Size:** 12 × 4 × 12″ (300 × 100 × 300mm).

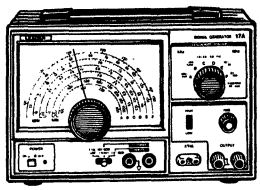
843-1310. LFG-1310 ..... **EACH 1185.00**

2-MHz Sweep/Function Generator

LFG-1300S is a general-purpose signal source with a broad range of research, design and service applications. Outputs include sine, square, triangle, ramp and pulse signals. Pulse symmetry is variable over a 9:1 range. Changing the symmetry does not appreciably affect the output frequency. Linear and logarithmic sweep frequency outputs available with sweep widths up to 1000:1. Output level is contolled by a calibrated 70 dB attenuator (10 dB)/step) with continuous adjustment between steps. The output may be frequency or amplitude modulated by an external signal. A level control also provides suppressed carrier outputs. Sturdy metal housing with front panel for convenient operation. **Size:** 250W × 125H × 250mmD. **Wt.:** 9 lbs. **Power Reg.:** 100, 117, 200 or 234VAC, 50-60 Hz.

843-1300 ..... **EACH 525.00**





RF Signal Generator

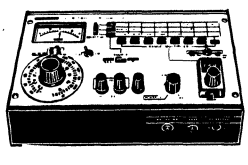
Model 17A is a economical and stable RF signal generator with a proven performance from wide use in education, industry, service shops and home use. The unit uses recent integrated circuit and hybrid technology making it very stable, durable and economical while retaining lightweight and small size. The Model 17A has a fundamental frequency range of 100kHz to 150 MHz and up to 450 MHz by a calibrated third harmonic. The front panel range selection switch has 6 ranges. The Model 17A has a vernier frequency control and switchable high and low output levels. The unit features a large, easy to read frequency dial for fast, simple operation. **Specifications: Frequency Range:** 100 KHz to 150 MHz (450 MHz by calibrated third harmonic) in 6 ranges. **RF Output:** Approx. 0.1 V RMS (Unloaded). **Output Control:** High-low switch and fine adjuster. **Modulation:** Internal 1 KHz; External 50 Hz—20 KHz. **Audio Output:** 1 KHz 1V or more. **Crystal Oscillator:** Ft-243 (1 MHz-15 MHz). **Power Supply:** 100/120/200/220/240 VAC ± 10%, 50/60 Hz, 3 VA. **Size:** 9⅞W × 5⅞H × 5⅛D. **Wt:** 5.5 Lbs. **Supplied Accessories:** Instruction manual.

843-0017. Model 17A ..... **EACH 249.00**

Precision Audio Generator

The **LAG-120B** is a precision audio generator. It is used for designing, testing, and servicing audio equipment. Also suitable for providing general purpose signals in a laboratory setting, this generator is a reliable source of low distortion sine waves or fast rise time square waves. **Specifications. Frequency Range:** 10 Hz to 1 MHz in 5 decade ranges. **Sine Wave Level:** 3 VRMS, 600Ω .**Square Wave Output: Level:** 3 V P-P, 600Ω. **Rise Time:** 200 nS. **SAG:** 5% or less on all ranges. **Overshoot:** 2% or less at maximum output. **External Synchronization:** ± 1% of dial frequency per volt RMS of input signal. **Max. Input:** 10 VRMS. **Output Impedance:** 600Ω ± 1% unbalanced. **Amplitude Control:** Output attenuator provides up to 50 dB of attenuation in 10 dB steps. A continuously variable control is also provided. **Power:** 100/120/220/240 VAC, 50/60 Hz, 6.5VA. **Size:** 5¼W × 6H × 9⅞D (Inches). **Wt.:** 6.5 Lbs. **Supplied Accessories:** Instruction manual, 600Ω terminator.

843-0120. LAG-120B ..... **EACH 360.00**



LCR-740 Bridge

► **0.5% Basic Accuracy** ► **0.1μH, 1 pF, 0.001Ω Resolutions** ► **2-Year Warranty Includes Parts and Service**

LCR-740 Bridge. The LCR-740 is a versatile instument for accurately measuring inductance, capacitance, resistance, and loss factor of electronic components. This compact unit provides a basic accuracy of 0.5% and resolutions of 0.1μH, 1 pF, or 0.001Ω. Its broad measurement ranges make it ideal for use in component design, inspection and selection. It has also found wide use in educational institutions as an aid to teaching the characteristics of inductive, capacitance and resistive components. **Power Requirements:** internal 9V battery (supplied). AC Adapter (optional). **Size:** 9½W × 3⅜H × 6⅝D Inches. 240 × 85 × 170mm. **Weight:** 4.5 lbs., 2kg. **Accessories Supplied:** instruction manual, cable for external input, miniature earphone (for null detecting), 9V transistor battery.

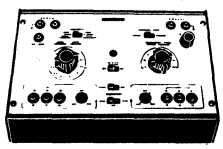
843-0740 ..... **EACH 435.00**

Automatic Transistor Checker

► **Audible and Visual Good-Bad Indication** ► **Tests In or Out of Circuit** ► **LEDs for All Tests** ► **Powered by 9-Volt Battery** ► **Programmed Test Identifies Emitter, Base, Collector and Device Type**

Model LTC-906. Tests low/medium power transistors, FETs, UJTs, SCRs, and diodes. In automatic mode, a single switch begins a programmed test that automatically identifies base, emitter and collector; shows device type (NPN/PNP or diode polarity); gives audible and visual Good-Bad indication. In DC parameter mode, out-of-circuit measurments can be made of leakage current, h_{FE}, V_{BE}, and V_D. **Automatic Test Voltage:** ± 2V. **Scanning Rate:** 0.1 second per test. **Size:** 6 × 4¼ × 2⅛″ (15.2 × 10.8 × 54.0cm). **Wt.:** 1 lb. (0.45kg).

843-0906 ..... **EACH 285.00**

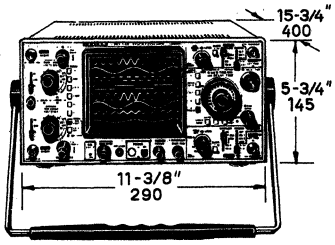


Semiconductor Curve Tracer

The LTC-905 permits displaying the characteristic curves of all types of semiconductors (NPN, PNP, triacs, SCRs, FETs, MOSFETs, zener, signal, and rectifier diodes, etc.) on virtually any oscilloscope. Used in labs, classrooms, and for production-line testing, the LTC-905 will measure (both in and out-of-circuit) gain (beta), cutoff, leakage, and output admittance. The LTC-905 provides 8 selectable collector sweep voltages from 10 to 100 volts along with a full set of step-generator currents and voltages. **Power Requirements:** 115VAC, 50/60 Hz. **Size:** 9⅜W × 3½H × 6¼D inches, 240 × 89 × 160mm. **Weight:** 7 lbs., 3.2kg. **Accessories Supplied:** instruction manual, two test cables, three oscilloscope cables with alligator clips, LP-11 Three Point Probe for in-circuit testing.

843-0905 ..... **EACH 335.00**

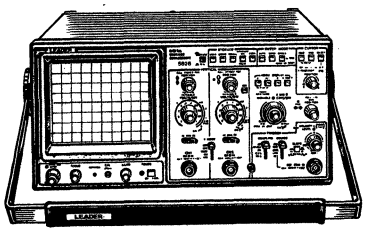
LBO-518 100 MHz Alternate Time Base Oscilloscope



The LBO-518 is a 100 MHz quad channel, alternate time base oscilloscope featuring front panel 4-channel operation, individual or simultaneous display of main and delayed time bases and alternate channel triggering for simultaneous viewing of asynchronous signals. Separate, independent comprehensive triggering facilities for both the main and delayed time base include HF reject, LF reject, video sync separator, alternate channel triggering and trigger level control with preset in addition to variable trigger hold-off, line triggering for observation of line related signal components and auto, normal and single sweep modes. A dome mesh PDA CRT with 20 KV accelerating potential allows observation of fast rise time signals with low repetition rates and similar events which are often difficult to observe due to limited trace brightness. Vertical input section of the scope features 0.5 mV sensitivity, 20 MHz bandwidth limiter, beam finder and add/subtract modes. **Power Requirements:** 100, 120, 200, 220, 240 VAC, 50 to 60 Hz. 65 Watts; **Weight:** 21 lbs.

843Q0518. LBO-518. ..... **EACH 2045.00**

Model 3060D 40 MS/s Digital Storage Oscilloscope

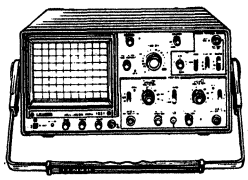


The Model 3060D is a powerful combination 40 MS/s Digital Storage and 60 MHz Real Time Oscilloscope that offers CRT readout and cursors, dual time base with calibrated delayed sweep plus alternate sweep and triggering. The high speed sampling rate of 40 MS/s allows single shot events, fast transients, as well as slowly occurring phenomena to be captured and analyzed. Stored waveforms can be expanded by X100 along with waveform interpolation, data can be easily evaluated. Two waveforms per channel can be stored in the unit's 2K word/channel memory. Up to 10 divisions of pre-trigger information in 0.1 steps can be observed to help determine the cause of the transient. The 3060D comes standard with the GPIB interface.

Specifications. Modes. Real: Conventional 60 MHz. **Storage:** Display is automatically updated once per trigger point. **Hold:** Protects waveform from accidental erasure. **Store:** Waveform is put into memory. **Recall:** Retrieval of reference (stored) waveforms. **Interpolate:** Provides better definition of waveform (sine or pulse). **Copy:** Activates plotter for hard copy. **Pre-Trigger:** Storage of up to 10 divisions of pre-trigger information in 0.1 divisions steps. **Roll Mode:** Acts as a chart recorder operating at low speed (1 s/div to 50 s/div). **View Time:** Varies amount of time a waveform can be displayed on the screen (0.5S to 5 S). **Maximum Sampling Rate:** 40 MS/s (20 MS/s dual channel). **Bandwidth:** DC to 10 MHz. **Vertical Resolution:** 8 bit (256 points). **Memory Capacity:** 2048 words/channel × 2 channels. **Horizontal Resolution:** 11 bit (2048 point or approximately 200 pts/div). **Vertical Deflection Bandwidth: DC:** DC to 60 MHz; **AC:** 10 Hz to 60MHz. **Rise Time:** 5.8 ns. **Accuracy:** ± 3% (± 5% with X10 magnifier). **Input Impedance:** 1 MΩ ± 1.5%, 30 pF ± 5 pF. **Display Modes:** CH-1, CH-2, CHOP, ALTernate, ADD, SUBtract (CH-2 Invert). Channel 1 Output. **External Horizontal Deflection. Bandwidth:** X-Axis Bandwidth (– 3 dB) **DC:** DC to 1 MHz; **AC:** 10 Hz to 1 MHz. **Internal Horizontal Deflection. Display Modes:** Main time base, delayed time base, main time base intensified by delayed time base, alternate main and delayed time base. **Analog Sweep Rates (Main Time Base A):** 50 ns/div to 0.5 s/div in 22 calibrated steps 1-2-5 sequence, continuously variable between steps. **Analog Sweep Rates (Delay Time Base B):** 50 ns/div to 0.5 ms/div. **Auto Range:** Automatically sets the time base to display 1 to 4 cycles. **Magnifier:** X10 magnifier extends maximum sweep rate to 5 ns/div. **Storage Sweep Rate (Main Time Base A):** 5 μs/div (10 μs/div dual channel) to 0.5 s/div. **Storage Sweep Rate (Delayed Time Base B):** 5 μs/div (10 μs/div dual channel) to 0.5 s/div. **Delay Time:** 0 to X10 of main time base range. **Triggering. Sources:** CH-1, CH-2, ALTernate, LINE, EXTernal. **Coupling:** AC, HF-REJect, DC, TV-Vertical, TV-Horizontal. **Slope:** + or –. **Modes:** AUTOmatic, NORmal, SINgle Sweep. **CRT Display. Size:** 6 inch rectangular with internal graticule. **Power Requirements:** 90-264 VAC (no external switching) 50/60 Hz. **Physical. Size:** (W × H × D): 12¼ × 15¾", 310 × 150 × 400 mm. **Weight:** 21 lbs. (9.5 kg). **Supplied Accessories:** Instruction Manual; Two LP-061X Probes, Spare Fuse, Two BNC to Post Plug Adapters.

843Q3060. Model 3060D. ..... **EACH 4495.00**

Model 1021 20 MHz Oscilloscope



The Model 1021 is a 20 MHz oscilloscope economically designed for educational and service markets. Extensive triggering controls include variable holdoff, HF-REJ, LF-REJ, TV-V, TV-H sync separation and line source triggering. The vertical input sensitivity of 1 mV/Div, Add, Subtract and X-Y mode as well as CH-1 output connector adds to the unit's total capability. An internal graticule and scale illumination are also standard features. The 1021 is well suited for many design, production, repair and educational test requirements.

Specifications. Vertical Deflection: DC: DC — 20 MHz; **AC:** 10 Hz — 20 MHz. **Input Impedance:** 1 MΩ ± 1.5%, 30 pF ± 2 pF. **Max. Input:** 300 VDC + AC Peak. **Display Modes:** CH-1, CH-2, Alternate, Chop, Add, Subtract (Ch-2 Invert). **CH-1 Output (Rear Panel):** 20 mV/div into 50Ω, 50 Hz to 4 MHz max. amplitude 6 div. **External Horizontal Deflection: Input:** via CH-1. **Bandwidth: DC:** DC - 500 KHz. **AC:** 10 Hz - 500 KHz. **Internal Horizontal Deflection: Main Time Base:** .2 μs/div to .2 s/div in 19 steps, 1-2-5 sequence, continuously variable between steps. **Magnifier:** X10. **Triggering: Sources:** CH-1, CH-2, Line, External. **Modes:** Auto, Normal, TV-V, TV-H. **Coupling:** AC, HF-REJ, LF-REJ, DC. **Slope:** + OR - **Power:** 100/120/220/240 VAC, 50/60 Hz, 55W. **Size:** 11⅜" × 5¾" × 14¾". **Wt.:** 17.6 lbs. **Supplied Accessories:** Instruction Manual, Two (2) LF-180 Probes (X1/X10), Two (2) BNC Binding Post Adapters, Spare Fuse, Power Cord.

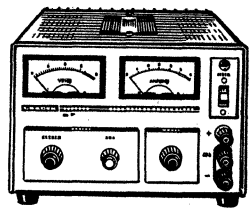
843-1021. Model 1021. ..... **EACH 550.00**

Triple Output DC Power Supplies

The LPS-152 is a triple output DC power supply that can be either half rack mounted or used on the test bench. The metered output voltages are adjustable, 0 to 6 volts (5-amp max.), 0 to + 25 volts and 0 to – 25 volts (1-amp max.), making this model ideal for computer subassembly, circuit board, semiconductor and system built-in test applications. All three outputs have independent adjustable current limiting with an auto recovery feature which allows the output voltage to return to normal when the short or overload condition is removed. Also featured is a tracking output mode which allows an adjustable ratio of positive vs. negative voltage between the 25 volt outputs. The adjustment range is from 100% -100% to 50%-100%. Ripple is less than 3 mV p-p and output stability is rated at less than 3 mV for ± 10% input line voltage variation and 0 to 100% load variation. Power supply carries manufacturer's 2-year warranty. 8.5 × 5.2 × 14.2".

843-0152. Type LPS-0152. ..... **EACH 595.00**

Regulated DC Power Supply



Power Supplies LPS-164A fill the need for single-output bench supplies operating in the 0-32 VDC range. They feature excellent regulation: within 5 mV for a ± 10% variation in AC supply voltage, or a 0-100% variation in load current. Metered output voltage and current, coarse and fine voltage adjustment, and auto-reset current limiting.

Outputs are fully isolated so that two or more supplies may be stacked for additional output voltage. The supplies also track an externally-applied reference voltage to allow parallel connections of outputs, and permit two supplies to share total load current. **Output voltage:** 0-32 V continuously variable. **Output polarity:** Positive and negative. **Output current:** 0-5A. **Ripple voltage:** Less than 3 mVp-p. **Regulation:** Less than 5 mV for power source voltage change of ± 10%. Less than 5 mV for load variation of 0 to 100%. **Voltmeter:** 40 V (FS) Accuracy of 2.5% for full scale. **Ammeter:** 6 A (FS) Accuracy of 2.5% for full scale. **Insulation:** Between chassis and output terminal: More than 10MΩ at DC 500 V. **Between chassis and AC plug:** More than 50MΩ at DC 500 V. **Power requirements:** 100, 120, 200, 240 VAC, 50/60 Hz, 340 VA. **Size (W × H × D):** 8½ × 5¾ × 11¼ in. **Weight:** 19.8 lbs.; 9 kg. **Supplied accessories:** Shorting bar, Spare fuse, Instruction Manual. **Operation:** Series or parallel.

843-0164. LPS-164A. ..... **EACH 595.00**
843-0160. LBS-160A (as above, but 32V/0.5A). ..... **EACH 275.00**
843-0161. LPS-161A (as above, but 32V/1.2A). ..... **EACH 295.00**
843-0162. LPS-162A (as above, but 32V/2.0A). ..... **EACH 325.00**
843-0163. LPS-163A (as above, but 32V/3.0A). ..... **EACH 395.00**

Portable Instrument Carts

Model LIC-2462. All steel cart features two adjustable tilting shelves, two fixed shelves and tilting pull-out table top shelf. Shelf #3 can be used as a storage bin. Eye level copy holder allows documents to be easily seen. Includes 15 amp, 6-outlet grounded power strip, 5" lockable wheels. Over 14 square feet of storage area.

843Q2462. ..... **EACH 675.00**

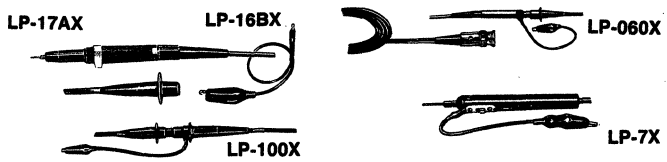
Model LIC-2461. Features two adjustable shelves that tilt from – 5 to 45°, and two fixed shelves. Load capacity is 300 lbs. Storage area is over 9 square feet. Supplied with schematic rack, 4-outlet power strip and tool holder. Lockable wheels provide mobility as well as stability. Tan and brown glazed epoxy enamel finish.

843Q2461. ..... **EACH 515.00**

Model LIC-2460. Comes with three shelves. The top shelf adjusts from – 5 to 45°. The middle shelf adjusts in height from 11¼ to 6". The fixed bottom shelf has a lockable storage bin. 3" front wheels lock for security. Over 4 square feet of storage area. 170 lbs. load capacity. Supplied with tool holder and probe/soldering iron holder.

843Q2460. ..... **EACH 340.00**

Oscilloscope Accessories



LP-16BX (At X1 Position) Specifications. Bandwidth: DC-5 MHz. **Input Resistance:** 1 MΩ. **Input Capacitance:** <250 pF. **Maximum Input:** 600 V (DC + AC peak). **Cable Length:** 50" (125cm). **LP-16BX (At X10 Position) Specification. Bandwidth:** DC-40 MHz. **Input Resistance:** 10 MΩ. **Input Capacitance:** 22 pF ± 10%. **Maximum Input:** 600 V (DC + AC peak).

843-9016. LP-16BX. ..... **EACH 48.00**

Model LP-17AX Dual Position Probe

LP-17AX (X10 Position) Specifications. Attenuation: 1/10 ± 2%. **Frequency Range:** DC-40 MHz. **Input Resistance:** 10 MΩ. **Input Capacitance:** less than 25 pF. **Compensation Range:** 20-40 pF. **Max. Input:** 600 VDC. **Connector:** BNC. **LP-17AX (X100 Position) Specifications. Attenuation:** 1/100 ± 3%. **Frequency Range:** DC-20 MHz. **Input Capacitance:** less than 8 pF. **Compensation Range:** 20-40 pF. **Max. Input:** 1500 VDC. **Cable Length:** 50" (125cm).

843-9017. LP-17AX. ..... **EACH 78.00**

LP-100X (X1 Position) Specification. Bandwidth: DC-100 MHz. **Input Resistance:** 10 MΩ. **Input Capacitance:** 12 pF ± 10%. **X10 Position. Bandwidth:** DC-6 MHz. **Input Resistance:** 1 MΩ. **Input Capacitance:** <150 pF. **General. Max. Input:** 600 V (DC + AC peak). **Cable Length:** 59" (150 cm).

843-9011. LP-100X. ..... **EACH 87.00**

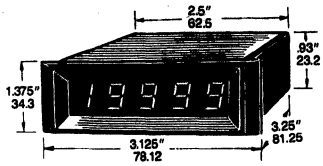
LP-060X (X10 Position) Specifications. Bandwidth: DC to 50 MHz. **Attenuation:** 1/10 ± 2% (into 1 MΩ). **Input Resistance:** 10 MΩ (when connected to 1 MΩ input). **Input Capacitance:** 22 pF + 10%. **Compensation Range:** 20 to 40 pF. **Maximum Input:** 600 V (DC + AC peak). **Specifications. (X1 Position): Bandwidth:** DC to 3 MHz. **Input Resistance:** 1 MΩ (when connected to 1 MΩ input). **Input Capacitance:** <250 pF. **Maximum Input:** 600 V (DC + AC peak). **Cable Length:** 50" (125cm).

843-9060. LP-060X. ..... **EACH 69.00**

LP-7X Demodulator and Low Capacitance Probe. 10:1 switchable, dual-purpose probe designed for maximum utility. Includes RF detection circuit and a low-capacitance 10:1 multiplier. Useful for checking sweep oscillator outputs, IF response. BNC connector.

843-9007. LP-7X. ..... **EACH 43.00**

4½-Digit PC-4 Solid-State Event Counter



Solid-state event counter or totalizer designed for panel mounting; clips eliminate holes on the panel face. Totalizes electronic pulse or contact closure inputs and displays count up to 19999 events. Programmable decimal. **Weight:** 4 oz. **Specifications. Speed:** Logic Level Input: 0-200,000 per sec. **Contact Closure:** 0-100 per sec. **Input Signal Amplitude:** Logic Level Input: +3.0 V to +15V. **Contact Closure:** Open to ground for count. **Display:** 0.3" high LED. **Power:** +5 VDC ±5% @ 0.75 W. **Reset:** Negative going to low (gnd) from logic level or switch.

667-3000. 1-4 ..... **EACH 80.00**
5-9 ..... **EACH 76.85**
10-24 ..... **EACH 71.50**

X-Series

Model X-32 Short-Depth Digital Meter

Specifications. ranges: 99.9, 999 mV, 9.99 & 999 volts DC. **Accuracy:** ±0.2% (±0.2% with precision reference). **Display:** 0.5" LED. **Power:** +5 VDC ±5%. **Weight:** 2 oz. **Size:** 1.9 × 4 × 1.1"(0.50"D behind bezel). **Overload Voltage:** +250 V except on 1000 V range (±1200 V). **Temperature Coefficient:** 100 parts per million per °C. **Input Impedance:** 100 megohm for 0.1 V range, 1 megohm for 1 V, 10 V and 100 V ranges, 4 megohm for 1000 V range. **Normal Mode Rejection:** 40 dB minimum. **Common Mode Rejection:** 40 dB minimum. **Common Mode Compliance:** +4 to −1.5 VDC between signal low and power ground.

667-7500. X-32. **1-4** ..... **EACH 30.00**
5-9 ..... **EACH 28.15**

Model X-35 LCD 3½-Digit Panel Meter

Specifications. Ranges: 199.9 mV, 1.999, 19.99 199.9 and 1000 volts DC. **Accuracy:** ±0.1%(±0.1% with precision reference). **Display:** 0.3" LCD. **Power:** +5 VDC ±5% at 6 mA. **Weight:** 2 oz. **Size:** 1.9 × 4 × 1.1"(0.50"D behind bezel). **Overload Voltage:** +250 V except on 1000 V range (±1200 V). **Temperature Coefficient:** 100 parts per million per °C. **Input Impedance:** 100 megohm for 0.2 V range, 1 megohm for 2 V, 20 V and 200 V ranges, 4 megohm for 1000 V range. **Normal Mode Rejection:** 40 dB minimum. **Common Mode Rejection:** 40 dB minimum. **Common Mode Compliance:** +4 to −1.5 VDC between signal low and power ground.

667-7510. X-35. **1-4** ..... **EACH 42.00**
5-9 ..... **EACH 39.70**

Model X-34 3½-Digit Panel Meter

Specifications. Ranges: 199.9mV, 1.999, 19.99, 199.9 and 1000 volts DC. **Accuracy:** ±0.1%(±0.1% with precision reference). **Display:** 0.56"H. **Power:** +5 VDC ±5% at 200 mA. **Weight:** 2 oz. **Size:** 1.9 × 4 × 1.1" (0.50"D behind bezel). **Overload Voltage:** +250 V except on 1000 V range (±1200 V). **Temperature Coefficient:** 100 parts per million per °C. **Input Impedance:** 100 megohm for 0.2 V range, 1 megohm for 2 V, 20 V, and 200 V ranges, 4 megohm for 1000 V range. **Normal Mode Rejection:** 40 dB minimum. **Common Mode Rejection:** 40 dB minimum. **Common Mode Compliance:** +4 to −1.5 VDC between signal low and power ground.

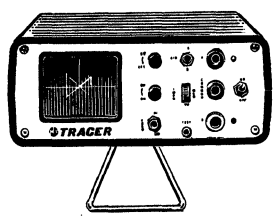
667-7505. X-34. **1-4** ..... **EACH 41.00**
5-9 ..... **EACH 38.45**

Model XC-4 Electronic Event Counter

Features: 4 digits—10,000 counts, high-speed counting, high noise immunity, counts electronic wave forms or contact closures, reset and carry functions, programmable decimal. Counting rates up to 1 MHz. **Specifications. Range:** 0000 to 9999 counts. **Count Rate:** Contact Closure 0-50/sec. **Input Signal Amplitude:** Logic Level ±3.0 V to +15 V, Contact Closure—ground for count. **Display:** 0.56" LED, 4-digit. **Overflow Indication:** Blinking decimals. **Power:** +5 VDC ±5% at 0.75 W. **Operating Temperature:** 0 to 50°C. **Size:** 1.9 × 4 × 1.1"(0.50"D behind bezel). **Weight:** 2 oz.

667-7515. XC-4. **1-4** ..... **EACH 41.00**
5-9 ..... **EACH 38.95**
667-0107. Range Change Kit (DC Volt) ..... **EACH 5.00**
667-0108. Range Change Kit (DC Amp) ..... **EACH 10.00**

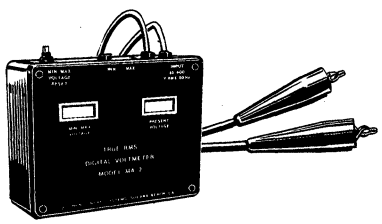
Tracer TR-2



The TR-2 Tracer is a versatile, low-cost, compact circuit signature display. This small, lightweight portable tracer measures impedance, inductance, and capacitance. it provides two switch-selectable signal frequencies (150 Hz and 2 kHz). Three switch-selectable peak voltages (2.5V, 12.5V, and 50V) provide three test ranges (0-100 ohms, 100-100K ohms, and 500-500K ohms). Besides testing isolated components, this bench-type tracer allows in-circuit testing. The large (2.5" diagonal length) green phosphor screen and two input channels make it easy for an operator with only minimal training to tell at a glance how a test component compares to one that's known to be good. Features manual or automatic switching between channels. An easy-to-read LED indicator tells which channel is in operation. **Power Source:** Operates continuously from 115VAC source, 50 to 400 Hz when connected to plug-in transformer. **Operating Temperature:** 0 to +40°C. **Size:** 2.9"H × 6.4"W × 8.0"D. **Weight:** Less than 3 lbs.

667-7302 ..... **EACH 795.00**

MA-2 Digital Line Voltmeter

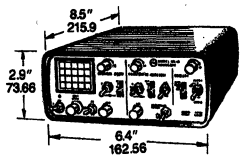


The MA-2 is an AC digital voltmeter that provides fast, convenient measurement of AC line voltages of 110, 220, or 440VAC. Unlike other digital voltmeters, this instrument is powered by the source it measures rather than by batteries, and it measures true RMS AC voltage. It operates over the range from 85 to 600VAC rms, and its accuracy (.3% F.S.) is not dependent on the purity of the waveform being measured. It provides stable, bobble-free readings, even in electrically noisy environments. One of the meter's two 0.35" high, three-digit LCD readouts provides an instantaneous reading of voltage. The other displays the maximum or minimum reading of a fluctuating voltage, measured by the meter's track and hold feature, over a given time period. The operator uses a switch to select maximum or minimum, and a pushbutton resets the track and hold feature. Test leads are 6 feet long and connectors are made by jumbo insulated alligator clips that grasp objects up to ⅜" in diameter. **Size:** 5¼"H × 6¾"W × 2⁷⁄₁₆"D. **Weight:** 2½ lbs.

667-6500 ..... **EACH 399.00**

Portable Miniscopes

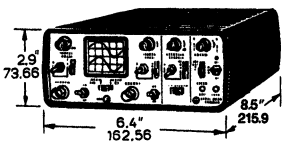
Portable Battery-Operated Miniscope



Model MS-15. Here's a battery-operated oscilloscope that can meet servicemen's requirements for portability and still offer the big performance of a standard scope. **Features include:** 15 megahertz bandwidth, external and internal trigger, time base—0.1 microseconds to 0.5 Sec/div—21 settings, automatic and line sync modes, vertical gain—0.1 to 50 volts/div—12 settings. **Specifications. Input Sensitivity:** vertical-10mV, horizontal-1V, internal trigger-1 Div, external trigger-1V. Viewing area is 1.1"H × 1.35"W. Power Consumption is less than 15 watts. **Power Requirements:** Line or rechargeable battery operation. Battery life is typically 5 hours. Comes with rechargeable batteries and charger unit. (H × W × D) 2.9" × 6.4" × 8.5"(73.7 × 162.6 × 215.9 mm). Shpg. wt. 3 lbs.

667-7000 ..... **EACH 697.00**
667-0018. Leather case ..... **EACH 50.00**
667-2301. 41-216. 10:1/1:1. Probe ..... **EACH 45.00**

Portable Dual Trace Miniscope

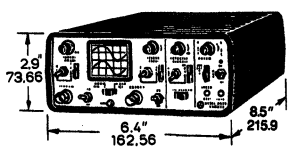


► **Dual Trace—2 Channels**
► **Chopped or Alternate Modes**

Model MS-215. The miniscope may be small but it delivers a big performance. Features automatic or line sync modes, battery or line operation, external and internal trigger, and 15-megahertz bandwidth. **Time Base:** 0.1μSEC/div to 0.5 SEC/div in 21 calibrated ranges. **Input Impedance (vertical and horizontal):** 1 megohm in parallel with 50 pF. **Maximum Input Voltage (vertical and horizontal):** 250V (DC and Peak AC). Power consumption is less than 15W. Comes with two shielded input cables with BNC connector and alligator clips, three mini-banana plugs and plug-in transformer (battery charger). **Size:** 2.9 × 6.4 × 8.5" (73.7 × 162.6 × 215.9 mm). **Weight:** 3 lbs. (1.36 kg) with batteries. Uses probes and case listed above.

667-7100 ..... **EACH 785.00**
667-0018. 41-140. Case ..... **EACH 50.00**

Portable Dual Trace Miniscope



► **30 MHz Bandwidth**
► **Battery or Line Operation**

Model MS-230. Features dual trace—2 channel; separate, chopped or alternate modes. 30-megahertz bandwidth. External and internal trigger. Battery (rechargeable) or line operation (115VAC, 50-400 Hz). **Input Impedance:** 1 megohm in parallel with 50 pF. **Maximum Input Voltage:** 250V(DC and Peak AC). **Slope:** + or −, switch selectable. **Sensitivity:** less than 1 div. for internal trigger and less than 1 volt for external trigger. **Calibrator:** A square-wave signal of 1 volt p-p is provided. Voltage accuracy is ±5%, frequency is approximately 1 kHz. **Display:** CRT, bluish-white phosphor, medium persistence. **Operating Temperature:** 0° to 40°C. **Size:** 2.9"(73.66)H × 6.4"(162.56)W × 8.5"(215.9)D. 3.5 lbs.(1.59 kg) with batteries. Includes two shield input cables with BNC connector and alligator clips, three mini-banana plugs and plug-in transformer (charger).

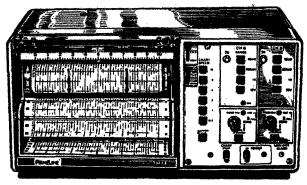
667-7200 ..... **EACH 979.00**
667-0019. 41-180. Case ..... **EACH 52.00**

16

Model 4202 1-Pen Portable Recorder and Models 6723 and 4202-2Pen Portable Recorders

- 2 Pens—Each Pen Writes Full Scale
- 8 Input Ranges, 10mV to 100V F.S.
- Variable Vernier Between Ranges
- 12 Chart Speeds From 0.5cm/Hr to 16cm/Min
- Separate Push-Button Event Markers
- Built-In Calibration Source

Models 6723 and 4202 Two-Pen Recorders. Compact versatile, and reliable 2-channel recorders for strip chart recordings that require a permanent record such as analytical testing or pollution monitoring traces, automotive tests, aircraft and balloon instrumentation readings, oceanographic testing, and well logging traces. Rear-panel EXT CHART DRIVE input jacks allow chart speed control from an external pulse generator. Model 4202 is an AC-only unit; Model 6723 operates on AC or DC. **Model 4201 One-Pen Recorder.** Compact 1-channel AC-only unit with 8 chart speeds from 1.5cm/Hr to 12cm/Min. External chart drive jack. Each recorder comes with 1 pkg. chart paper, 1 pen for each channel, AC power cable and instruction manual. **Specifications. Measuring System:** Potentiometric, DC servo system w/solid-state amp. **Input Ranges: Model 4201, 4202:** 4, FS calibrated to: 10, 100mV; 1, 10V; VAR control (×1, ×10) adds 4 ranges to 100VDC. **Model 6723:** 8, FS calibrated to: 10, 50, 100, 500mV; 1, 5, 10, 50V; VAR: cont. spans to 100V. **Input Impedance:** 1 Mohm, all ranges. **Accuracy:** ±1% of FS. **Step Response:** 0.5s FS, separate. Lift for each pen. **Power Requirements: Model 4201, 4202:** 115/220VAC, 50-60 Hz. **Model 6723:** 115/220VAC, 50-40 Hz; Internal Battery: 12VDC (8 std. 1.5V "D" cells or Ni-Cads); External Battery: 12/28VDC. **Dimensions: Model 4201:** 5.12 × 8.43 × 6.69″; 7.7 lbs. **Model 4202:** 5.12 × 11 × 7.28″; 8.8 lbs. **Model 6723:** 5.12 × 11 × 9.1″; 13.21 lbs. (with batteries).

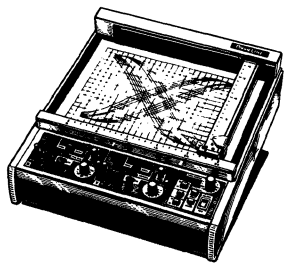

MODEL 6723

Stock No.	Mfr.'s Type	Description	EACH
916-6723	6723	2-Pen Recorder, AC/DC	**1895.00**
916-4202	4202	2-Pen Recorder, AC Only	**1495.00**
916-4201	4201	1-Pen Recorder, AC Only	**1325.00**
Accessories			
916-0101	ZM1-01-12-10	Z-Fold Chaart Paper (1 Unit—10m Long)	**5.35**
916-0102	ZM1-01-12-10	Z-Fold Chart Paper (Box of 10 Units)	**49.50**
916-0103	ZM1-01-12-10	Z-Fold Chart Paper (Case of 25 Units)	**104.50**
916-0701	PF-0701	Pen (Channel #1, Red, for all Models)	**13.75**
916-0702	PF-0702	Pen (Channel #2, Black-Models 4202, 6723)	**13.75**
916-0155	A155	Carrying/Shipping Case (All Models)	**285.00**
916-6724	6723-A243	Dust/Waterproof Housing (Model 6723)	**525.00**
916-6725	6723-S003	Rechargeable Ni-Cad Cells (Pkg of 8)	**121.00**
916-6726	6723-A048	19″ Rack Adapter (Model 6723)	**95.00**
916-4203	4202-A085	19″ Rack Adapter (Model 4202)	**95.00**
916-4204	4201-A049	19″ Rack Adapter (Model 4201)	**95.00**

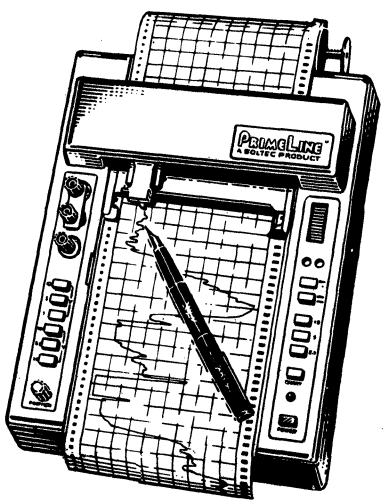
X-Y Recorders Metric and Inch-Calibrated DIN A4 and DIN A3 Formats

- High Pen Speed—Faster Than 1200mm Per Second
- Accuracy Better Than +0.25% Full Scale
- Built-In Quartz Controlled Time Sweep
- Electrostatic Chart Hold With LED Positioning Lamps
- Remote/Local Penlift

RW Series. X-Y recorders are in inch or metric calibrations and record on DIN A4 (8.5 × 11″) charts; or DIN A3 (11 × 17″) charts. Built-in standard time base with 12 speeds from 0.1 sec/cm to 500 sec/cm or 0.1 sec/in to 500 sec/in. Sweep speed is stabilized by a quartz crystal oscillator. Electrostatic paper hold and LED locating indicators on chart tables aid paper alignment. All have ±100% FS zero adjust and use disposable fiber-tip pens. All models employ advanced DC-servo techniques and floating input circuitry. Both X-axis and Y-axis input modules have 18 switch-selected input ranges from 0.05mV/cm to 20V/cm (or 0.05mV/in to 20V/in), 200% FS zero adjust calibrated to −100% FS zero suppression; venier controls for expansion of range. Roll chart drive adapters are available for all models. **Specifications. Input:** Floating and guarded. **Input Ranges:** 18 ranges: 0.05mV/cm to 20V/cm; 0.05mV/in to 20V/in and 1 to 20V/in in 1-2-5 steps. **Time Sweep:** 0.1 to 500 sec/cm; 0.1 to 500 sec/in; 12 switched steps in 1-2-5 steps. **Input Impedance:** Approximately 5 Mohm for mV/cm (mV/in) ranges; fixed 1 Mohm for V/cm (V/in) ranges. **Sensitivity:** Better than ±0.1% FS. **Suppression (Offset):** −100% FS calibrated. **Zero Control:** +100% FS. **CMRR:** 140dB 50-60 Hz; 160dB DC. **NMRR:** 60dB 50-60 Hz. **Power Requirements:** 115/230VAC, 50-60 Hz. **Recorders come ready-to-use with 1 package of roll chart paper, 1 pen for each channel, and an instruction manual. Dimensions: RW:21T** and **RW-21T-Inch** 4.75 × 13.38 × 14.45″; 19.81 lbs. **RW-201T** and **RW-201T-Inch** 4.57 × 17.80 × 17.83″; 26.41 lbs.



Stock No.	Mfr.'s Type	Description	EACH
916-0210	RW-21T	X-Y Recorder, DIN4 (8.5 × 11″), Metric Cal.	**2595.00**
916-0201	RW-201T	X-Y Recorder, DIN3 (11 × 17″), Metric Cal.	**3495.00**
916-0211	RW-21T-INCH	X-Y Recorder, DIN4 (8.5 × 11″), Inch Cal.	**2395.00**
916-0202	RW-201T-INCH	X-Y Recorder, DIN3 (11 × 17″), Inch Cal.	**3295.00**
Accessories			
916-0118	GM2-01-18-25CM	Graph Paper (For RW-21T-100 Sheets)	**11.00**
916-0128	GM1-01-28-40CM	Graph Paper (For RW-201T-100 Sheets)	**16.50**
916-0171	GM2-01-7-10E	Graph Paper (For RW-21T-Inch-100 Sheets)	**11.00**
916-1015	GM2-01-10-15E	Graph Paper (For RW-201T-Inch-100 Sheets)	**16.50**
916-2401	PF-2401	Disposable Red Fiber-Tip Pen (Pkg. of 5)	**16.50**
916-2402	PF-2402	Disposable Blk Fiber-Tip Pen (Pkg. of 5)	**16.50**



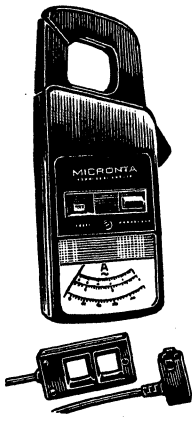
Miniature Flatbed Lab/Field Recorder

- Compact, Lightweight, and Easy to Carry Field Locations
- Desktop, Flatbed Style Can Be Wall Mounted Easily
- High-Quality DC Servo Motor System

Model SS-100F. Economical, compact single-pen, flatbed recorder with 100mm calibrated chart width; disposable fiber-tip pen and will accept either roll paper or sprocketed 24cm chart cards. High accuracy and fast response time. Can measure temperature exactly with optional thermocouple or RTD inputs. Ideal for labs where space is a premium. Can be wall mounted. **Specifications. Chart Speeds:** 6 switch-selected: 2.5, 5, 10mm/s or mm/Min(15, 30, 60cm/Min. or cm/Hr). **DC Voltage Ranges:** 10, 50, 100mV; 1, 5, 10V FS. **Accuracy:** ±0.5FS. **Input Impedance:** 1 Mohm constant. **Pen Response:** Faster than 0.5s FS. **Insulation Resistance:** Greater than 1 Mohm at 500VDC. **Power Requirments:** 120VAC, 50-60 Hz (220/240VAC, 12VDC optional). **Dimensions:** 8.1 × 3.8 × 12.1″. **Weight:** 7.7 lbs.

Stock No.	Mfr.'s Type	Description*	EACH
916-0100	SS-100F	1-Pen Flatbed Recorder	**950.00**
916-0007	STC-07	T/C Input (Specify Type J, K, R, or T)	**55.00**
916-0008	SRT-08	P_T Input (Specify Range)	**105.00**
916-0012	SDC-12	12VDC Power Operation	**350.00**
916-0013	SRC-03	Remote Chart Drive On/Off	**25.00**
916-0110	RA-01-10-12M	Roll Chart Paper (One Roll)	**8.25**
916-0109	RA-01-10-12M	Roll Chart Paper (Box of 10 Rolls)	**77.00**
916-0108	RA-01-10-12M	Roll Chart Paper (Case of 25 Rolls)	**181.50**
916-0124	GA3-01-10-24CM	Card Chart Paper (100 Sheets)	**104.50**
916-0702	PF-0702	Disposable Fiber Tip Pen, Black (Pkg. of 5)	**13.75**

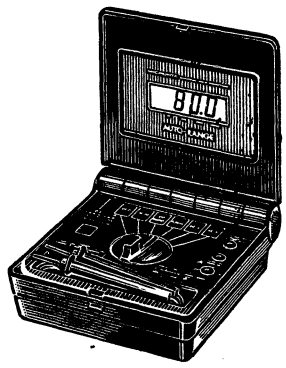
Versatile 5-Range Clamp-On AC Ammeter



► Measures AC Current Without Direct Connection to Circuit
► Measures Up to 600 Volts AC With Included Test Leads
► Includes Inductive Pickup/Multiplier

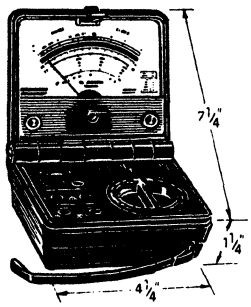
This versatile instrument lets you safely measure energy consumption of appliances and circuits. It's also helpful in balancing loads when you install AC wiring and breakers. Clamp jaws permit easy insertion in tight spaces. Lock switch freezes pointer position so you can remove the meter for easy reading. Plug-in inductive pickup/multiplier test devices with an AC cord and also provides x10 readings for low-current measurements. Measures up to 300 amperes AC in 5 ranges, and up to 600 volts AC in 2 ranges. **Dimensions:** 4 × 2 × 3/8".
910-2136. Model 22-161. ..... **EACH 49.95**

LCD Multimeter with Autoranging



► Automatic Range Setting
► Automatic Polarity Reverse
► Automatic Power-Off When the Case is Shut

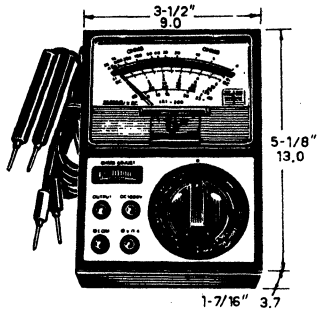
Model 22-193. You select the function and our best digital tester selects the proper range automatically. Extra-large 11/16" non-glare display with adjustable viewing angle. Built-in compartment for test leads. "Beep" indicator for quick continuity testing. Range-Hold switch overrides auto-ranging. Diode/semiconductor junction check function. Pushbutton zero-ohms adjust for super-accurate low-resistance measurements. DC volts to 1000, AC volts to 500. Up to 10 amps AC and DC. Resistance to 2 megohms. 10 7/8 × 5 5/8 × 1 1/2". Requires two "AA" batteries.
910-2138 ..... **EACH 69.95**
Folding Case for Convenient Bench Use Plus Easy Portability



Compact 25 Range Folding Multitester

"Big-meter" features include fuse and surge-absorber protection, 4" three-color mirrored meter with automatic shunt protection (when shut). 20,000 ohms per volt DC sensitivity. **DC volts:** 0 to 1200, 7 ranges. **AC volts:** 0 to 1200, 5 ranges, DC current to 300mA, 4 ranges. Resistance to 2 megohms (center scale 24). **dB:** −20 to +63 dB, 5 ranges. **Accuracy:** ±3% DC, ±4% AC. **Open:** 7 1/4 × 4 5/16 × 1 1/4". Requires "AA" battery.

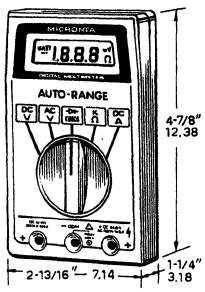
910-4656. Model 22-211. ..... **EACH 29.95**



Model 22-201 Multitester

Model 22-201. Single-knob range selector with "off" position. 3" meter has color-coded scale. Has 4 pin jack connections including output jack, zero adjust. **Ranges:** DC Volts, 0-5-25-125-500-1000 at 20,000 ohms/volt; AC Volts, 0-10-50-250-1000 at 10,000 ohms/volt; DC Current, 0-50μA, 0-250mA; Resistance, R×1, R×10, R×1000 (24 center scale). Decibels, −20 to +62 in 4 ranges. Overload protection circuit. Output jack. **Accuracy:** ±3% DC, ±4% AC. With leads, battery. Overall size, 5 1/8 × 3 1/2 × 17/16". Wt. 1 lb.
910-4546. ..... **EACH 19.95**

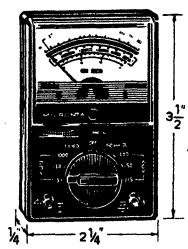
LCD Digital Multitester



► Digital Precision at an Affordable Price

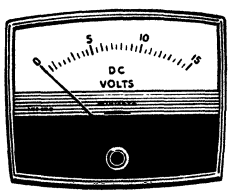
Autoranging Model 22-188. Simply select the preferred function and it will do the rest. Features "diode check" function for testing semiconductors. **Specifications.** Measures up to 1000 volts DC in 5 ranges; measures to 500 volts AC in 4 ranges. Accurate from 45 Hz to 10 kHz. DC current to 200 milliamperes. Resistance to 2 megohms in 5 ranges. **Dimensions:** H × W × D, 4 7/8 × 2 13/16 × 1 1/4". Spare fuse included. Requires two "AA" cells.
910-3188. 22-188. ..... **EACH 36.95**

Pocket-Sized Tester with Switch-Selected Ranges



► Color-Coded and Mirrored Scale

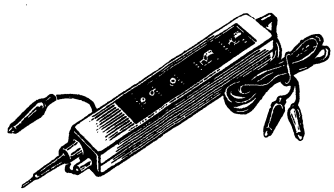
Easy to use! It's the perfect beginner's VOM and also a great second meter for the car or toolbox. Measures to 1000 volts AC/DC, 6 ranges. DC current to 150mA. Resistance to 100,000 ohms. 2" meter. "Off" position protects meter movement during transit. **Dimensions:** 3 1/2 × 2 1/4 × 1 1/4". Requires "AA" battery.
910-4527. Model 22-212. ..... **EACH 12.95**



0-15VDC Panel Mounting Voltmeter

Model 270-1754. Perfect for vehicle electrical system monitoring or for monitoring the voltage of a power supply. Jeweled movement. **Specifications. Accuracy:** ± 5% full scale. Measures 0 to 15 volts DC. **Dimensions:** 2 3/4 × 2 1/4 × 1 1/4". Requires a 17/8" round mounting hole.

910-4754. Type 270-1754. ..... **EACH 7.95**



Digital Logic Probe with Tone

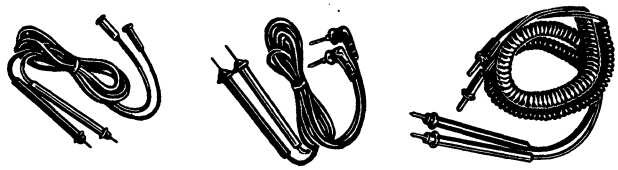
The fast way to "peek inside" TTL, LS and CMOS digital circuits. Color-coded LEDs indicate high, low or pulsed logic states (up to 10 MHz). Simultaneous tone output (high, low or both) really speeds up the testing. **Minimum detectable pulse width:** 50nS. 36" leads with clips obtain power from tested circuit. Low current drain. Overload and polarity protected. With instructions and user's tips.
910-2133. Model 22-303. ..... **EACH 16.95**

43-Range Multitester With Range Doubling

Range-Doubler. 50,000 ohms-per-volt DC sensitivity. Range-doubler switch instantly multiplies resolution on voltage and current ranges. Continuity sounder. The 125 mV and 25μA low-DC ranges make this meter ideal for testing solid-state circuits. Measures to 1000 volts DC in 12 ranges, 1000 volts AC in eight ranges, 10 amps DC current in 10 ranges, 20 megohms resistance in four ranges, and −20 to +62 decibels in eight ranges. 6 11/16 × 4 7/8 × 2 3/8". Requires one 9V, one "AA" battery.

910-2130. Model 22-214. ..... **EACH 39.95**

Test Leads, Kits and Clips

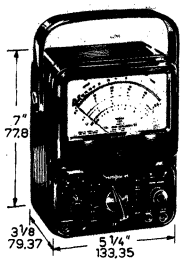


278-713 278-705 278-750

Right Angle Banana Test Leads. 36" leads. Set of 2: One red and one black.
910-2140. 278-713. ..... **PER PAIR/3.19**
36" Leads With Pin Tips. 4 1/4" long probes. Comes in a set of 2.
910-0131. 278-705. ..... **PER PAIR/1.99**
6-Foot Coiled Test Leads. Banana plugs and probes designed to fit most testers. Set of 2.
910-0132. 278-750. ..... **PER PAIR/4.79**

16

260 Series 8 VOMs

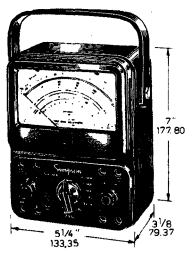


- ► Accuracy for the lab rugged construction for the field
- ► Excellent for adjustments such as nulling and peaking
- ► Large color coded scales
- ► AC frequency response to 100 KHz
- ► Zero RFI
- ► Standard and high energy overload fusing
- ► Varistor protected meter movement
- ► UL 1244 listed
- ► Mirrored scale
- ► Broad range of accessories and probes
- ► Wide range capabilities
- ► Includes test leads and batteries
- ► Overload protection relay circuits—Models 260-8P and 260-8PRT
- ► Audible continuity checking—Models 260-8P and 260-8PRT

Traditional design, rugged reliability and excellent performance keep the 260s on the benches of generations of engineers. The 260-8 series reflects commitment to provide the best combination of quality, technology and affordability. Needs no external power, avoids common mode problems, no interference or triggering of external sensitive circuits, no RF radiation. Offers reliable and rapid checks for semiconductor junctions and forward/reverse resistance tests. The 260-8 series is UL listed and continues the tradition of practicality and reliability which has made the 260 the best know VOM of all time. All versions have mirror scale for parallax elimination.

Specifications. DC Volts Range: 250 mV, 1V, 2.5V, 10V, 25V, 50V, 250V, 500V, 1000V. **Sensitivity:** 20K Ohms/Volt. **AC Volts Range:** 2.5V, 10V, 50V, 250V, 500V, 1000V. **Sensitivity:** 5K Ohms/Volt. **Resistance Range:** × 1, × 100, × 10K. **DC Current Range:** 50 μA, 1 mA, 100 mA, 500 mA, 10A. **AC Current Range:** up to 250A AC with amp-clamp accessory probe (not supplied). **Decibels Range:** − 20 dB to + 50 dB (5 ranges). **Continuity Test (260-8P and 260-8PRT only):** audible sound when a resistance of less than 150 ohms is measured between the probes. **Meter Movement:** taut band, self-shielding, annular, 100° arc, 4.2″ length. Color coded, mirror backed for parallax elimination. Direct reading amp-clamp scales. **Overload Protection:** Models 260-8 and 260-8RT—(1) 1A/250V fuse and (1) 2A/600V fuse; Models260-8P and 260-8PRT—resettable circuit breaker. **Dimensions:** 7″H × 5.5″W × 3.1″D. **Weight:** 3 lbs.

Stock No.	Mfr.'s Type	Description	EACH
919-0268	260-8 12388		142.00
919-0267	260-8P 12391	Circuit Breaker Protected	197.00
919-0269	260-8RT 12389	Rott-Top Case	162.00
919-0266	260-8PRT 12392	Breaker Protected with Roll Top Case	217.00

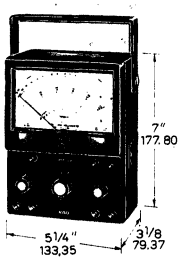


Model 250 For Solid-State Use

Precision instrument is designed for testing solid-state circuitry and other low-voltage, low-current applications. Compact and rugged; provides quick and accurate electrical checks. Voltage drop on current ranges is just.50 MV; gives less circuit loading for testing conditions closer to actual operating conditions. Has 0-50 DC millivolts range offering the low-voltage accuracy required on today's complex solid-state equipment. Self-shielded taut band movement is varistor-protected to 20,000% overload. Complete with batteries, test leads, operator's manual. **Dimensions:** 7 × 5¼ × 3⅛″. **Shipping Weight:** 4 lbs.

919-0250. Type 12158 ..... **EACH 166.70**

260-6XL Series VOMs



- ► X for Extra Ranges, Extra Features
- ► L for Low-Power Ohms Ranges

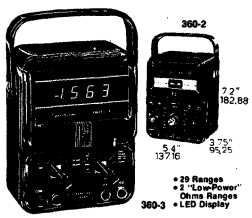
The UL listed 260-6XL answers the need for a volt-ohm milliammeter with extra features including drop resistant construction, low-power ohms and additional voltage, current and resistance ranges. It has an extra large viewing area, 4-color, color-keyed scales and 33 measuring ranges. **Extra Ranges Include:** DC Volts, 0-25 and 0-100; AC Volts, 0-25 and 0-100; DC Milliamperes, 0-5 and 0-50; DC Amperes, 0-5 (250 mV drop); dB Scale, − 1 to + 29 and + 11 to + 41 (1 mW 600 Ω reference); R × 1k (6000 Ω center scale) and R × 10k (60,000 Ω center scale). **Standard Resistance:** R × 1(6 Ω center scale); R × 100 (600 Ω center scale). **Low-Power Resistance:** RX1 (20 Ω center scale); RX10 (200 Ω center scale). **Max. Open Circuit Voltage:** 100 mV. **Max. Measuring Power:** 0.125 mW. **Input Impedance:** 20,000 Ω/VDC; 5,000 Ω/VAC. **Movement Type:** All taut-baud self-shielding annular type movements. **Dimensions:** 5¼ × 7 × 3⅛. **Weight:** Approximately 3 lbs. **Scale Length:** 4.2″ scale. Complete with batteries, color-coded test probe leads with screw-on clips and instruction manual.

919-0206. Model 260-6XL 12205 ..... **EACH 164.25**
919-0208. Model 260-6XLM 12206. With mirror scale ..... **EACH 173.10**

Circuit Overload-Protected 260-6XLP

Reset pushbutton releases when overload occurs. Will not reset until overload condition is eliminated.

919-0210. Model 260-6XLP 12207 ..... **EACH 209.50**
919-0212. Model 260-6XLPM 12211. With mirror scale ..... **EACH 218.30**



Models 360-3 and 360-2 Series VOMs

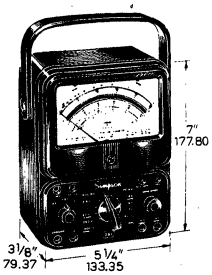
Model 360-3. 28 ranges, including "low power" ohms and 10 amp AC/DC current. Full measurement capability—100 μV to 1000 VDC, 100 μV to 750 VAC, 0.1 Ω to 20 MΩ, 100 nA to 10A AC/DC. Transient protection—all voltage and resistance ranges protected against transients up to 6 KV at 100 microseconds. 0.1% DC V accuracy. Easy-to-read LED display—large 0.56″ light-emitting diode display. **Continuity Beeper:** audible tone on 2000 ohms range for fast continuity checks. **Diode Test:** provides quick "good-bad" checks of semi-conductor junctions. Double fusing system provides added overload protection in both low and high-energy applications. 12 hours' battery operation time. Complete with rechargeable batteries. AC adapter/charger, test leads with insulated screw-on alligator clips and operator's manual. **Size:** 7.2 × 5.4 × 3.2″, 4 lbs. One-year warranty.

919-0363. Type 12282. Model 360-3 DMM ..... **EACH 325.25**
919-0812. Type 00812 ..... **EACH 44.95**

Model 360-2. Non-blinking 0.43″ LED display with auto-polarity. Calibrated zero-center analog display for nulling, peaking, scanning trends. Over-range indication automatic beyond 1999. **DC Volts:** ± (0.25% + 1 digit). **AC Volts:** ± (0.5% + 1 digit), except 200 V range ± (5% + 2 digits). **DC Current:** ± (0.5% + 1 digit) except 2 A and 10 A ranges ± (1.0% + 1 digit). **AC Current:** ± (1.0% + 1 digit), 40 Hz to 10 kHz, except 2 A and 10 A ± (2% + 2 digits). **Resistance:** ± (0.5% + 1 digit) except 2 meg and 20 meg ± (1% + 2 digits). 120/240 VAC or Ni-Cad "C" cells. 4 lbs.

919-0360. Type 12286 ..... **EACH 456.25**

Model 270-5 Extra-Accurate VOM



In addition to all the features and ranges of the 260-7M, this instrument includes enough more to make it the most accurate VOM in the 260 series. **Accuracy:** ± 1.25% DC, ± 2% AC, ± 1.5° or arc on R × 1, ± 1° or arc on R × 100 and R × 10K. Has mirror scale and knife edge pointer. Varistor-protected self-shielding taut-band movement, external-access battery compartment. Polarity reversing switch. With batteries, leads, manual. **Dimensions:** 7 × 5¼ × 3⅛″. **Shipping Weight:** 5 lbs.

919-0270. Type 12226 ..... **EACH 167.60**

Model 270-5RT. As above but in roll top protective case.

919-0271. Type 12227 ..... **EACH 190.75**

Accessories for 260 and 360 Series VOMs

Carrying Cases—Fig. A
For Models 250, 270-5 and 260-8/260-6XL Series. **Shipping Weight:** 2 lbs. (0.908 kg).

919-0805. Type 00805. Leatherette ..... **EACH 44.95**
919-1818. Type 01818. Vinyl ..... **EACH 36.85**
919-0549. Type 00549. Vinyl with Extra Space ..... **EACH 51.05**
919-0816. Type 00816. For Model 360-2 ..... **EACH 52.25**
919-0812. Type 00812. For Model 360-3 ..... **EACH 44.95**

5 kVAC/DC High Voltage Adapter Probe—Fig. B

919-0053. Type 00053. For 360-3 ..... **EACH 20.25**

40 kVDC High-Voltage Probe—Fig. C

919-0749. Type 00749. For 360-3 ..... **EACH 64.40**
919-0432. Type 00432. For 360-2 ..... **EACH 65.80**

AC Amp Clamp Adapter—Fig. D

919-0153. Type 12494. For 360-3 ..... **EACH 62.35**
919-0154. Type 12495. For 360-2 ..... **EACH 62.35**

Test Leads; Screw-On Clips—Fig. E

919-0043. Type 00043. For 360-3 ..... **EACH 11.75**
919-0115. Type 00125. For 360-2 ..... **EACH 11.75**

Test Leads and Probes—Fig.'s E and F
For Models 250 and 260-6XL Series. Test Leads.

919-0115. Type 00125 ..... **EACH 11.75**

For Models 461, 462, 463, 270-5, 260-8 Series. Test Leads.

919-0043. Type 00043 ..... **EACH 11.75**

For Models 260-6XL Series; Others. Banana plugs, alligator clip leads.

919-7500. Type 07500 ..... **EACH 9.30**

For Models 260-6XL and 260-8 Series. 40 KVDC Probes.

919-0509. Type 00168 ..... **EACH 57.10**

For 260-8 Series. 40 kVDC probe.

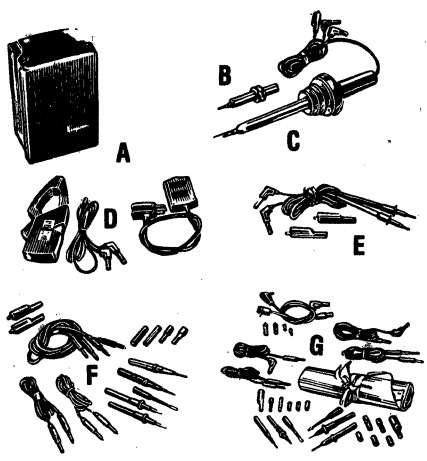
919-0411. Type 00411 ..... **EACH 60.00**

Standard Test Lead System—Fig. F

919-5577. Type 05577. 14 parts ..... **EACH 45.15**

Deluxe Test Lead System—Fig. G. 23 parts. Use with all VOMs or DMMs with standard or reverse type banana jack inputs. Fast, convenient, accurate.

919-0818. Type 00818 ..... **EACH 72.70**



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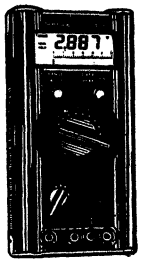
Model 488/487

Models 488 and 487

- ► Hand-Held Portability
- ► Battery Operation (9V)
- ► Special Test Lead Pockets
- ► 3.75-Digit, LCD Readout
- ► Autoranging
- ► Data Hold and Peak Hold
- ► Diode Testing
- ► High Resolution, 71-Segment Bar Graph
- ► 20KHz Frequency response
- ► Audible Continuity Checking
- ► Overload Protection
- ► Includes Test Leads, Battery, and Neck Strap

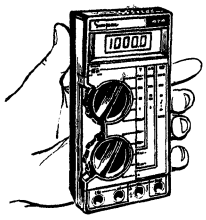


Model 488

► True RMS ACV Readings

Hand-held convenience with benchtop specifications make Model 487 and Model 488 two standouts in Simpson's broad DMM product line. Combining the best of both digital and analog displays, the daylight readable LCD has 3.75 digits and incorporates a high resolution, 71-segment bar graph. Like a traditional analog display, the bar graph provides a quick visual indication of the reading and rate of change. The Model 488 is able to provide true RMS readings for complex, non-sinusoidal waveforms over a broad 20KHz frequency range. Audible continuity checking frees you from having to visually monitor the display and speeds the troubleshooting process. Advanced features not commonly found in hand-held DMMs, such as Peak Hold and Data Hold, let you find and analyze transients which might otherwise go unnoticed. The unique design of the cases provides an exceptionally high degree of shock protection. Special built-in pockets ensure that the test leads will stay with the meter. Will read to 300μA (AC and DC). **Specifications: DC Volts Range:** 300mV, 3V, 30V, 300V, 1000V. **AC Volts Range:** 300mV, 3V, 30V, 300V, 750V. **Overload Protection (AC and DC):** 1200V. **Resistence Range:** 300, 3K, 30K, 300K, 3M, 30M Ohms. **AC and DC Current Range:** 300μA, 3mA, 30mA, 300mA, 3A, 10A. **Diode/Continuity Test:** 2VDC Range; 3.2V Max.; **Continuity Threshold:** 60 ohms for continuous sound; 60-540 (Approx) for beeping sound. **Range Selection:** Autoranging or manual on all functions except current (manual only). **Display: Numeric:** 3¾ digit 0.4″ LCD. **Bargraph:** 2″ 71-segment (DC); 1.8″ 61-segment (AC and Ohms). **Battery:** 9V NEDA 1604 (Alkaline). Approx. 1000 Hr. (DC) and 200 Hr. (AC). **Dimensions:** 3.9 × 7.3 × 1.9 inches. **Weight:** Approx. 1.1 Lb. Double insulated.

919-0488. 488. 48800 ..... **EACH 288.75**
919-0487. 487. 48700. As above without True RMS ACV Reading ..... **EACH 229.95**



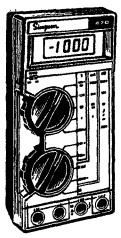
Model 474

4½ Digit Hand-Held Multimeter

Specifications. DC Voltage. Ranges: 200 mV, 2 V, 20 V, 200 V, 1000 V. **Input Resistance:** 10 MΩ, all ranges. **Overload Protected to:** ± 1000 V (DC + Peak AC) except ± 250 V (DC + Peak AC) on 200 mV range. **Accuracy (basic):** 0.03%. **DC Current:** 2 mA, 20 mA, 200 mA, 2000 mA, 10 Amps. **AC Voltage.** (Average-sensing, rms calibrated sine wave). **Ranges:** 200 mV, 2 V, 20 V, 200 V, 750 V. **Input Resistance:** 10 MΩ and 100 pF, all ranges. **Overload Protected to:** ± 1000 V (DC + Peak AC) except ± 250 V (DC + Peak AC) on 200 mV range. **Resistance. Ranges:** 200 Ω, 2 KΩ, 20 KΩ, 20 MΩ. **Overload Protected to:** 250 V rms, all ranges. **Accuracy:** ± (0.2% of input + 2 counts), except on the 20 MΩ and 200 μ ranges which are ± (0.4% of input + 2 counts) and ± (0.2% + 10 counts), respectively. **Diode Test.** Diode symbol indicated on 2 KΩ range. Measures forward resistance of a semi-conductor junction, at approximately 1.0 mA. **Resolution.** 10 μV, .01Ω, and .1 μA. **Temperature Range. Operating:** 0°C to + 55°C. **Storage:** – 40°C to + 70°C. **Battery Type.** One 9-volt "transistor" battery, Alkaline NEDA 1604A, provided. **Also features:** 6 kV Transient Protection, Double Fusing System, and Audible and Visual Continuity Indication. **Dimensions.** 1.8 × 3.4 × 7.1″ (4.75 × 8.64 × 18.03 cm). **Weight.** Approximately 1 lb. (.453 kg). Complete with UL recognized test leads and operator's manual. High-impact molded ABS case.

919-0474. Model 474. Type 12557. Brown ..... **EACH 280.00**
919-0478. Model 00822. Soft Vinyl Case ..... **EACH 19.10**
919-0479. Model 00821. Deluxe Ever-Redy Carrying Case ..... **EACH 33.60**

Model 470 Hand-Held Digital Multimeter



Hand-held Model 470 has full measurement capability: 100 μV to 1000 VDC, 100 μV to 750 VAC, 0.1 Ω to 19.99 MΩ, AC/DC current up to 10 A. Its accuracy, 0.15% VDC, is the best in its class. 0.5″, 3-½ digit, high contrast LCD display with auto low battery indication. Wide temperature/humidity operating range — up to + 55°C at 70% humidity, up to 90% humidity at + 35°C. 9-volt battery supplies approximately a life of one year. Double fusing system for both low and high energy overload protection. Audible tone for quick continuity checks. Easy range/function selection with thumb-wheel knobs. Complete with UL-recognized test leads. **Specifications. DC Voltage. Ranges:** 200 mV, 2 V, 20 V, 200 V, 1000 V. **Accuracy:** ± (0.15% + 1). **Input Impedance:** 10 MΩ. **AC Voltage. Ranges:** 200 mV, 2 V, 20 V, 200 V, 750 V. **Accuracy:** ± (1% + 5) 45 Hz to 1 kHz on all ranges except ± (3% + 5) 500 Hz to 1 kHz on 2 V range. **Frequency Response:** 45 Hz to 1 kHz. **Resistance. Ranges:** 200 Ω, 2 K, 20 K, 200 K, 20 MΩ. **AC/DC Current Ranges:** 2 mA, 20 mA, 200 mA, 2000 mA, 10 A. **Operating Temperature:** 0°C to + 55°C. **Dimensions:** 1.8 × 3.4 × 7.1″. **Weight:** 1 lb. Choose from 2 optional carrying cases. Type 00822 is a soft vinyl, padded pouch with belt strap. Type 00821 is the deluxe "Ever-Redy" neck strap case that provides 2-way hands-free/bench-top use.

919-0470. Type 12554. Model 470. Brown ..... **EACH 190.00**
919-0478. Type 00822. Soft Vinyl Case ..... **EACH 19.10**
919-0479. Type 00821. Deluxe Ever-Redy Carrying Case ..... **EACH 33.60**

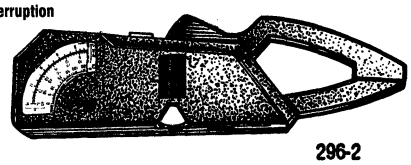
Digital DMM Accessories

For models 360, 460, 461, 462, 463, 464, 467, and 470 except Types 00801 (for 461, 462, and 463) and 00095 (for 461, 462, and 463).

Stock No.	Mfr.'s Type	Description	EACH
919-0758	00758	Solid-State Temperature Probe	142.95
919-0760	00760	Thermocouple Temperature Probe	128.80
919-0171	00171	Accessory Thermocouple Lead (for 00760)	22.25
919-0748	00748	RF Probe	52.25
919-0053	00053	5 KV High-Voltage Adapter Probe	20.25
919-0749	00749	40 KV High-Voltage Probe	64.40
919-0153	12494	AC Amp-Clamp Adapter 153-2	62.35
919-0544	00544	Line Splitter for Amp-Clamp	20.80
919-0043	00043	Accessory Test Leads with screw-on alligator clips	11.75
919-5577	05577	Standard Test Lead System 16 components	45.15
919-0818	00818	Deluxe Test Lead System 23 components	72.70
919-0801	00801	10-Amp Shunt	32.75
919-0095	00095	Black Protective Cover	6.10
919-1212	12120	500 Amp AC/DC Clamp	177.45

Models 296-2, 294-2 and 295-2

- ► Current Measurements Without Power Interruption
- ► AC Current Readings to 300A RMS



296-2

Model 296-2 and 295-2

- ► AC Voltage Measurments to 600V RMS
- ► Includes Detachable Probes

Model 296-2

- ► Resistance Measurements to 500Ω

Amp-Clamp testers are designed to economically evaluate the performance of power circuits (motors, transformers, relays, etc.) without interruption or shutdown of equipment. All three models can measure AC currents to 300A RMS by simply clamping the jaws around one conductor in the circuit. A side mounted, thumb controlled knob accomplishes range selection. The finger-operated pointer lock makes it easy to work in confined areas by allowing measurements to be read after the tester is removed from the circuit. The 295-2 and 296-2 also include plug-in probes for AC voltage measurements to give you a complete picture of line conditions. A special resistance range in the 296-2 is tailored to investigations of motor windings, and other low resistance loads. **AC Current. Ranges (RMS):** 6A, 15A, 30A, 60A, 150A, 300A. **Accuracy:** ± 3% full scale for 60Hz sine wave with conductor centered. **AC Voltage (Models 296-2 and 295-2). Ranges (RMS):** 30V, 150V, 300V, 600V. **Accuracy:** ± 3% full scale for 60Hz sine wave. **Resistance (Model 296-2). Range:** 500Ω. **Center Scale:** 25Ω. **Accuracy:** ± 3% of arc. **Isolation:** 600V RMS (850V peak) max. circuit to earth ground. **Physical. Dimensions:** 10″(H) × 2.7″(W) × 1.4″(D). (25 × 7 × 4cm). **Weight:** 15 oz. (420g).

919-0296. 296-2. Type 12493 ..... **EACH 127.05**
919-0295. 295-2. Type 12492 ..... **EACH 112.25**
919-0294. 294-2. Type 12491 ..... **EACH 100.90**

Models HE-94, HE-95, and HE-96

HE-95

- ► AC/DC Current Readings Without Power Interruption
- ► Surge Current Values
- ► True RMS (HE-94 and HE-95)
- ► Up to 1000A (HE-95 and HE-96)
- ► Analog Oscilloscope and Chart Recoder Outputs

Using advanced Hall effect technology, the HE-94, HE-95, and HE-96 clamp-on ammeters make it easy to measure high currents without the necessity of shunts or dangerous "floating" measurements. Close the jaws over one conductor of your circuit to get an immediate reading up to 1000A (True RMS or True Average, depending on the model). Autoranging makes possible convenient single switch operation. Surge currents, like those produced during motor startup, are easily measured and held on the display. Each model includes two analog outputs so that both the instantaneous and True RMS (or True Average) measurements can be sent to chart recorders and displayed on oscilloscopes.

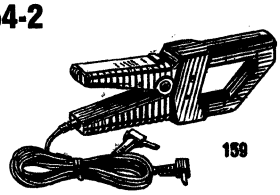
Specifications. Current. Ranges: 200A, 1000A (HE-95 and HE-96); 20A, 100A (HE-94). **Resolution:** 0.1A (on 200A range of HE-95 and HE-96); 0.01A(on 20A range of HE-94). **AC Response:** True average (HE-96); True RMS (HE-94 and HE-95). **Accuracy:** ± 1% of range. **Range Selection:** autoranging. **Frequency Range:** DC, 10Hz-1KHz. **Isolation:** 650VAC RMS or 900VDC. **Instantaneous Surge Current. Hold Time:** indefinite (until released). **Accuracy:** ± 2% of range. **Response Time:** 100msec. **Analog Outputs. Number:** 2 **Connector Type:** 3-wire. **Outputs:** proportional to instantaneous and true RMS (or true average) current values. **Open Circuit Voltage:** 1mV per ampere (HE-95 and HE-96), 10mV per ampere (HE-94). Accuracy: ± 1% of range, ± 2% offset. **Source Impedance:** 50Ω **Max. Load** 1mA. **Display. Numeric Display:** 3.5-digit, 0.625″ LCD. **Annunciators:** polarity "AC" low battery. **Hold Time:** normal readings are held for 10 seconds (typical). **Power Requirements. Battery type:** (1) 9V NEDA 1604A alkaline. **Battery Life:** 1 year (typical use), 30 hours (continuous use). **Physical. Case Construction:** High-impact polycarbonate. **Dimensions:** 10″(H) × 3.5″(W) × 2.8″(D), (25 × 9 × 7cm). **Jaw Opening (max. conductor size):** 1.875″ (48mm) diameter or 0.875″ × 2.25″ (22 × 60mm) rectangular conductor. **Weight:** 1.3lbs.(600g).

919-0960. HE-96. Type 12498 ..... **EACH 753.06**
919-0950. HE-95. Type 12497 ..... **EACH 702.88**
919-0940. HE-94. Type 12396 ..... **EACH 753.06**

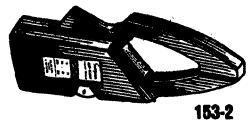
Models 150-2, 159, 153-2 and 154-2

Clamp-On Current Probes

- ► Current Measurements Without Power Interruption
- ► Clamp Over Conductor
- ► Connect to Digital Multimeters or Analog VOM's
- ► Measure up to 500A



159



153-2

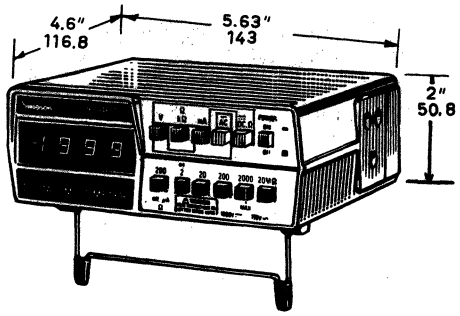
Amp-Clamp current probes, used with analog VOM's or digital multimeters, provide accurate measurements of high AC and DC currents found in power systems and related control circuitry. The Amp-Clamp jaws are closed over a conductor in the circuit and the current load is indicated on the connected meter. The Model 159 works with all digital multimeters and can handle currents from 100mA to 500A(AC or DC). The Models 153-2 and 154-2 are also designed for digital multimeters and have selectable ranges which reach 200A (AC). The primary difference between the 153-2 and the 154-2 is the type of test lead plugs (reverse insulated plugs on the 153-2, banana plugs on the 154-2). The 150-2 has six ranges (up to 300A AC) which are designed to be used in conjunction with analog VOM's.

Specifications. Model 159 (Catalog No. 12120). Current. Compatibility: digital multimeters. **Measuring Range:** 0.1A to 500A (DC or AC). **Frequency Range:** DC to 440Hz. **Output Level:** 1mV/A (DC or AC). **Min. Load Impedance:** 100Ω. **Withstand Voltage:** 4000V (50Hz, 60Hz) for 1 minute between core and probe output. **Max. Operating Voltage:** 660V RMS.
Power Requirement. Battery Type: (2) 1.5V "AAA" alkaline, NEDA type MN2400. **Battery Life:** 800 hours (average). **Physical. Dimensions:** 8.4″ × 2.6″ × 1.3″ (21 × 7 × 3cm). **Weight:** 6.5oz. (180g). **Max. Jaw Opening:** 1.3″ (3.3cm). **Max. Cable Dimension:** 1.182″ diameter, (3cm). **Max. Bus Bar Dimensions:** 2.48″ × 0.197″, (63 × 5mm). **Lead Length:** 59″, (1.5m).

919-0159. 159. Type 12120 ..... **EACH 177.45**
919-0150. 150-2. Type 00541 (Banana Jack) ..... **EACH 62.35**
919-0155. 150-2. Type 00545 (Reverse Insulated) ..... **EACH 62.35**
919-0153. 153-2. Type 12494 ..... **EACH 62.35**
919-0154. 154-2. Type 12495 ..... **EACH 62.35**

16

Average and True RMS Sensing DMMs — All U.L. Listed



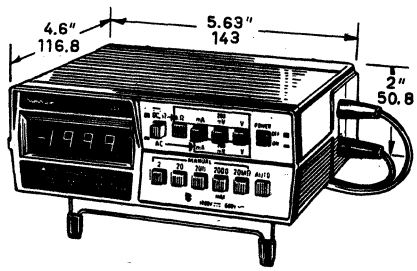
- ► **Transient Protection**
- ► **Model 461-2R with True RMS Sensing**
- ► **Extended AC Voltage Measurements to 750V**

Model 461-2. 3½-digit compact DMM features accuracy of 0.1% on all DC voltage ranges, extended AC voltage measurements to 750V, frequency response of 20 Hz to 20 KHz, and transient protection. It utilizes an LED display and is supplied with rechargeable nickel cadmium batteries and AC charger/adapter, color coded test leads with screw-on alligator clips, and operator's manual. **Model 461-2R** is the same basic unit as the 461-2 except with true, AC or AC + DC RMS sensing for accurate voltage and current measurements of complex and nonsinusoidal waveforms; and a wider frequency response, 20 Hz to 50 KHz. Model 461-2R is complete with nickel cadmium rechargeable batteries, battery charger/adapter, color-coded test leads with alligator clip adapters and operator's manual. **Specifications. Voltage range:** 200mV, 2V, 20V, 200V, 1000V (750V AC). **Current range:** 200μA, 2mA, 20mA, 200mA, 2A. **Resistance (ohms):** 200, 2K, 20K, 200K, 2M, 20M. **Diode test:** 2K range. **Overload protection:** 1000V (DC + ACp). **Power: AC:** 120VAC or 230VAC. **DC:** 4AF NiCad rechargeable. **Battery life:** 8 hrs. before recharge. **Size (H × W × D):** 2″ × 5.6″ × 4.6″. **Wt.:** 1 lb.

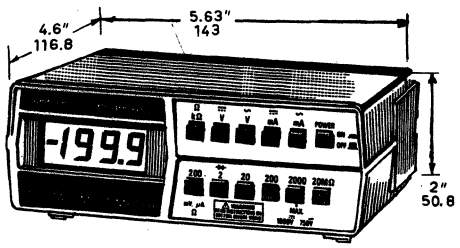
919-0461. Type 12528. Model 461-2. Average Sensing DMM ..... **EACH 231.55**
919-0459. Type 12531. Model 461-2R. True RMS Sensing DMM ..... **EACH 271.20**
919-0814. Type 00814. Carrying Case for Either Model ..... **EACH 35.25**
919-0044. Type 00044. Replacement Battery Set. ..... **EACH 27.95**

Model 462 Autoranging DMM

Automatically selects the range and positions the decimal point on voltage and resistance measurements; push-button function and manual-range selection; 0.25% accuracy on DC voltage ranges; A/D converter on single LSI chip; automatic polarity bright 0.3″ LEDs; recessed, insulated jacks on test leads; operates 8 hours on a single charge. May be operated from an AC line while charging; high-impact molded case with folding stand. Complete with nickel-cadmium batteries. 120VAC (50-500 Hz) battery charger/adapter, color coded test leads, alligator clip adapters. U.L. listed and has full one-year warranty. **Specifications. Voltage range:** 200mV, 2V, 20V, 200V, 1000V (600V AC). **Current range:** 2mA, 20mA, 200mA, 2A. **Resistance (ohms):** 2K 20K, 200K, 2M, 20M. **Overload protection:** 1000V (DC + ACp). **Power: AC:** 120VAC or 230VAC. **DC:** 4AF NiCad rechargeable. **Battery life:** 8 hrs. before recharge. **Size (H × W × D):** 2″ × 5.6″ × 4.6″. **Wt.:** 1 lb.



919-0462. Type 12527. Model 462 ..... **EACH 292.15**
919-0813. Model 00813 Case ..... **EACH 33.25**
919-0043. Model 00043 Test Leads ..... **EACH 11.75**



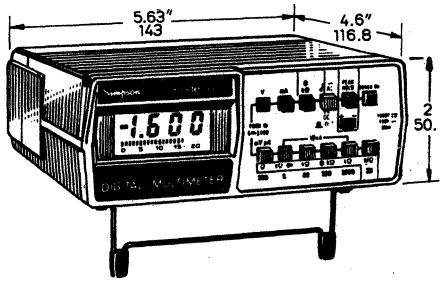
Model 463 Digital Multimeter

The Model 463 compact DMM features a large, easy-to-read, high-contrast 3½ digit, 0.5″ liquid crystal display. This hand portable unit has 26 AC/DC voltage, current and resistance ranges with 0.1% accuracy on DC voltage ranges. Transient protection is provided, and a single 9 volt battery provides 200-hours cordless operation. Automatic low battery indication. LSI circuitry for extreme reliability. Convenient pushbutton range and function selection plus automatic polarity and zero. Complete with 9V battery, test leads with screw-on alligator clips, and operator's manual. **Specifications. Voltage range:** 200mV, 2V, 20V, 200V, 1000V (750V AC). **Current range:** 200μA, 2mA, 20mA, 200mA, 2A. **Resistance (ohms):** 200, 2K, 20K, 200K, 2M, 20M. **Diode test:** 2K range. **Overload protection:** 1100V (DC + ACp). **Power:** 9V alkaline battery. **Battery life:** 200 hrs. **Size (H × W × D):** 2″ × 5.6″ × 4.6″. **Wt.:** 1 lb.

919-0463. Type 12649. Model 463 ..... **EACH 237.05**
919-0813. Type 00813. Carrying Case ..... **EACH 33.25**

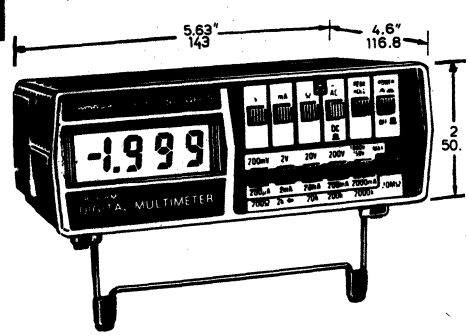
Model 467-2 Series Digital Bench Multimeters

Has 3½ digit liquid crystal display for easy, accurate readings; LCD analog bargraph to indicate nulls, peaks, and trends; and a differential peak hold that captures maximum (peak) and minimum values of complex wave forms. **Specifications. Voltage range:** 200mV, 2V, 20V, 200V, 1000V (750V AC). **Current range:** 200μA, 2mA, 20mA, 200mA, 2A. **Resistance (ohms):** 200, 2K, 20K, 200K, 2M, 20M. **Diode test:** 2K range. **Continuity Test:** audible and visual (200 and 2K ranges). **Decibels (467-2T only): Range (VAC, true RMS only):** 200mVAC – 60dB to – 20dB; 2VAC – 40dB to 0dB; 20VAC – 20dB to 20 dB. **Overload protection:** 1000V (DC + ACp). **Power:** 9V alkaline (NEDA 1604A). **Battery life:** 467-2T—100 hrs.; 467-2—200 hrs. **Size (H × W × D):** 2″ × 5.6″ × 4.6″. **Wt.:** 1.5 lb.



919-0400. Model 467B-2 (Black) 12576 ..... **EACH 297.70**
919-0404. Model 467-2T (Black) 12578. Designed for Telecommunications Service ..... **EACH 385.90**
919-0813. Model 00813 Case ..... **EACH 33.25**
919-0043. Model 00043 Test Leads ..... **EACH 11.75**

16

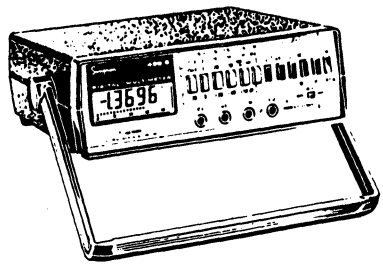


Model 467-E True RMS Digital Bench Multimeter

Get accurate measurements of complex AC waveforms with this DMM's true RMS capability. Other features include Peak Hold mode and Continuity mode with "Beeper". 26 ranges provide full AC/DC voltage, current and resistance (including low power ohms) measurements. Measures 100 μV to 1 KV DC, 100 μV to 750 VAC, 100 nA to 2000mA AC/DC, 0.1 Ω to 20 MΩ. Diode test provides quick "good-bad" checks of diodes, transistors, ICs. 3 low-power ohms ranges permit valid in-circuit resistance measurements in the presence of semiconductors. 0.1% basic accuracy. 750 volts overload protection on all resistance ranges. Double fusing system provides added overload protection in both low and high energy applications. Compact 2 x 5.6 x 4.6″ DMM comes with 9V battery, test leads with screw-on alligator clips, and operator's manual. **Specifications. DC Voltage. Ranges:** 200mV, 2V, 20V, 200V, 1000V. **Overload Protection:** 1000V (DC + peak AC). **AC Voltage. Ranges:** 200mV, 2V, 20V, 200V, 750V. **Frequency Response:** 20 Hz to 100 KHz. **Resistance Ranges:** 200 Ω, 2K, 20K, 200K, 2000K, 20MΩ. **AC/DC Current Ranges:** 200 μA, 2mA, 20mA, 200mA, 2000mA. **Display:** 3½ digit, 0.5″ 7 segment LCD. **Operating Temperature:** 0°C to + 55°C. **Storage Temperature:** -40°C to + 60°C. **Weight:** 1 lb., 5 oz.

919-0468. Type 12573. Model 4657E, Black ..... **EACH 275.65**
919-0813. Type 00813. Carrying Case ..... **EACH 33.25**

4 1/2 Digit Extended Function Bench DMM



The Simpson 460-6 DMM provides high accuracy, extended measurement capability and full-line isolation in a bench-top configuration. it is ideally suited for use in a laboratory or field environment; approximately 40 hours of continuous operation are provided by the factory-installed battery pack. The 460-6, like other Simpson instruments, offers high quality at realistic prices.

4 1/2-digit, 0.5" LCD display with DC/AC/dB annunciators. 22 segment LCD bar graph. TRMS AC voltage and current measurements; 100 kHz ACV response. 0.03% basic DCV accuracy. ACV dB ranges with switch selectable 600Ω/900Ω references and 0.01 dB resolution.

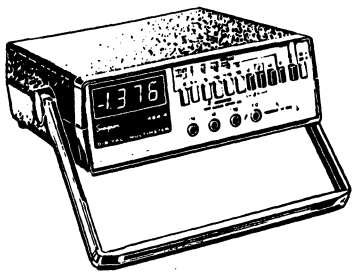
919-0460; 460-0; 120 VAC 12538 ..... **EACH 468.55**

Switch selectable high/low power ohms with diode test. Audible/visual continuity test with instant response. Absolute value pulse detector with audible/visual indication. Dual fusing on mA ranges; high energy fuse provided. High energy fuse on 10A range. Excellent overload and transient protection (6kV for 100μS). Rechargeable Ni-Cad battery pack included; recharges through line input. LSI circuitry for high reliability. Pushbutton selected functions and 33 ranges. 10μV to 1000 VDC, 10μV to 750 VAC, 0.01Ω to 20MΩ (5 low power ohms ranges), 10nA to 10A AC/DC, −60 to +58dB. Automatic zeroing and polarity. Overload protection on all ranges. Digalog display for nulling, peaking, scanning trends. Choice of nickel-cadmium battery/AC line operation, or AC line operation only. High-impact case with adjustable tilt-view handle. **Size:** 2.7 × 8.4 × 9.0". **Wt.:** 3 lbs. without batteries.

Simpson's deluxe DMM offers high accuracy on DC voltage ranges. Low-power ohms ranges let you make accurate in-circuit measurements without switching on or damaging solid-state components. Meets ANSI C39.5 specs. Impact-resistant case, tilt-view handle. Complete with color-coded test leads with screw-on alligator clips, detachable AC line cord and operator's manual. 1-year warranty.

919-0466. 460-6. 240 VAC 12539 ..... **EACH 468.55**

3 1/2 Digit Deluxe Bench DMM



- **Measures 100Ω V to 1kVDC, 100μV to 750VAC, 0.1Ω to 20MΩ, 100n A to 10A AC/DC.**
- **Pushbutton selected functions and ranges.**
- **AC line operation.**
- **High-impact case and tilt-view adjustable handle.**
- **Audible continuity test with instant response.**
- **Dual fusing on mA ranges; high energy fuse provided.**
- **Excellent overload and transient protection (6kV for 100μS).**
- **Reliable LSI design with automatic zeroing and polarity.**
- **3 1/2-digit 0.56" high efficiency orange LED display.**
- **TRMS AC voltage and current measurements; 100kHz ACV response.**
- **0.1% DCV accuracy.**
- **High/low power resistance measurements with diode test.**

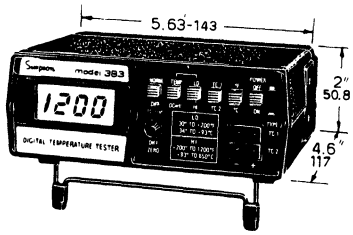
For lab, production testing, service and maintenance where a high-quality instrument is needed but budgets are limited. LSI circuitry for stability and reliability. Meets C39.5 specifications. Modern impact-resistant case, tilt-view handle. 2.7 × 8.4 × 9.0". Wt., 3 lbs.

Model 464-4 Digital Multimeter for AC Line Operation. Complete with color-coded test leads with screw-on alligator clips, detachable AC line cord and manual.

919-0464. 464-4. 120 VAC 12677 ..... **EACH 358.30**

Model 383 Digital Dual Input/Differential Temperature Instrument

- **Dual Inputs**
- **Differential Mode**
- **DC Millivolt Range**
- **Recorder Output**
- **0.2% Accuracy**



All-in-one compact 3 1/2 digit, hand-portable instrument has dual inputs and a differential/normal temperature mode that automatically reads the difference between two temperatures or each separately. Chart recorder output provides 1mVDC per degree F or C output with low source resistance for low cost recording/controlling applications. Comes complete with one 4' J-type thermocouple probe, test lead set, 9V alkaline battery and operator's manual. **Specifications. Temperature Ranges:** −30°F to +200°F, (−34°C to +93°); +200°F to +1200°F (+93°C to +650°C). **Display:** 3 1/2 digit, 7 segment, 1/2"high, liquid crystal display (LCD) with 'low battery' indication. **Operating Temperature:** +41°F to +104°F, (+5°C to +40°C). **Modes of Operation. Normal:** Probe 1 or Probe 2, switch-selected. **Differential:** Both probes used. Probe 1 is reference. Instrument indicates temperature difference between Probe 1 and 2. **DC Millivolts Range:** 0 to 199.9mV. **Dimensions:** 2 × 5.63 × 4.6" (50.8 × 143 × 117mm). **Weight:** 1.0 lb. (453kg).

919-0383. Model 383 (12415) ..... **EACH 215.00**

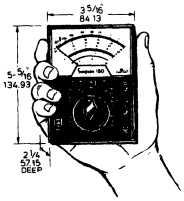
919-0391. 00391. Extra Thermocouple Lead ..... **EACH 15.15**

919-2164. 02164. Relative Humidity Kit. Includes relative humidity conversion nomograph and wicking sleeve for wet bulb sensor ..... **EACH 23.90**

919-0813. 00813. Carrying Case ..... **EACH 33.25**

919-0392. 00392. Self-Cleaning Oven Test Kit. Includes 6 throwaway thermocouples ..... **EACH 29.60**

Pocket-Size Handi-VOM



Model 160. Self-shielded taut-band movement is varistor protected, features high repeatability. 1-volt jack for easy transistor measurements. Recessed range selector switch; separate battery compartment, 250mV drop at 50μA. **Ranges: Voltage:** 0-0.25-1.0-2.5-10-50-250-500-1000VDC at 20,000 ohms per volt sensitivity; 0-2.5-10-50-250-500-1000VAC at 5000 ohms per volt. **Current:** 0-50μA, 0-1-10-100-250-500mA. **Resistance:** 1, 10, 100 1K, 10K, (30 ohms center scale). **Accuracy:** AC, ± 3% of full scale; DC, ± 2% of full scale. 2 1/4 × 3 5/16 × 5 5/16". With leads, batteries, manual. Wt. 6 lbs.

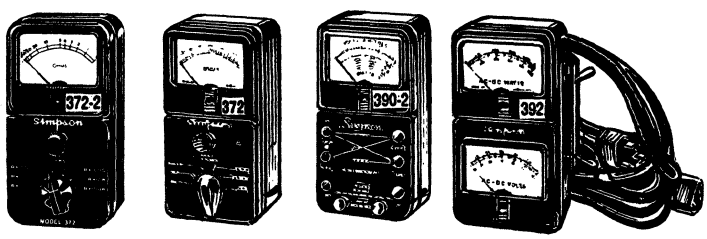
919-0160. Type 12271 ..... **EACH 117.00**

919-2055. Type 02055 Probe-Tip Leads. Wt. 1 lb ..... **EACH 9.90**

919-2929. Type 02929 Plastic Carrying Case. Has space for VOM, test leads, probes. Wt. 2 lbs. ..... **EACH 50.45**

929-2225. Type 02225 Leather Carrying Case. Has space for VOM, test leads, probes. Wt. 2 lbs. ..... **EACH 28.35**

Analog Micro-Tester Multimeters NEW



Simpson 'Micro-Testers' offer a variety of dedicated measurement capabilities without the expense usually associated with precision instrumentation. Their small (3" × 5.9" × 2.5") size and rugged construction make them ideal for field troubleshooting, production testing, and educational institution. Leatherette carrying case (00831) fits all meters below.

Model 372-2 Ohmmeter. Resistance Ranges: 500 (Ohm), 5K (Ohm), 50K (Ohm),500K (Ohm), 5M (Ohm), 50M (Ohm). Comes with test leads (08375) and battery. **(Use Ohm symbol in specs.)**

919-0372. 372-2. Type 12311 ..... **EACH 98.10**

919-0831. Leatherette carrying case. Type 00831 ..... **EACH 24.75**

Model 390-2 Wattmeter. Voltage Ranges (DC & AC): 150V, 300V. **AC Current:** 3A, 15A. **Power Ranges:** 300W, 600W, 1500W, 3000W. With cord.

919-0390. 390-2. Type 12481 ..... **EACH 198.45**

Model 392 Wattmeter. Two meter movements provide simultaneous measurement of voltage and power. **Voltage Range (AC & DC):** 130V, 260V. **Power Ranges:** 1000W, 5000W. **Frequency:** 50/60 Hz or DC. With cord and plug.

919-3920. 392. Type 12500 ..... **EACH 198.45**

Model 362-2 Low Ohmmeter. Provides highly accurate readings from 0.1 (Ohm) to 25 (Ohm), designed for locating shorts in windings and checking switch/relay resistance. **Resistance Range:** 5 (Ohm), 25 (Ohm). **Accuracy:** ± 3% of linear arc.

919-0362. 362-2. Type 12281 ..... **EACH 98.10**

Model 370 AC Ammeter. Built-in current transformer. **Ranges:** 1A, 2.5A, 5A, 10A, 25A.

919-0370. 370. Type 12290 ..... **EACH 104.75**

Model 375 DC Ammeter. Useful for checking power supply outputs or other DC outputs. **Range:** 1A, 2.5A, 5A, 10A, 25A.

919-0375. 375. Type 12340 ..... **EACH 98.10**

Model 373 DC Milliammeter. Range: 1mA, 5mA, 10mA, 25mA, 50mA, 100mA, 250mA, 500mA, 1A.

919-0373. 373. Type 12320 ..... **EACH 98.10**

Model 374 DC Microammeter. Can quickly short the inputs via front panel switch. **Range:** 50uA, 100uA, 250uA, 500uA, 1mA.

919-0374. 374. Type 12330 ..... **EACH 98.10**

Model 376 AC Voltmeter. Range: 5V, 10V, 25V, 50V, 100V, 250V, 500V, 1000V.

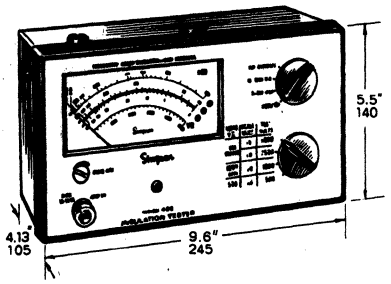
919-0376. 376. Type 12350 ..... **EACH 98.10**

Model 377-2 DC Voltmeter. Range: 1V, 2.5V, 5V, 10V, 25V, 50V, 100V, 250V, 500V, 1000V.

919-0377. 377-2. Type 12361 ..... **EACH 98.10**

16

Model 405-2 5000 VDC Battery-Operated Insulation Tester



- Test Insulation to 5000 VDC
- Four Selectable Test Voltages: 500 V, 1000 V, 2500 V and 5000 V
- Push-to-Read/Lock-On Feature Conserves Batteries
- Neon Scale-Selection Indicators

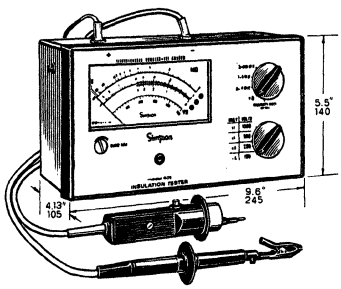
Ideal for high-voltage, non-destructive insulation tests on electrical installations, machines, equipment and transformers. Neon indication for range selection. **Specifications. Accuracy:** Megohm ranges: ± 1.5% fs length. **AC/DC Voltage Ranges:** ± 5% fs to 1000 V. **Supply:** Six 1.5 V batteries. **Nominal rated voltage:** 9 V. **Size:** 9.6 × 5.5 × 4.13″ (245 × 140 × 105mm). **Weight:** 4.8 lbs. (2.2 kg). Comes complete with batteries, two plug-in insulated test leads, probes, carrying strap and operator's manual.

919-0405. Type 12504 ..... **EACH 1312.50**

Ranges

Test Voltage	0 to 500 MΩ	40 to 2000 MΩ	20 to 20000 MΩ
500 V (scale × 0.1)	0 to 50 MΩ	4 to 200 MΩ	20 to 2000 MΩ
1000 V (scale × 0.2)	0 to 100 MΩ	8 to 400 MΩ	40 to 4000 MΩ
2500 V (scale × 0.5)	0 to 250 MΩ	20 to 1000 MΩ	100 to 10000 MΩ
5000 V (scale × 1)	0 to 500 MΩ	40 to 2000 MΩ	200 to 20000 MΩ

Model 401 1000 VDC Battery-Operated Insulation Tester



- Test Insulation to 1000 VDC
- Four Switchable Test Voltage — Neon Range Selection Indication
- Makes Continuity Checks
- Measures AC/DC Voltage Up to 1000 V

Model 401 is the precise instrument for insulation tests. Battery-saver pushbutton operation uses battery only during actual measurements. Light-up probe illuminates measuring point to provide quick visual insulation checkout. **Specifications. Accuracy:** Resistance ranges ± 1.5% fs length. **Voltage Range:** ± 1.5% fs. **Supply:** Six 1.5 V batteries. Rated voltage 9 V. **Continuity Testing:** Lamp operating point — in the range of 100 to 1000 Ω. **Open circuit voltage:** Approximately 5 VDC. **Internal Resistance:** Approximately 1 KΩ. **Dimensions:** 9.6 × 5.5 × 4.13″ (245 × 140 × 105 mm). **Weight:** 4.9 lbs. (2.2 kg). Complete with batteries, permanently connected leads, carrying strap and manual.

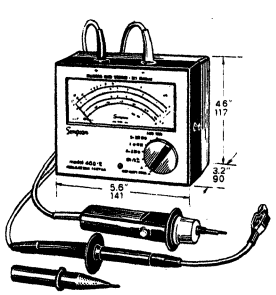
919-0401. Type 12502 ..... **EACH 882.00**

Ranges

Test Voltage	Probe Lamp Operating Point	Insulation Resistance Measurements		
		1	2	3
100 V (scale × 0.2)	0.2 MΩ or greater	0 to 0.08 MΩ	0.02 to 1.0 MΩ	0.4 to 40 MΩ
250 V (scale × 0.5)	0.5 MΩ or greater	0 to 0.20 MΩ	0.05 to 2.5 MΩ	1 to 100 MΩ
500 V (scale × 1)	1 MΩ or greater	0 to 0.4 MΩ	0.1 to 5 MΩ	2 to 200 MΩ
1000 V (scale × 2)	2 MΩ or greater	0 to 0.8 MΩ	0.2 to 10 MΩ	4 to 400 MΩ

16

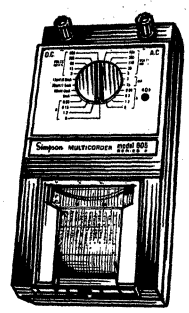
Model 400-2 Battery-Operated Insulation Tester



Tests insulation to 500 VDC and measures AC/DC voltage to 600 V. Model 400-2 test continuity in low resistance circuits. It has a special "Indicator" probe that illuminates the measuring point for quick visual checkout. Battery-saver pushbutton operation uses battery only during actual measurements. **Specifications. Resistance Ranges:** (1) 0 to 0.4 MΩ, open circuit voltage 665 V, internal resistance 0.25 MΩ. (2) 0.01 to 5 MΩ, open circuit voltage 665 V, internal resistance 0.15 MΩ. (3) 2 to 200 MΩ, open circuit voltage 665 V, internal resistance 0.15 MΩ. **Accuracy:** ± 1.5% of fs length. **Voltage Range:** 0 to 600 V AC/DC. **Internal Resistance:** Approximately 0.2 MΩ. **Continuity Range:** 0-4 Ω. Open circuit voltage approximately 5 VDC. **Supply:** Six 1.5 V batteries. Rated voltage 9 V. Size 5.6 × 4.6 × 3.2″ (141 × 117 × 90 mm). **Weight:** 3.5 lbs (1.65 kg). Complete with batteries, permanently attached three-foot connecting leads, carrying strap and manual.

919-0402. Type 12509 ..... **EACH 600.00**

Recording Multimeter

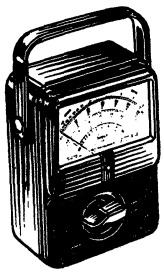


- Multiple Speed Chart Recorder
- Measures AC/DC Voltage, AC/DC Current
- Inkless Recording Head
- Rugged Portable Construction
- Battery or AC Operation
- Includes Test Leads and Two Rolls of Chart Paper

Chart recorders provide the simplest means of generating hard copy documentation for experiment reports and files. Model 605-2 Multicorder® incorporates plotting capabilities with the measurement versatility of a multimeter. A total of 27 ranges give you the possibility of recording many different levels of AC or DC voltages or AC or DC current without elaborate signal conditioning. The inkless recording mechanism has 6 switch selectable plotting rates to handle a wide range of signal frequencies. Several specialized probes are available as options (see ordering information below). **Specifications: DC Volts Range:** 12mV, 30mV, 60mV, 3V, 15V, 60V, 300V, 600V. **DC Current Range:** 600μA, 1.5mA, 3mA, 6mA, 30mA, 150mA, 1.2A, 6A. **AC Volts Range:** 6V, 30V, 150V, 300V, 600V. **AC Current Range:** 3mA, 15mA, 60mA, 300mA, 1.2A, 6A. **Sensitivity (AC or DC Volts):** 660 Ohms/Volt. **Chart Speeds:** 1, 3, 12 inches per hour (2.5, 7.6, 30.5 cm per hour). **Impression Rate:** 1 or 2 sec. selectable. AC or battery operation. **Dimensions:** 10.6″H × 5″W × 3.8″D. **Wt.:** 5.5 lbs. Supplied with test leads, two rolls chart paper, instructions.

919-0622. 605-2 Type 12613. 120VAC, 60 Hz. ..... **EACH 989.10**
919-0621. 605-2 Type 12614 Battery (3 AA-size batteries) ..... **EACH 1243.20**
919-2612. Type 02612 Chart Paper. 50 DIV; 2.3″ × 50′; 10 rolls/box; 2 lbs. ..... **EACH 54.45**
919-2614. Type 02614 Chart Paper. 30 DIV; 2.3″ × 50′; 10 rolls/box; 2 lbs. ..... **EACH 54.45**
919-2461. Type 02461 Clip-on Current Transformer. 30-120-600 amps; 2 lbs. ..... **EACH 136.80**
919-2463. Type 02463 Clip-on Current Transformer. 30-120-600-1200 amps; 2 lbs. ..... **EACH 430.00**
919-2616. Type 02616 Carry Case. ..... **EACH 74.45**

Model 265

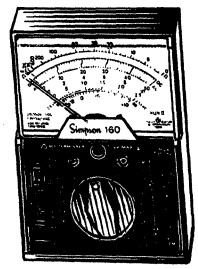


- Designed for Rugged Industrial Environments
- Simplified Single Switch Operation
- AC/DC Currents to 12 amps

Designed for industrial applications where rugged construction and simplified controls are necessary. Single rotary switch is used for all range selections. AC and DC current up to a full 12 amps can be read directly on the scale. Compatible with all the accessories for the 260 family of VOMs. **Specifications. DC Volts Range:** 300mV, 3V, 12V, 60V, 300V, 600V. **Sensitivity:** 20K Ohm/Volt. **AC Volts Range:** 3V, 12V, 60V, 300V, 600V. **Sensitivity:** 5K Ohm/Volt. **Resistance Range:** X1, X100, X1K, X10K. **DC Current Range:** 60μA, 1.2mA, 12mA, 120mA, 600mA, 1.2A, 12A. **AC Current Range:** 120mA, 1.2A, 12A. **Dim.:** 7″H × 5.5″W × 3.1″D. **Wt.:** 3 lbs. Includes test leads and batteries.

919-0265. 265 Type 12184 ..... **EACH 266.95**
919-0549. Type 00549 Vinyl Case ..... **EACH 51.05**
919-0805. Type 00805 Ever-redy Vinyl Case ..... **EACH 44.95**
919-0812. Type 00812 Deluxe Case ..... **EACH 44.95**
919-1818. Type 01818 Vinyl Deluxe Case ..... **EACH 36.85**

Model 160

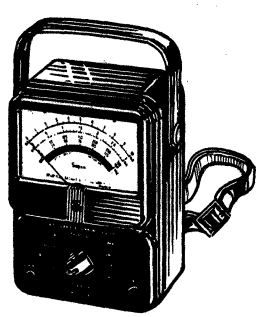


- Small Size and Weight
- Accuracy Comparable to Full Size VOMs
- Tough, Shock Resistant Case
- Varistor Protected Movement

Smallest and handiest of Simpson's analog VOMs. Perfect for field service, classroom instruction, or keeping in tool case. Accuracy similar to full size VOMs. **Specifications. DC Volt Range:** 250mV, 1V, 2.5V, 10V, 50V, 250V, 500V, 1000V. **Sensitivity:** 20K Ohm/Volt. **Accuracy:** ± 2% full scale. **AC Volt Range:** 2.5V, 10V, 50V, 250V, 500V, 1000V. **Sensitivity:** 5K Ohm/Volt. **Accuracy:** ± 3% full scale. **Resistance Range:** X1, X10, X100, X1000, X10K. **DC Current Range:** 50μA, 1mA, 10mA, 100mA, 250mA, 500mA. **Decibels Range:** – 20dB to 10dB, – 8dB to 22dB, 6dB to 36dB, 20dB to 50dB. (Ref: 0dB = 1mW into 600 ohm). Taut Band Meter Movement. **Dim.:** 4.6″H × 3.3″W × 1.8″D. **Wt.:** 12 oz.

919-0160. 160 Type 12271 ..... **EACH 117.00**
919-2225. Type 02225 Vinyl Case ..... **EACH 28.35**
919-2055. Type 02055 Test Leads with Probe Tips ..... **EACH 9.90**
919-1927. Type 01927 Test Leads with Alligator Clips ..... **EACH 8.50**

Model 229-2

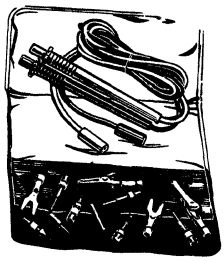


- AC Leakage Testing
- Conforms to ANSI C101.1-1973
- Overload Protection

Measures AC leakage currents in accordance with ANSI C101.1-1973. Whether used in product development or service, the 229-2 makes it easy to determine product conformance to standards. **Specifications. AC Volts Range:** 150V, 300V. **Input Resistance:** 500K Ohms (150V range), 1M Ohms (300V Range). **AC Current Range:** 300μA, 1mA, 3mA, 10mA. **Resolution:** 5μA on 300μA Range. **Accuracy vs. Frequency:** Approximates Dalziel's "Percentile 50 Threshold of Perception Curve" within ± 1.0 dB. **Short Test:** Red arc — 30mA full scale; green arc — 10mA or less. **Overload Protection:** 500V$_{PEAK}$ momentary on all ranges. **Dimensions:** 7″H × 5.5″W × 3.1″D. **Wt.:** 3 lbs.

919-0229. 229-2 Type 12267 ..... **EACH 200.65**
919-0115. Type 00125 Test Leads with Banana Plug Input with Probe Tips, Alligator Clip ..... **EACH 11.75**

Model 699 Universal Test Lead Kit

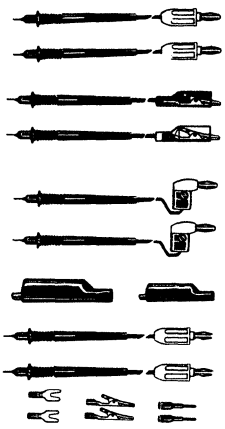


Universal Test lead Kit offers 50 leads in one for complete interchangeability. Retrofits to most existing equipment. **Kit Includes:** prod (made of KJB-Type ABS plastic (94V-0), 4 phone tips, 2 needle tips, 2 alligator clips, 2 spade lugs, 2 banana plugs, 18 PVC-covered wire (48″ nom. overall length), and 1 red and 1 black lead. Prod features ribbed finger grip and non-slip finger guard.

920-0699. 1-9 ..... **EACH 15.78**
10-24 ..... **EACH 14.42**
25-99 ..... **EACH 13.20**
100-Up ..... **EACH 11.27**

Test Leads with Safety Prod and Combination Phone/Needle Tip

Test prod, with ribbed finger grip and non-slip finger guard, is made of KJB-type ABS plastic (94V-0). Combination standard .080 phone and insulation piercing tip features radial notch for wire buss layovers. Tip accepts insulated, color coded, screw-on alligator clips (optional). #20 AWG rubber covered wire, 48″ nominal overall length. All tips are combination phone and needle, insulation piercing types.



623P

Safety Prod with combination phone/needle tip and standard size, banana plug instrument input.

615P

Safety prod with combination phone/needle tip and booted alligator clip instrument input.

685P

Safety prod with combination phone/needle tip and right angle banana plug instrument input.

9361P/9362P

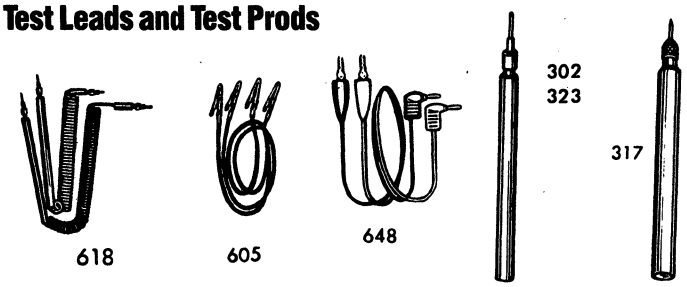
Screw-on alligator clip adapters. 9361P, standard; 9362P, miniature.

610P

Safety prod with combination phone/needle tip and banana plug instrument input. Includes 2 each: phone tip, alligator clip and space lug inputs.

Stock No.	Mfr.'s Type	EACH			
		1-9	10-24	25-99	100-Up
920-0615	615P	5.03	4.60	4.20	3.59
920-0002	610P	6.81	6.23	5.69	4.86
920-0623	623P	6.10	5.58	5.10	4.36
920-0685	685P	6.10	5.58	5.10	4.36
920-9361	9361P	1.87	1.71	1.56	1.33
920-9362	9362P	1.87	1.71	1.56	1.33

Test Leads and Test Prods



No. 20 rubber-covered wire 50″ long (unless otherwise stated); 5000V test. Handles and plugs are molded butyrated per **MIL-L-P349A**, Type 3, Class MS; fiber per **MIL-F-1148A**, Grade CH; molded thermosetting plastic per **MIL-P-14CFG**.

Type 618 Retractile Test Leads

Solderless. 12″ to 6′ coil. Nickel-plated brass tips. Butyrate handle. 4000 volts. Nominal O.D. .165″. **Per Pair.**
920-0618. 1-9 ..... **EACH 15.13** **10-24** ..... **EACH 13.84**
25-99 ..... **EACH 12.65** **100-Up** ..... **EACH 11.40**

Alligator Clip Test Leads
Cadmium-plated steel clips. Type 717 has midget clips. **Per Pair.**

Stock No.	Mfr.'s Type	Length Inches	PER PAIR			
			1-9	10-24	25-99	100-Up
920-0605	605†	24	2.92	2.67	2.45	2.10
920-0657	657*	24	3.23	2.97	2.70	2.31
920-0717	717*	18	3.03	2.78	2.53	2.17

*Have vinyl plastic boots. †Standard steel clips.

Crocodile Clip Test Leads With Boots
Clips are cadmium-plated steel. Thermosetting elbows. Vinyl boots. **Per Pair.**

Stock No.	Mfr.'s Type	Meter End	PER PAIR			
			1-9	10-24	25-99	100-Up
920-0648	648	Banana plugs	6.23	5.70	5.21	4.45

Type 302 Solderless Prod
Threaded, plastic handle, 3/8″ dia., 5 1/4″ overall. Nickel-plated phone tip, 6 oz.
920-0402. Red.
920-0403. Black.
1-9 ..... **EACH .95** **10-24** ..... **EACH .87**
25-99 ..... **EACH .81** **100-Up** ..... **EACH .68**

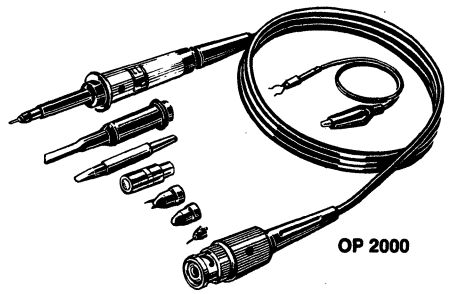
Type 323 Solderless Prod
Bone fiber handle, nickel-plated brass tip. 245 I.D., 5 7/32″ long. 8 oz.
920-0427. Red.
920-0428. Black.
1-9 ..... **EACH 1.82** **10-24** ..... **EACH 1.66**
25-99 ..... **EACH 1.56** **100-Up** ..... **EACH 1.30**

Type 317 Phono Needle Prod
Replaceable Steel Needle. Brass/nickel body. Overall length, 4 13/16″. 4 oz.
920-0420. Red.
920-0421. Black.
1-24 ..... **EACH 1.09** **25-99** ..... **EACH 1.00**
100-Up ..... **EACH .94**

Oscilloscope Probes

1000 Series
Features bandwidth up to 100 MHz, and low input impedance for precise signal fidelity. Frequency compensation adjustment on probe head. **Cable Length:** 1.2M. **Max. Working Voltage:** 600. **Comp. Rate:** 10-60 pF.

2000 Series
Features bandwidth up to 250 MHz; frequency compensation located on probe head (LF) and on BNC Box (HF). **Cable Length:** 1.2M. **Max. Working Voltage:** 600 (1200 on OP 2100). **Comp. Rate:** 10-60 pF (15-60 pF on OP 2100).



1000 Series

Stock No.	Mfr.'s Type	Input		Capacitance	Band Width	Rise Time L (NS)	EACH
		Attenuation	Resistance				
920-1000	OP 1000	1:1	1(M)	45 pF	20 MHz	15	27.30
920-1010	OP 1010	10:1	10 (M)	13 pF	100 MHz	2	36.75
920-1110	OP 1110	1:1/10:1	10/100 (M)	40/17 pF	10/100 MHz	35/2	40.95

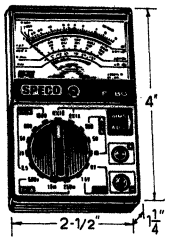
2000 Series

920-2010	OP 2010	10:1	10 (M)	16 pF	250 MHz	1.4	57.75
920-2100	OP 2100	100:1	100 (M)	6.5 pF	250 MHz	1.4	78.75
920-2110	OP 2110	1:1/10:1	1/10 (M)	40/17 pF	10/250 MHz	35/1.4	72.45

Autorange Digital Multitester

Model FD-95AR. Display: LCD 3½ digit display (max. 1999 or – 1999) with decimal point—MEM, BAT, HOLD, LOΩ, KΩ, mV, mA, V, A, AC, Auto Annunciator. **Measurement: DCV, ACV, DCmA, DCA, ACmA, ACA, OHM (HIΩ, LOΩ). Polarity:** Auto polarity, (–) sign when minus. (NEGATIVE). **MEM (O-ADJ):** Memory Mode on Manual Range. Zero Adjustment on Manual Range. **Overrange Indication:** "1" 000. A flashing MSD indicates the meter is overranged if all other digits are Zero. **Low Battery:** "BAT" is displayed. **DC Volts:** 200mV, 2V, 20V, 200V, 1000V. **Accuracy:** ± 0.5% + 2 digits at 200mV; ± 0.8% + 1 digit other ranges. **AC Volts:** (40-500 Hz) 2V, 20V, 200V, 500V. **Accuracy:** ± 1.2% + 5 digits. **AC/DC Current:** 20mA, 200mA (manual), 10A. **Accuracy:** (DC) 20mA, 200mA, ± 1.2% + 2 digits; 10A, ± 1.5% + 2 digits; (AC — 40-500 Hz), ± 1.2% + 5 digits 20mA, 200mA; ± 2% + 5 digits 10A. **Resistance:** 200, 2K, 20K, 200K, 2000K; Low Ohms—2K, 20K, 200K, 2000K. **Accuracy:** ± 1% + 2 digits. **Continuity:** buzzer sounds at less than 20 Ohms, ± 10 Ohms. Overload protected on all ranges except 10A AC/DC. With test leads, 9V battery, spare fuse, manual and carrying case. 8.8 Oz.

732-0095 ..... **EACH 69.95**

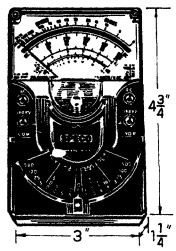


Model F-60
2K Ohms/Volt Portable VOM Multitester and Battery Checker

Model F-60. Economical, handy VOM has 5 functions and 15 ranges. Tests 1.5V (125mA) and 9V (10mA) batteries. Has zero and ohms adjust. **Ranges. DC Volts:** 2.5, 10, 50, 500, 1000V. **AC Volts:** 10, 50, 500V. **DC Current:** 500μA, 10mA, 250mA. **Resistance:** 5K, 500KΩ (R × 10, R × 1K). **Battery Requirements:** One 1.5V "AA". **Size:** 4 × 2.5 × 1.25". **Weight:** 0.7 lb. **Supplied:** Manual, probes, and battery.

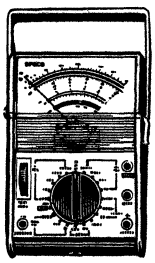
732-0060. 1-9 ..... **EACH 17.95**
10-Up ..... **EACH 11.95**

Model F-70
20K Ohm/Volt Deluxe VOM Multitester



Model F-70. A mini VOM with "maxi" features: 22 ranges, 20,000 ohms per volt DC (10,000 ohms AC). Fuse and diode protected. Fits in your pocket! **Ranges. DC Volts:** 5, 25, 100, 500, 1000V. **AC Volts:** 5, 25, 100, 500, 1000V. **DC Current:** 50μA, 5, 50, 500mA. **Resistance:** 6K, 600KΩ, 6 MEG, 60 MEG. **Decibels:** – 20dB, to + 62 dB in 5 ranges. **Battery Requirements:** Two 1.5V "AA" size. **Size:** 4.75 × 3 × 1.25". **Weight:** 12 oz. **Supplied:** Manual, probes, batteries, and carrying case.

732-0070. 1-9 ..... **EACH 32.95**
10-Up ..... **EACH 24.95**

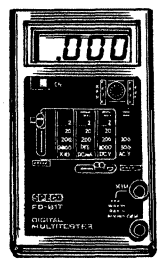


Model F-72
20K Ohms/Volt Deluxe VOM Multitester

Model F-72. Tests 22 ranges, 20K ohms/volt DC; 8K ohms/volt AC. Has six functions including dB check. **Ranges. DC Volts:** 2.5, 10, 50, 500, 1000V. **AC Volts:** 10, 50, 250, 1000V. **DC Current:** 5mA, 50mA, 500mA, 10A. **Resistance:** 10K, 100K, 10 MEG. **Decibels:** – 8dB to + 62dB in 4 ranges. **Battery Test:** 1.5V (125mA), 9V (10mA). **Battery Requirements:** One 1.5V "AA". **Size:** 3 × 2 × 1.25". **Weight:** 14 oz. **Supplied:** Manual, battery, probes, carrying case for VOM and test probes.

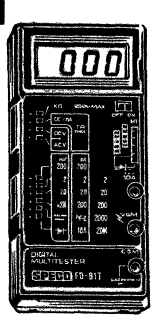
732-0072. 1-9 ..... **EACH 34.95**
10-Up ..... **EACH 26.95**

Model FD-81T 10M Ohms/Volt
Pocket-Sized LCD Readout Digital Multitester with Transistor Tester



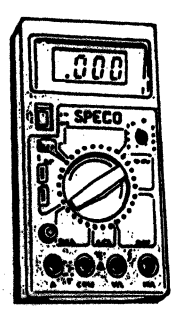
Model FD-81T. Pocket-sized with rugged anti-slip case. Has 5 functions and 14 ranges. Bright, large LCD with high-contrast, 0.5" 3.5 digits. Indicates overrange in all ranges. Automatic zero and polarity. Full overload protected, 1% stabilized resistor circuitry. **Input Impedance:** 10 MEG. **Ranges. DC Volts:** 2, 20, 200, and 1000V. **AC Volts:** 200, 500V. **DC Current:** 2, 20, 200mA. **Resistance:** 2K, 20K, 200KΩ plus 2 MEG. **Transistor Check:** HFE-NPN, and PNP. **Battery Requirements:** One 1.5V "AA". **Size:** 3.5 × 1.75 × 0.5". **Weight:** 9 oz. **Supplied:** Manual, battery, test probes, and carrying case. Rugged and handy!

732-0081. 1-9 ..... **EACH 52.95**
10-Up ..... **EACH 43.95**



Model FD-91T 10M Ohms/Volt
LCD Readout Digital Multitester with Transistor Tester

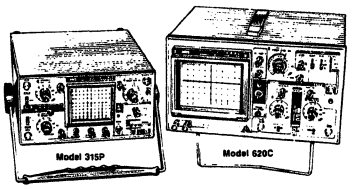
Model FD-91T. Easy-to-operate, one-hand, pocket-size tester has big, high-contrast LCD with 0.5" (12.7") 3.5 digits, 5 functions and 18 ranges including diode test function and 10A DC range. Automatic zero and polarity. Full overload protected. Safety probe tips and insulated plugs. **Ranges. DC Volts:** 200mV, 2, 20, 200, 1000V. **AC Volts:** 200, 500V. **DC Current:** 200μA, 2, 20, 200mA, 10A. **Resistance:** 200, 2K, 20KΩ, 2 MEG, 20 MEG. **Transistor Check:** HFE — NPN, PNP. **Battery Requirements:** One 1.5V "AA". **Size:** 4 × 2 × 1.25". **Weight:** 1 lb. **Supplied:** Manual, battery, probes, carrying case. Lightweight, compact.
732-0091. 1-9 ..... **EACH 64.95**
10-Up ..... **EACH 55.00**



Model FD-100TC 3½ Digit DMM

Model FD-100TC. Tests 8 functions in 32 ranges using single easy to use rotary switch for function and range selection. Pushbutton on/off switch. Automatic overrange indication. Automatic polarity indication on DC ranges. All ranges fully protected (except 20 AC/DC current). Diode testing with 1mA fixed current. Audible continuity test. Transistor hFE test. Capacitance Test. **Specifications. DC Volts:** 200mV, 2V, 20V, 200V, 1000V. **AC Volts:** 200mV, 2V, 20V, 200V, 1000V. **DC Current:** 200μA, 2mA, 20mA, 200mA, 2A. **AC Current:** 2mA, 20mA, 200mA, 20A. **Resistance:** 200, 2K, 20K, 200K, 2M, 20M. **Capacitance:** 2000pf, 20mf, 200mf, 2μf, 20μf. **Transistor hFE Test:** Base current approx. 10 μA. **Diode Test:** Displays approx. forward voltage of diode. **Audible Continuity Test:** Built-in buzzer sounds and LED lamp indicates if conductance is lower than 300Ω. Supplied with case and leads.
732-0100. Model FD-100TC ..... **EACH 74.95**

Model 620C and 315P Oscilloscopes



Model 315P. Features dual trace, wide bandwidth/high sensitivity, auto battery recharge, adjustable trace rotation, stable triggering, X-Y mode, auto free run, and more. **Specifications. Vertical System CH-A, CH-B. Deflection Factor:** 2mV/div-10V/div (±5%) 12 steps, 1-2-5 sequence, fine control. **Frequency Response. DC:** DC-15MHz(−3dB); **AC:** 10Hz-15MHz(−3dB). Max. **Input Voltage:** 600V p-p or 300V(DC ± AC peak). **Input Impedance:** 1MΩ ± 5%, 20pF ± 3pF. **Input Coupling:** AC-GND-DC. **Invert:** CH-B only. **External Horizontal System (X-Y Operation). Input:** CH-B vertical amp. **Deflection Factor:** Same as CH-B. **Frequency Response: DC:** DC:DC-1MHz(−3dB); **AC:** 10Hz(−3dB). **Internal Horizontal System (Sweep Operation). Deflection Factor:** 0.5μs/div(±5%), 19 steps 1-2-5 sequence, fine control. **5X mag:** 100ns/div-0.1s/div(±10%). **Linearity:** ±3%, ±5% (5X Mag.) **Dimensions:** 4½ × 8¾ × 11½″; 9.9 lbs. (12.1 lbs with battery). **Enviromental Operating Temperature:** 0-40°C (32-104°F). **Humidity:** 0-90%. **Power Requirement AC:** 90-130V, 180-260V. **Frequency:** 48-440 Hz. **External DC:** 11-30V, 7.2VA. **Internal DC:** NiCad battery option. Package includes AC linecord PC-1, 2 test probes TP-60, Battery Pak BP-10, 2-year limited warranty, and instruction manual.

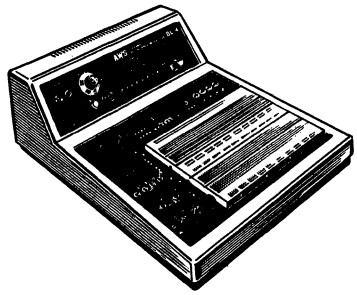
947-0315 ..... **EACH 800.00**

947-0002. Optional Carrying Case with Shoulder Belt ..... **EACH 69.75**

Model 620C. Features dual trace, built-in component checker, internal graticule CRT, TV video sync filter, Z-axis input, high sensitivity X-Y mode, and more. **Specifications. Vertical System CH-A, CH-B. Deflection Factor:** 5mv/div-20v/div(±3%), 12 steps, 1-2-5 sequence, fine control. **Frequency Response: DC:** DC-20MHz(−3dB); **AC:** 10Hz-20MHz(−3dB). **Max. Input Voltage:** 600V p-p or 300V (DC ± AC peak). **Input Impedance:** 1MΩ + 5% 20pF + 3pF. **Input Coupling:** AC-GND-DC. **Invert:** CH-B only. **External Horizontal System. Input:** CH-B vertical amp. **Deflection Factor:** Same as CH-B. **Frequency Response: DC:** DC-1MHz(−3dB); **AC:** 10Hz-1MHz(−3dB). **Internal Horizontal System (Sweep Operation). Time Base:** 0.2μs/div-0.5s/div(±3%). 20 steps, 1-2-5 sequence, fine control. **5X Mag:** 0.04μs/div-0.1s/div(±10%). **Linearity:** ±3%, ±5%(5X Mag). **Z Axis Modulation. Input Level:** 3V p-p (TTL level) positive brighter. **Bandwidth:** DC-1MHz. **Input Impedance:** 20KΩ. **Max. Input Voltage:** 50V(DC ± AC peak). **Input Coupling:** AC (through 0.1μF). **Power Requirements. Voltage:** 100/120/220/240V rms. **Frequency:** 50/60Hz. **Power:** 20 Watts. **Dimensions:** 6⅜ × 11½ × 12⅞″. 15 lbs. 6 oz. **Environmental. Operating Temperature:** 0-40°C(32-104°F). **Humidity:** 0-90%. Package includes 2 TP-60 test probes, PC-1 AC linecord, 1 F-7 fuse, 1 F-12 fuse, 2 spare fuses, operating instructions, and 2-year limited warranty.

947-0620 ..... **EACH 675.00**

Model BL-4 Classmate Digital Breadboard Lab



- ► Removeable Solderless Breadboard
- ► DC Power Supplies
- ► Function Generator
- ► Digital Voltameter
- ► Adapters
- ► 8-Bit LED Display

BL-4 is a multifunctional unit, combining a breadboard, DC power supply (fixed and variable), signal generator (sine, triangle, and square wave output), digital voltameter, 8-bit LED display, BCD to 7 segment decoder and display, flip-flop gate, and logic switches. Requires only one(1) electrical outlet. **Size:** 11 × 13″. **Specifications. Removable solderless breadboard. Tie Points:** 1680 interconnected, nickel plated. **Spacing:** Fits all DIP sizes. **Size:** Fits AWG #22-30(0.3-0.8mm). **Function Generator. Frequency Ranges:** Variable 1 to 10/100/1K/10K/100KHz. **Sine Wave Output:** 0-10V p-p(variable). **Triangle Wave Output:** 8V p-p (fixed). **Square Wave Output:** ±5V (fixed). **Accuracy:** ±3% F.S. **Digital Voltameter. Ranges:** 0-200mV/2V/20V/200V. **Input Impedance:** 10M ohms. **Adapters:** 4 connecting jacks (point tip to banana jacks).

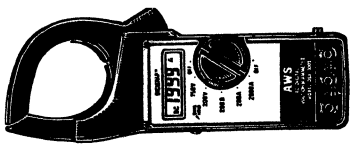
947-0004 ..... **EACH 379.95**

947-0003. Additional Removable Breadboards ..... **EACH 39.95**

DC Power Supplies

DC Power Supplies	Output Voltage	Maximum Output Current	Line Reg.	Load Reg.
Variable	0 to ±15Vdc and 0 to −15Vdc	300mA(±15V)	<0.05%	<30mV
+5V	5V ± 0.25Vdc (0 to full load)	1A	<50mV	<100mV
−5	5V ± 0.25Vdc (0 to full load)	0.04A	<25mV	<30mV

Model DSA-2002P Digisnap™ AC Digital Snap-Around Volt-OHM-Ammeter

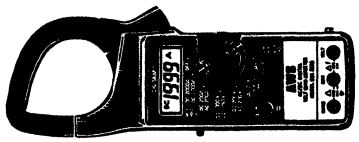


Accurate, capable, and durable. Current reading capability of up to 2000A. Features one-hand operation power/function rotary switch, tear-drop shaped jaws, and data hold switch. Overload protection on all ranges (electronic overload protection to 500VAC on resistance range). Shielded banana plugs and recessed input terminals. Peak hold for measuring peak voltage or current. **Specifications. AC Current. Ranges:** 200A, 2000A. **Resolution:** 0.1A, 1A. **Accuracy 50/60Hz:** ±(1.0%rdg + 2d)(0-1500A), ±(2.5%rdg)(1500-1999A). **Overload Protection:** 3000A. **AC Voltage. Ranges:** 200V, 750V. **Resolutions:** 0.1V, 1V. **Accuracy 50/60Hz:** ±(1.0%rdg + 2d). **Overlaod Protection:** 1000V. **Resistance. Ranges:** 200Ω. **Resolution:** 0.1Ω. **Accuracy:** ±(1.5%rdg + 2d). **Overload Protection:** 500VAC/DC for 1 min. **Display:** 3.5 digit LCD, max. reading 1999 with function and decimal annunciators. **Sampling Rate:** Approx. 3x/sec. **Operating Environment:** −10° to 50°C(14° to 122°F) at <85% relative humidity. **Accuracy Temp. Coef:** <0.05 × applicable accuracy spec per °C for temp −10° to 13°C and 33° to 50°C. **Max. Conductor Size:** 2.16″ (55mm) dia. **Power Supply:** 1 AWS B-4, 9V transistor type battery. **Battery Life:** 400 hours typical with carbon zinc cell. **Dielectric Strength:** 2500VAC for 1 min. **Size:** 9.7 × 2.8 × 1.4″ (245 × 70 × 36mm); 14.1 oz(400g). **DSA-2002** package come complete with TL-48 test leads, B-4 battery, carrying case, operating instructions, and 1-year warranty.

947-2001. Model 2002P ..... **EACH 219.95**

947-2002. Same as above without Peak Hold ..... **EACH 179.95**

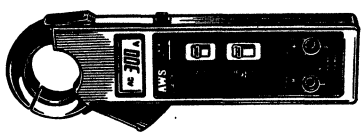
Model DSA-2003 Digsnap™ AC/DC Digital Snap-Around Volt-OHM-Ammeter



Same as DSA 2002P (left) but with added features of DC operation, diode test function and output millivolt signal for ocilloscope current waveform viewing. **Specification. AC Current. Ranges:** 200A, 2000A. **Overload Protection:** 3000A. **AC Voltage. Ranges:** 200V, 750V. **Overload Protection:** 1000V. **DC Current. Ranges:** 200A, 2000A. **Overload Protection:** 3000A. **DC Voltage. Ranges:** 20V, 200V, 1000V. **Overload Protection:** 1000V. **Resistance:** 200Ω, 1500Ω. **Overload Protection:** 500VAC/DC for 1 min. **Accuracy:** On all ranges ±(1.5%rdg + 2d). **Max. Resolution:** 0.1A, 0.1VAC, 0.01VDC, 0.1Ω. **Display:** 3.5 digit LCD, max. reading 1999 with function and decimal annunciators. **Sampling Rate:** Approx. 3x/sec. **Operating Environment:** −10° to +50°C (14°-122°F) at <85% relative humidity. **Accuracy Temp. Coef:** <0.05 × applicable accuracy spec per C for temp −10° to 13°C and 33° to 50°C. **Max. Cond. Size:** 2.16″ (55mm) dia. **Power Supply:** 1 AWS B-4, 9V transistor type battery. **Battery Life:** 16 hours typical with carbon zinc battery. **Dielectric Strength:** 2500VAC for 1 min. **Output Terminal. Range:** 200A AC/DC (output 1.0mV/A; Max. Input 500A peak). 2000A AC/DC (Output 0.1mV/A; Max. Input 3000A peak). **Wave Shape:** Same as input current wave shape. **Accuracy:** ±1.5%rdg into load >100K. **Size:** 9.7 × 2.8 × 1.4″ (245 × 70 × 36mm); 17.7 oz (500g). **DSA-2003** package comes complete with TL-48 test leads, B-4 battery, millivolt output plug, carrying case, operating instuctions, and 1-year warranty.

947-2003. Model DSA-2003 ..... **EACH 379.95**

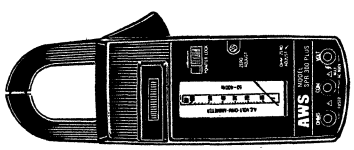
Model DSA-7610 Digital Snap-Around Volt-Ammeter



Features include autoranging, instant continuity buzzer, overload protection, and data hold switch. **Specifications.** (at 50/60Hz, 23° ±5°C). **Display:** 3.5 digit LCD, max. reading 1999 with auto sign and function annunciators. **Sampling Rate:** 2x/second. **Continuity:** Audible and visual at <1.5KΩ-15KΩ. **Response Time:** <1msec. Open circuit voltage approx. 1.5 VDC. **Overload Protection:** 250VAC for 1 min. **AC Current (AC Voltage). Ranges:** 200A, 300A (200V, 500V). **Accuracy:** ±1.5(1.2)%rdg + 4dgt. **Overload Protection:** 500AAC (750VAC) for 1 min. **Environmental. Operating Environment:** 0° - 40°C (32° - 104°F) at <80% relative humidity. **Power Supply:** 2 AWS B-6 1.5V button type batteries. **Power Consumption:** 3mW typical. **Battery Life:** Approx. 100 hrs. **Dielectric Strength:** 2000VAC for 1 min. Jaw I.D.: 0.90″ (23mm). **Size:** 6.87 × 1.61 × 1.1″ (174.5 × 41 × 28mm); 0.44 lbs(200g). **DSA 7610** package includes TL-44 test leads, 2 B-6 batteries, carrying case, operating instructions, and 1-year warranty.

947-7610. Model DSA-7610 ..... **EACH 119.95**

Snap 8 Series Rotary Scale Volt-OHM-Ammeter SPR-300 Plus



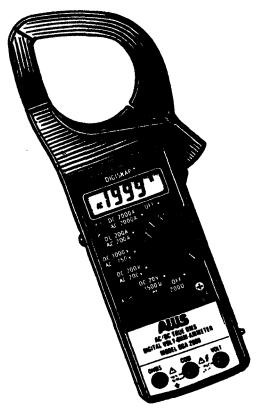
Specifications. Range. AC Voltage: 150/300/600 Vac. **AC Current:** 6/20/60/200/600 Aac. **Resistance:** 0-2K/25 ohms mid-scale. **Jaws:** Takes up to 1.2″(30 mm) Conductors. **Weight:** 13.8 ounces (with batteries). **Dimensions:** 8.7L × 3.3W × 1.6H inches. **Fuse Protection:** One fast acting, high interrupting capacity ½ A 250 V 1¼″ × 1¼″ Fuse, AWS Part #F-1. **Note:** The instrument id designed for ampere readings on circuits with a maximum of 600 Volts A.C. **Packaging:** The model SPR-300 Plus comes with TL-52 Test Leads, 1 F-1 Fuse installed/1-spare, B-1 Battery AA Type 1.5 V, C-53 Carrying Case, Form #174 Operating Instructions and Warranty Card, all ready for use.

947-2000. SPR-300 Plus. ..... **EACH 74.95**

DSA-2009 True RMS Digital Snap Around

Reads true RMS AC Amps, volts AC on DC signals, and DC amps, volts. Electronic burn out protection to 500 volts. Accurate Amp/Volt measurements on non-sine wave power circuits such as SCR drivers, Triac circuits, variable speed/frequency drives, HID lighting, UPS systems, and other non-linear loads, as well as DC drives, cranes, DE powered vehicles, and battery power systems. Tear drop jaws allow easy access to tight places. Output jack for recording or oscilloscope viewing. **Specifications: Ranges: AC Current True RMS:** 200A, 2000A. **DC Current:** 200A, 2000A. **AC Volts True RMS:** 200V, 750V. **DC Volts:** 20V, 200V, 1000V. **Resistance:** 200 OHM, 1500 OHM. **Output Terminal True RMS:** 200 AAC, 200 ADC, 2000 AAC, 2000ADC. **Overload Protection:** Up to 500V AC/DC on resistance range. Diode test range. **Data Hold Switch:** Freezes readings. **Display:** 3.5 digit LCD, Max reading 1999. **Max Conductor Size:** 2.16″ Dia. **Power:** One 9V battery (NEDA Type 1604). 16 hours typical with carbon zinc cell. **Dim.:** 9.7″H × 2.8″W × 1.4″D. **Wt.:** 17.7 oz. **Supplied Accessories:** TL-48 test leads, B-4 battery, C-50 carrying case, form #171-1 operating instructions, millivolt output jack, and warranty card.

947-2009. Model DSA-2009 ..... **EACH 485.00**



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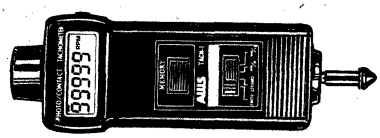
TACH-1 NEW



The TACH-1 is a digital photo/contact tachometer. This multi-function instrument combines 0.05% basic accuracy with the capability of RPM and surface speed measurements. **Specifications:** Has both photo tachometer (RPM) and contact tachometer (RPM, M/Min, Ft/Min) **Measuring Range:** 0.5 to 100,000 RPM, 0.05 to 2,000 M/Min, 0.2 to 6560 Ft/Min. **Memory Recall:** automatically displays last value, max. value and min. value. **Display:** 5-digit LCD with insignificant zero suppression. **Housing:** ABS Plastic. **Range Selection:** autoranging. **Power:** four 'AA' batteries (Part # B-1). **Dim.:** 8.5″ × 2.6″ × 1.5″. **Wt.:** .66 lb including batteries. **Supplies Accessories:** C-55 carrying case, four 'AA' batteries, T-1 reflective tape, 2 W-1 RPM adaptor (cone), W-2 adaptor (funnel), W-3 surface speed test wheel and form # 189 operating instructions.

947-0010. Model TACH-1 ..... **EACH 224.95**

DM-4000A NEW

This 3½ digit handheld digital multimeter has the capacity of reading up to 6 functions on up to 19 ranges. This DMM offers a powerhouse of measurement capability in a small self-contained housing. It is designed for the professional at work in the field or in the lab, yet simple enough to operate making it perfect for the hobbyist or student. Pocket size, simple operation, continuity buzzer, recessed safety designed input terminals, built-in tilt stand, overload protection, diode test function. **Specifications: Ranges: DC Volts:** 200mV, 2V, 20V, 200V, 1000V. **AC Volts:** 200V, 750V. **DC Current:** 200uA, 20mA, 200mA, 10A. **Resistance:** 200, 2K, 20K, 200K, 2M, 20M. **Continuity:** 200 Ohms. **Diode Check:** 2K Ohm. **Display:** 3½ digit LCD. **Power:** One 9V battery. **Life:** 150 hours typical. **Fuse:** 5mm × 20mm .8A, 250V (Part # F-17). **Dim:** 5.0″H × 2.8″W × 1.4″D. **Wt:** 7 oz.

947-4000. Model DM-4000A ..... **EACH 48.95**

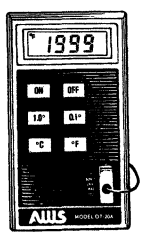
947-0037. C-37. Carry case ..... **EACH 8.75**

DM-1A

Big features are packed in the pocket-calculator sized DMM. Autoranging, overload protection on all ranges, auto-polarity, audible and visual continuity indication, built-in test leads, booklet-type carrying case designed to fit into shirt pocket. **Specifications:** Continuity buzzer, diode test function, data hold button, auto-ranging, one year warranty. **Ranges: DC Volts:** 200mV, 2V, 20V, 200V, 500V. **AC Volts:** 2V, 20V, 200V, 500V. **AC Volts:** 2V, 20V, 200V, 500V. **Resistance:** 200, 2K, 20K, 200K, 2M, 20M Ohms. **Continuity:** Buzzer sounds at less than 450 Ohms. **Display:** 3½ digit LCD. **Range Selection:** autoranging. **Power:** Two 1.5V button-type batteries (Part # B-6). **Battery Life:** 100 hours on two LR-44 batteries. Use SR-44 batteries for longer life. **Dim:** 6.3″L × 1.2″W × 0.8″D. **Wt:** 2.29 oz.

947-0018. Model DM-1A ..... **EACH 36.95**

3½ Digit Digital Thermometer



High quality portable style thermometer with a K-Type thermocouple probe (TP-800K included). High accuracy and dual resolution make it indispensable for both low and high temperatures. Smooth front membrane style switches reduce dirt contamination. Unit reads both °F or °C. **Specifications: Display:** 3.5 digit LCD. **Input Probe Type:** two input K-type thermocouple switch selectable. **Temperature Range:** F/C selectable −50° to 200/1300°C, −58° to 200/2000° F. **Temperature Probe:** TP-80K, K-type, thermocouple wire bead. Probe to 0° to 800°C. 4′ wire length. **Power:** one 9V battery. 200 hrs typ. **Dim:** 5.1″H × 2.8″W × 1.3″D. **Wt:** 5.3 oz. **Supplied Accessories:** one 9V battery, one TP-800K temperature probe and operating instructions.

947-0019. Model DT-20A ..... **EACH 89.95**

DT-10A/DT-5A 3½ Digit Thermometer

Small, compact thermometer is designed to be used for general purpose type temperature measurements normally encountered in the air conditioning, refrigeration, and appliance service type applications. With simple operation, this unit reads −58° to +302° F by extending its internal probe. Also included on the DT-10A, is a probe input for an external K-type thermocouple probe to read from 0° to 1500° F. External probe is not included. **Specifications: Display:** 3.5 digit LCD display. **Temperature Probe:** internal semiconductor with general purpose sheath. The sheath is 4″ + ⅛″ with semiconductor sensor in the tip. **Range;** F/C switch selectable for −58° to +302°F (−50° to +150°C). **Power:** one 9V battery (NEDA 1604, Part # B-4) 300 hours typical with zinc carbon. **Dim:** 5.6″H × 1.8″W × 1.1″D. **Wt:** 4.6 oz.

947-0006. DT-10A ..... **EACH 59.95**

947-0007. DT-5A (As above with ext input jack) ..... **EACH 49.95**

947-0008. B-4 (Battery) ..... **EACH 2.45**

947-0801. TP-800K Probe ..... **EACH 12.95**

DM 3000

9 functions, 28 ranges. **DC Voltage. Range:** 200mV, 2V, 20V, 200V, 1000V. **AC Voltage. Range:** 200mV, 2V, 20V, 200V, 750V. **DC/AC Current. Ranges:** 200μA, 2mA, 20mA, 200mA, 10A. **Resistance. Range:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Continuity:** 200Ω range, approx. 100msec response time. **HFE Test:** 0-1000 range; Ib = 10μ ADC approx. base current; VCE = 2.8VDC approx. **Conductance:** 2μS equivalent resistance 500KΩ - 1000MΩ. **Diode:** Open circuit volts 2.8V, test current 1mA.

947-0300. Model DM-3000 ..... **EACH 79.95**

Digital Multimeter

Small handheld multimeter covers 15 ranges. Features autoranging, interchangeable probe tip, data-hold switch, continuity buzzer, and overload protection on all ranges. **Specifications. DC/AC Volt. Ranges:** 200mV (DC only), 2V, 20V, 200V, 500V. **Resistance. Range:** 200Ω, 2000Ω, 20KΩ, 200KΩ, 2000KΩ, 20MΩ. **Sampling Rate:** 2x/sec. **Accuracy Temp. Coef:** Add ±(0.05%rdg ±0.2dgt) per °C for temperatures 0° - 18°, 28° - 40°C to applicable accuracy specs. **Dielectric Strength:** 2000VAC for 1 min. (Note: Recommended that DM 6593 not be used on circuits 700VAC measure to earth ground). **Continuity:** Audible and visual at <150Ω; <50 msec response time; approx. 1.5VDC open circuit voltage. **Power Supply:** 2 AWS B-6 1.5V button-type batteries (IEC LR-44, NEDA 1166A). **Power Consumption:** 5mW typical. **Battery Life:** 70 hrs typical on 2 LR-44 cells (SR-44 cells provide a longer life). **Operating Environment:** 0° - 40°C(32° - 104°F) at <80% relative humidity. **Size:** 6.3 × 1.2 × 0.8″ (160 × 30 × 20mm); 2.29 oz. (65g). **DM 6593A** package includes TL-49 test lead, AG-940 detachable alligator clip, (2) B-6 batteries, 1 long probe tip, 1 short probe tip, carrying case, operating instructions, and 1-year warranty.

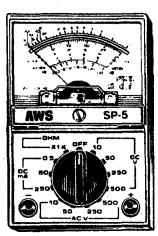
947-6593. Model DM-6593A ..... **EACH 59.95**

4½ Digit Rotary Switch Digital Multimeter

4½ digit handheld digital multimeter, 9 functions on 33 ranges. Basic DC Voltage accuracy of 0.05% of reading. Overload protection on all ranges. Function and range selection operated by a single flush mounted rotary switch. **Specifications. DC Voltage. Range:** 200mV, 2V, 20V, 200V, 1000V. **AC Voltage. Range:** 200mV, 2V, 200V, 750V. **DC/AC Current. Ranges:** 200μmA, 2mA, 20mA, 200mA, 2A, 10A. **Resistance. Range:** 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Conductance:** 200nS (S = 1/Ω) range; 1.3VDC open circuit volts; 0.12μA max. test current. **Diode and Audible Continuity Check:** 3.5VDC max.; 0.2A max. test current. **Frequency Counter:** 20KHz, 200KHz, range; input impedance 10MΩ, <100pF. **Sensitivity:** 15mV rms(min.), 5V rms(max.). **Display:** 4½ digit LCD 0.43″; '-', 'Lo Batt', and decimal annunciators. **Max. Common Mode Voltage:** 500VAC/DC. **Operating Environment:** 0° - 40°C at ≤80% rel. humidity. **Temp. Coef.:** (0° - 18°C; 28° - 50°C) <0.1 × applicable accuracy spec per °C. **Sampling Rate:** 2.5x/sec. **Power Source:** 9V transistor type battery, AWS B-4. **Battery Life:** 200 hrs (alkaline); 100 hrs (carbon zinc). **Fuse:** AWS F-11; 2A, 250V, 5x20mm fast-acting. **Size:** 6.9 × 3.4 × 1.3″; 10.2 oz. **DM 7010** package includes TL-42 test leads, B-4 battery, F-11 fuse, spare fuse, operating instructions, and warranty card.

947-7010. Model DM-7010 ..... **EACH 190.00**

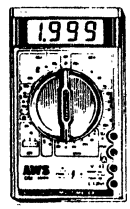
Pocket-Size Multimeter



Features 4 functions, 12 ranges, mirrored scale plate, diode protected meter movement and more. **Specifications. DC/AC Voltage. Ranges:** 0-10/50/250/500 VDC and VAC. **DC Current:** 0-0.5/50/250 mAdc. **Resistance:** 0-1MΩ (mid-scale). **Decibels:** −20 to +56 db on VAC ranges. **Sensitivity:** 2KΩ/V AC/DC. **Accuracy:** ±4% FS (DCV, DCA); ±4% Arc length (Ω); +5% FS (ACV). **Power Source:** One 1.5V AA size battery AWS B-1. **Size:** 3.5 × 2.4 × 1.3″; 3.7 oz. **SP-5A** package includes TL-41 test leads, 1 B-1 battery, operating instructions, and 1-year warranty.

947-0005. Model SP-5A ..... **EACH 9.95**

DM 2000



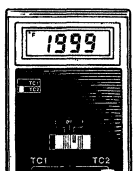
8 functions, 22 ranges. **DC Voltage. Range:** 200mV, 2V, 20V, 200V, 1000V. **AC Voltage. Range:** 200V, 750V. **DC Current. Range:** 200μ A, 2mA, 20mA, 200mA, 10A. **Resistance. Range:** 200Ω, 2KΩ, 20KΩ, 200K Ω, 2MΩ, 20MΩ. **Conductance:** (S = 1Ω) 2μS range. **HFE Test:** 0-1000 range; Ib = 10μ ADC approx. base current; VCE = 2.8VDC approximate. **Diode Test:** Open circuit volts, 2.8V, test current 1mA.

947-0200. Model DM-2000 ..... **EACH 64.95**

3½ Digit Rotary Switch Digital Multimeter

3½ digit handheld digital multimeter, 7 functions on 31 ranges. Basic DC Voltage accuracy of 0.25% of reading. Overload protection on all ranges. Operates by rotary switch and AC/DC selector. **Specifications. DC Voltage. Range:** 200mV, 2V, 20V, 200V, 1000V. **AC Voltage. Range:** 200mV, 2V, 20V, 200V, 750V. **DC/AC Current. Ranges:** 20μA, 200μA, 2mA, 20mA, 200mA, 10A. **Resistance. Range:** 200Ω, 200Ω, 2KΩ, 20KΩ, 200KΩ, 2MΩ, 20MΩ. **Continuity:** <100msec response time, 2.8VDC ± 20% open circuit voltage, 500V AC/DC overload protection. **Diode test:** 2.8VDC ± 20% open circuit voltage, 2mADC ± 20% max. test current, 1.4VDC ± 20%FS voltage, 500V AC/DC overload protection. **Display:** 3½ digit LCD 0.5″, with polarity. **Max. Common Mode Voltage:** 500V DC/AC peak. **Operating Environment:** 0° - 35°C at <80% relative humidity, 35° - 50°C at <70% relative humidity. **Temp. Coef.** (0° - 18°C; 28° - 50°C) <0.1 × applicable accuracy spec per °C. **Power Source:** 9V transistor type battery. AWS B-4. **Battery Life:** 200 hrs (alkaline); 100 hrs (carbon zinc). **Fuse:** AWS F-14; 0.2A, 250V, 5 × 20mm fast-acting. **Size:** 6.7 × 3.43 × 1.65″; 12.1 oz. **DM 8010** package includes TL-42 test leads, B-4 battery, F-14 fuse, spare fuse, operating instructions, and 1-year warranty.

947-8010. Model DM-8010 ..... **EACH 89.95**



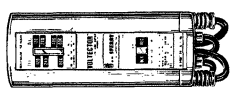
DT-15A 3½ Digit Digital Thermometer

High quality portable style thermometer with a K-type thermocouple probe (TP-800K included). Using standard K-type thermocouple probe, unit incorporates two K-type inputs for monitoring two temperature locations for dual point measurement unit reads both °F or °C. Only one K-type probe included. Order additional probes below. **Specifications. Display:** 3.5 digit LCD. **Input Probe Type:** two input K-type thermocouple switch selectable. **Temperature Range:** F/C selectable −50° to 1300°C, 58° to 2000°F. **Temperature Probe:** TP-80K, K-type, thermocouple wire bead. Probe to 0° to 800°C. 4′ wire length. **Power:** one 9V battery. 200 hrs typ. **Dim:** 5.1″H × 2.8″W × 1.3″D. **Wt:** 5.3 oz. **Supplied Accessories:** one 9V battery, one TP-800K temperature probe and operating instructions.

947-0015. Model DT-15A ..... **EACH 79.95**

947-0800. TP-800K probe ..... **EACH 12.95**

AC/DC Voltage Tester



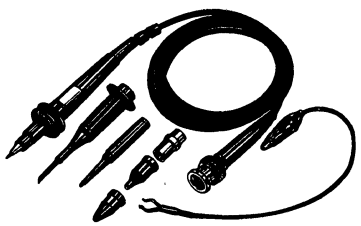
Voltage tester features AC/DC indication, firm grip prod handles, prod storage in housing, and a convenient pocket size. **Specifications.** Solenoid type construction. **Frequency Response:** 50-60Hz. **Indication:** Approximate AC volts 120/240/480/600; Approximate DC volts 120/240/600. **Polarity Indication:** AC both Neons glow; DC negative Neon glows. **Intermittent Duty Cycle:** 30 sec. maximum. **Size:** 7 × 2¼ × 1¼″; 11 oz. Packaged in see-through blister pack; operating instructions and applications and application notes (including diagrams) printed on rear panel of package.

947-5000. Model V-11A ..... **EACH 17.00**

Monolithic Oscilloscope Probes

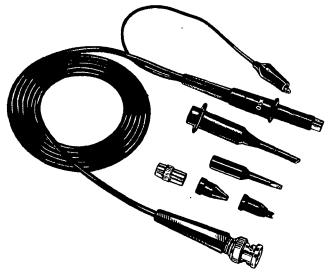
► Inexpensive Quality Probes
► For All Scopes To 100 MHz
► 1.5 Meter Cable — Slender, Flexible, Break-Resistant
► Sharp Heavy-Duty Tip

Model SP150



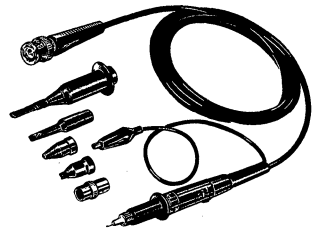
Specifications. For X10 attenuation (for X1). **Bandwidth:** >150 MHz (15 MHz). **Risetime:** <1.5 ns (20 ns). **Input Resistance:** 10 MΩ (1 MΩ). **Input Capacitance:** 11.5 pF (same as scope). **Compensation Range:** 10-40 pF. **Maximum Input Voltage:** 600 V (DC + peak AC).
955-0150. Model SP150 ..... **EACH 49.00**

Model P100
X10 Attenuation 100 MHz Bandwidth



Specifications. Bandwidth: 100 MHz. **Rise Time:** 3.5 nSec. **Input Resistance:** 10 M Ohm. **Input Capacitance:** 9.5 pF. **Compensation Range:** 10-60 pF. **Maximum Voltage:** 600 V (DC + peak AC).
955-0110. Model P100. 1.5 Meter Cable ..... **EACH 38.00**
955-0111. Model 2P100. 2 Meter Cable ..... **EACH 38.00**

Model SP100
X1-X10 Switchable 100 MHz Bandwidth



Specifications. For X10 attenuation (For X1). **Bandwidth:** 100 MHz (10 MHz). **Rise Time:** 3.5 nSec. (35 nSec.). **Input Resistance:** 10 M Ohms (1 M Ohm). **Input Capacitance:** 11.5 pF (47 pF + Scope Cin). **Compensation Range:** 10-60 pF (N/A). **Maximum Input Voltage:** For both X10 and X1, 600 V (DC + peak AC).
955-0100. Model SP100 ..... **EACH 45.00**
955-0105. Model 2SP100. 2 meter cable ..... **EACH 49.00**

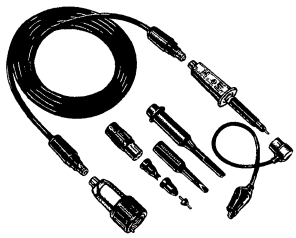
Modular Oscilloscope Probes

► For All Oscilloscopes
► Instant Repair-Parts Screw Together
► 250 MHz Bandwidth
► All Models Include Sprung Hook, BNC Adapter, Spare Tip, IC Tip, Insulating Tip, And Trimmer Tool

Model M12X10
X10 Attenuation 250 MHz Bandwidth

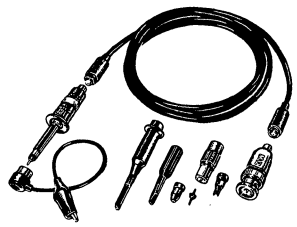
Specifications. Bandwidth: DC-250 MHz. **Rise Time:** 1.4 nSec. **Input Resistance:** 10 M Ohms. **Input Capacitance:** 16 pF. **Compensation Range:** 10-60 pF. **Maximum Input Voltage:** 600 V (DC + peak AC). Comes with 1.2 m (4′) cable.
955-6012. Model M12X10 ..... **EACH 62.00**
955-6020. Model M20X10. 2 meter cable ..... **EACH 68.00**
955-6025. Model M12X1. X1 attenuation ..... **EACH 42.00**

Model M12X10AP
X10 Attenuation with Readout



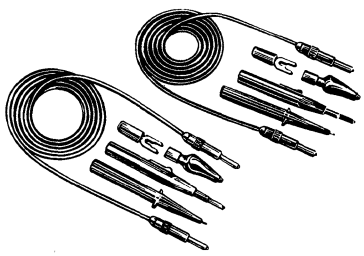
Auto-indication of X10 deflection factor on scopes with knob-skirt light or CRT readout. **Specifications. Bandwidth:** DC-250 MHz. **Rise Time:** 1.4 nSec. **Input Resistance:** 10 M Ohms. **Input Capacitance:** 16 pF. **Compensation Range:** 10-60 pF. **Maximum Voltage:** 600 V (DC + peak AC). Comes with 1.2 m (4′) cable.
955-7012. Model M12X10AP ..... **EACH 68.00**
955-7020. Model M20X10AP. 2 meter cable ..... **EACH 74.00**

Model M12SW X1-X10
Switchable 250 MHz Bandwidth



Specifications. For X10 attenuation (For X1). **Bandwidth:** 250 MHz (10 MHz). **Rise Time:** 1.4 nSec. (35 nSec.). **Input Resistance:** 10 M Ohms (1 M Ohm). **Input Capacitance:** 18 pF (40 pF + Scope Cin). **Compensation Range:** 10-60 pF (N/A). **Maximum Input Voltage:** For both X10 and X1, 600V (DC + peak AC). Comes with 1.2 m (4′) cable.
955-5012. Model M12SW ..... **EACH 72.00**
955-5020. Model M20SW ..... **EACH 78.00**

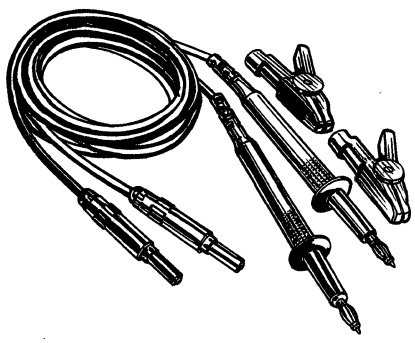
Model TLS2000
Professional Test Lead Set



► For All Multimeters
► Highest Quality
► Safety Engineered

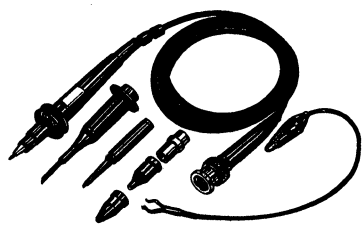
Features the highest quality cable made—soft, flexible, burn-resistant. Shielded 4 mm banana plugs at each end with spring-loaded safety sleeves. Includes two 1.5 meter cables (1 black, 1 red), two standard probes, two hook probes, two alligator clips, and two spade lugs. Plug-in probes are interchangeable. Low contact and lead resistance for accurate measurements of very low levels. **Maximum Voltage:** 2000 V rms. **Maximum Current:** 20 Amps. Model TLS2000SS has 1.1 meter cable with standard probes only. UL Listed (File No. E79581).
955-2000. Model TLS2000 ..... **PER SET 30.00**
955-2010. Model TLS2000SS ..... **PER PAIR 19.00**

Model TL1000



Model TL1000. Best value in moderately priced leads. High quality, soft, silicon rubber cable. Banana plug on measuring tip accepts push-on accessories. Plugs have spring-loaded safety sleeves. **Specifications. Maximum Voltage:** 1000 V rms. **Maximum Current:** 10 Amps. **Cable Length:** 1.1 meters. **Plug Type:** Retractable safety banana.
955-0010. Model TL1000 ..... **PER PAIR 14.00**
955-1010. Model LTL1000S.
Locking Expandable Banana Jacks ..... **PER PAIR 15.00**

Model IP35
Monolithic Oscilloscope Probe

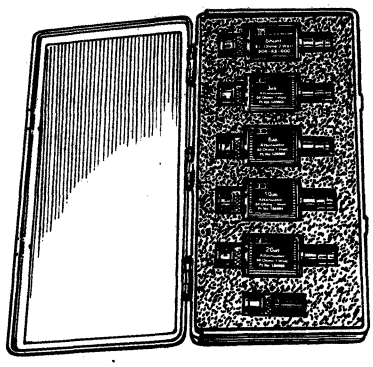


Bandwidth exceeds 150 MHz. Risetime is less than 1.5 nanosec. Removable ground lead. Protected against noise and pickup and moisture. This series features the ultra-flexible, durable cable with improved soft strain reliefs to further increase cable life. The SP150 has a new switch with self-cleaning contacts. Both switch and compensating screw are designed to eliminate noise pickup even on the most sensitive range of the oscilloscope. **Maximum Voltage:** 600 V. **Cable length:** 1.2 Meters. **Input Imepdance:** X1, 1MΩ; X10 10MΩ.

955-0155. Model 1P35. X1 (Not Switchable) ..... **EACH 31.00**
955-0160. Model P135. X10 (Not Switchable) ..... **EACH 42.00**

16

BNC Attenuator Kit — Model 1200



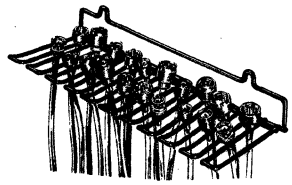
Kit contains one each of the following:

Stock No.	Mfr. Type	Description	Avg. Max. Power (1 KW Peak)	VSWR	EACH
955-9003	105-52-000	BNC Termination	1 Watt	1.2:1	**27.00**
955-9004	805-53-000	BNC Shunt	2 Watt	—	**27.00**
955-9006	120082	3dB Attenuator	1 Watt	1.2:1	**29.00**
955-9007	120083	6dB Attenuator	1 Watt	1.2:1	**29.00**
955-9008	120084	10dB Attenuator	1 Watt	1.2:1	**29.00**
955-9009	120085	20dB Attenuator	1 Watt	1.2:1	**29.00**

All are shock resistant — virtually drop-proof. Rectangular shape to prevent rolling. DC to 1 GHz. Uses thick-film circuitry for low reactance. Economical and accurate (± 1%). 50 Ω impedance. Available as individual pieces.

955-1200. Model 1200. ..... **EACH 150.00**

Model TPI-8000 Coax Adapter Cable Kit



- **Convenient Storage — Comes with Two Wall Racks**
- **"Mine-Safety" Yellow Cables for Fast, Positive Identification**
- **Silver Plated Contacts**
- **Soft, Very Flexible Cables for Ease in Handling**
- **For Direct and Cross-Connection of BNC, N, UHF, TNC, and Mini-UHF, RF Connectors**
- **20 Combinations of 5 Popular Connectors on 36-inch Cables**
- **Includes Hard-to-Find MINI-UHF Connectors**
- **50 Ohm**

Kit Benefits: Now you can interface different RF connectors with a cable itself instead of a separate adapter and a cable. No more hassles and lost time in searching through drawers or around the lab for a lost or strayed adapter. You will have 20 of the most common connector combinations in plain sight. These attractive yellow cables are easy to spot whether in use or just hanging by your bench ready for use. If purchased separately, this versatile collection would cost over twice as much. And some of these combinations are not available anywhere else. **Features:** Comes with wall-mounting racks that hold over 100 cables enabling you to add other connector combinations or more of one kind according to your needs. Like other TPI test leads, these RG-58A/U cables are soft and pliable allowing easy bending without damage and longer useful life under demanding conditions. **Connectors:** Machined brass; Nickel plated. **Contacts:** Silver plated. **Cables:** RG-58A/U; high-visibility yellow; 36-inch length. Individual cables available as separate items.

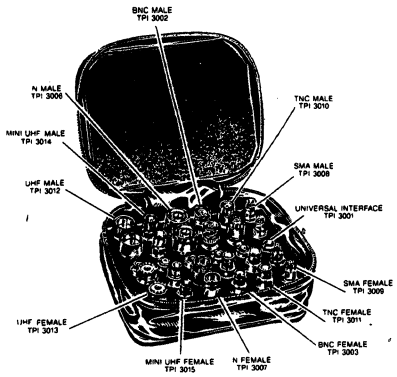
955-8000. Model TIP-8000 ..... **EACH 125.00**

TPI 3000 Coax Connector Kit

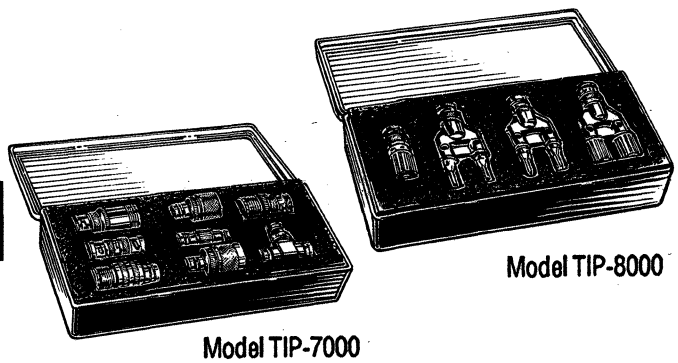
The TPI 3000 Kit includes 2 male and 2 female connectors of all six types. Any adapter can be created on the spot, in just seconds. Simply screw any combination of 24 connectors to one of the 6 Universal Interfaces. No soldering or crimping is needed so connectors can be used over and over again in different combinations.
All contacts are gold plated. Connector bodies are silver plated, machined brass with teflon insulation. The zippered, soft leather case protects and organizes the collection.
Spare pieces can be ordered individually as shown below.

Stock No.	Mfr.'s Type	Description	EACH
955-3000	TPI-3000	Entire Kit	**150.00**
955-3001	TPI-3001	Universal Interface	**6.00**
955-3002	TPI-3002	BNC Male	**7.75**
955-3003	TPI-3003	BNC Female	**7.75**
955-3004	TPI-3004	F Male	**6.75**
955-3005	TPI-3005	F Female	**6.75**
955-3006	TPI-3006	N Male	**8.50**

Stock No.	Mfr.'s Type	Description	EACH
955-3007	TPI-3007	N Female	**8.50**
955-3010	TPI-3010	TNC Male	**7.75**
955-3011	TPI-3011	TNC Female	**7.75**
955-3012	TPI-3012	UHF Male	**7.75**
955-3013	TPI-3013	UHF Female	**7.75**
955-3020	TPI-3020	RCA Male	**10.40**
955-3021	TPi-3021	RCA Female	**10.40**



BNC Adapter Kits



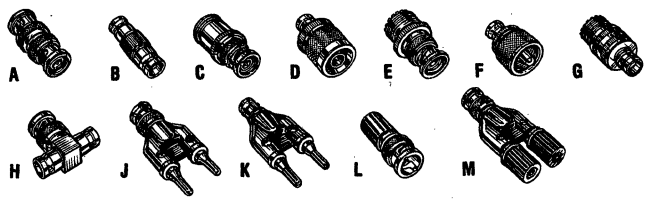
Model TIP-8000

Model TIP-7000

These high quality adapters are made of nickel-plated, machined brass with gold contacts. They are available in economical kits or as individual pieces. TIP-7000 kit contains one each: BNC (M)—BNC (M); BNC (F)—BNC (F); BNC (M)—N (F); BNC (F)—N (M); BNC (M)—UHF (F); BNC (F)—UHF (M); BNC (F)—UHF (F); BNC TEE (F-M-F). TIP-8000 kit contains one each: BNC (M)—Dual Banana; BNC (F)—Dual Banana; BNC (M)—Single Binding Post*; BNC (M)—Dual Binding Post. *Silver Contacts.

955-7000. Model TIP-7000. ..... **EACH 49.00**
955-7999. Model TIP-8000. ..... **EACH 26.00**

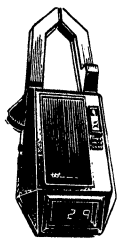
BNC Adapters (Individual Pieces)



Stock No.	Mfr.'s Type	Type	Fig.	Max. Freq.	EACH
955-7050	B35P32J	BNC (M)—BNC (M)	A	3 GHz	**6.15**
955-7052	B35P34J	BNC (F)—BNC (F)	B	3 GHz	**3.35**
955-7054	A55P04J	BNC (M)—N (F)	C	3 GHz	**8.80**
955-7056	A55P28J	BNC (F)—N (M)	D	3 GHz	**5.95**
955-7058	A55P08J	BNC (M)—UHF (F)	E	500 MHz	**8.45**
955-7060	A55P07H	BNC (F)—UHF (M)	F	500 MHz	**5.50**
955-7062	A55P31J	BNC (F)—UHF (F)	G	500 MHz	**10.20**
955-7064	B35P31J	BNC TEE (F-M-F)	H	500 MHz	**8.90**
955-7066	B35X68J	BNC (M) Dual Banana	J	—	**9.55**
955-7068	B35X66J	BNC (F) Dual Banana	K	—	**6.05**
955-7070	B35Z11H*	BNC (M) Single Binding Post	L	—	**4.20**
955-7072	B35X60J	BNC (M) Dual Binding Post	M	—	**8.70**

*Silver Contacts.

TIF-1000 Digital Clamp-On Volt-Ohm-Ammeter



► **Accurately Measures and Locks In Peak Surge Current**

► **Measures as Low as 1/10 of an Amp, Volt or Ohm**

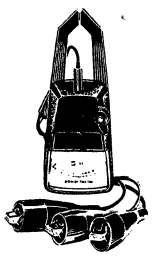
► **Automatic Ranging in All Modes**

► **USA Built for Over 10 Years**

Meet the original classic, digital clamp-on ammeter. This rugged instrument measures volts, ohms, and amps from .1 to 1000, and shifts from each of these modes automatically. Modern micro-circuitry stands tall during peak surge, and reads it back to you in clear, digital form for more accuracy. High intensity display enables you to take readings in bright sunlight. The pointed jaw is designed for tight and hard to reach applications. Available with RPM, temperature and constant monitoring accessories. Locking switch for constant monitoring of amps and volts. Misapplication proof through 440 Volts. Built with an exclusive CMOS chip for long lasting accuracy and reliability. Low battery indicator. Comes complete with carrying case, fuses, batteries and probes. **Specifications. Power Requirements:** 6VDC (4 "AA" alkaline batteries). **Dimensions:** 15.5" × 3" (394 × 76mm). **Weight:** Approx. 13 oz. (370 gr.).

953-1000. TIF-1000 ..... **EACH 179.00**

TIF-2300 Power Factor Meter



► **Reads Power Factor Directly**

► **Single Phase, Split Phase, 3 Phase, Balanced or Unbalanced and 4 Wire 3 Phase**

► **A Wider Scope of Measurement: Read as Low as 3 Amps All Without Connecting Add-ons**

► **No Switching Required**

Determines the power factor of individual loads and systems to determine their effect on the overall plant power factor. Use with single, split-phase and three-phase power sources, balanced or unbalanced. Use to check out motor efficiency and motor load. Solid-state computer electronics, no batteries. It ingeniously 'steals' a tiny amount of power from the volt probes used for monitoring the voltage. Clamp-on jaws monitor the current so no circuits need to be broken or interrupted. Two permanently connected volt probes; a third plug-in volt probe furnished only for monitoring 3-phase circuits.

953-2300. TIF-2300 ..... **EACH 499.00**

TIF-100/TIF-300CC AC Voltage Detectors

Safely detects AC Voltage without breaking into power lines or making any electrical connections. A computer-like beeping signals when the TIF-100 approaches live voltage. Excellent for checking fuse panels (without removing fuses), breaker panels, outlets and switches; determines live and dead wiring; locates breaks in insulated wires and heating elements; and checks for properly grounded power tools and appliances. The TIF-300CC does everything the TIF-100 does plus it checks continuity up to 25,000 Ohms. It also checks capacitors from one microfarad and up. **Common Specifications. Operating Temp.:** 35° to 100°F (0-38°C). **Weight:** 14 oz. (396g). **Overall height including probe tip:** 8⁴/₈".

953-0095. TIF-100 ..... **EACH 39.95**
953-0300. TIF-300CC ..... **EACH 49.95**

TIF-2000A Wattprobe™ Clamp-On Digital Wattmeter

► **Use with Single, Split-phase and Three-phase Power Sources**

► **Reads as Low as .01 KW, as High as 199.9 KW**

► **9-Volt Battery Operated**

New—Feature Packed—This instrument gives you ranges from 0 to 199.9 Kilowatts with an amazing 10-Watt resolution. All purpose indoor, outdoor LCD display. Its unbeatable performance reads out true power, not apparent power, making power factor measurements easy. Special dual range switch for watts and kilowatts. New pointed jaw designed for hard to get places. **Specifications. Frequency:** 50 Hz-115 Hz. **Accuracy:** ± 2% of Reading ± 1 Digit. **Phase Angle Error:** ± 1 Degree. **Operating Temperature:** 32°F to 100°F (0°C to 38°C). **Weight:** Approximately 30 oz. (.4kg). **Dimensions:** 15.5 × 3" (180 × 76mm).

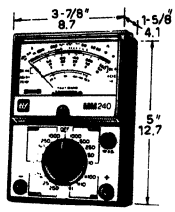
953-2000. TIF-2000A ..... **EACH 499.00**

TIF-770 Digital Photoelectric Tachometer

This feature-packed, easy to use phototach electronically measures RPMs from 0 to 10,000. In shop or field. And without torque loss, too. **Features Include:** no electrical or mechanical connections, foolproof 'electronic eye', bright digital readout with solid state circuitry. Use this compact instrument to obtain readings in close quarters. On any type of moving machinery. Utilizing the fundamental concepts of the electronic 'eye', the photoelectric cell responds to variations of the angle of incidence of the reflected light from the subject being measured. These impulses are then decoded electronically into RPMs. Almost instantaneous, RPM readings are possible, and are displayed digitally on your TIF-770. Although the TIF-770 is simple to use, it is recommended that the material in the instructions be covered thoroughly so that one is fully aware of the use and application of the TIF-770.

953-0770. TIF-770 ..... **EACH 175.00**

TIF-240 Multimeter



Practical features include temperature scale and parallax mirror, plus reinforced plug-jacks and banana-type plugs for low resistance contact. Besides voltage and current measurements, it can be used for checking continuity in circuits, for finding defective componenets before installation, shorted capacitors, open or otherwise defective resistors, etc., shorts or openings in wiring. Two internal glass fuses (one .1A and one 1 Amp). Gold switch contacts. **Specifications. Power Requirements:** Single "AA" battery. **Weight:** Approx. 11 oz. (312 grams). **Operating Temperature:** 10°C to 40°C. **Meter Sensitivity:** 45 Microamps. **Over-Range Capability:** 15% minimum (subject to meter protection limits).

953-0240. TIF-240 ..... **EACH 50.95**

TIF 7000 Digital Pyrometer

Each of the standard probes supplied with the TIF 7000 is individually calibrated. Includes TIF 7002 Surface Probe which provides temperature readings from 40°F to 1995°F. The TIF 7003 Air Probe reads air temperature from −40°F to 1000°F. The TIF 7004 Immersion Probe provides liquid temperature readings from −40°F to 450°F. In addition to these, the TIF 7000 features super-fast settling times to 99%; °F/°C, ON/OFF, and selector switches, auto-zero reading, magnified display reading, open probe/over range/low battery indications, as well as a high impact ABC case and probe handle.

953-7000 ..... **EACH 199.95**

Digital Clamp-On Kilowatt Hour Meter

Model TIF KW220-3AV. Provides read-outs in kilowatts and kilowatt hours. Measures unbalanced 3-phase loads and true power(not apparent power). Features clamp-on capability of reading amps independently and volts independently. Completely auto-ranging. The KW220-3AV is capable of handling a wide range of voltage/current inputs without switching, and will determine the amount of power required by any complex load up to 200KW/10,000KWH; automatically obaining cumulative power consumption over any period of time.

953Q0223 ..... **EACH 1500.00**

TIF200 DMM

► **Large display 0.5" high.**
► **3½ digit for easy readout.**
► **Automatic Polarity.**
► **High overload protection.**
► **Low battery indication.**
► **Overload display.**
► **Built in U.S.A.**

Instantly upgrade to a TIF digital multimeter. TIF designed. Gold contacts. Effortless oil smooth selector switch. All the ranges you will ever need. Modern sculptured case design of ABS for heavy duty use. High speed DC integrated circuits for instant readings. For the price of an ordinary DMM you get this black beauty. Comes with battery in place and one year warranty.

953-0200. TIF200 ..... **EACH 94.95**

TIF 1000DC Digital Clamp-On Connectionless Ammeter

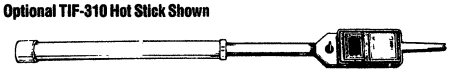
► **High-Contrast LED**
► **Low Battery Indicator**
► **Reads DC Amps 1-999.9**
► **Reads VDC and Ohms .1-99**

Portable, battery operated instrument has an accurate DC amp range of 1-999.9 and a volt and ohms range of .1-99. Additional features include a high contrast LCD readout, visible even in bright sunlight, a low battery indicator, and is able to read high or low currents with digital accuracy. Complete with fixed probe, fused probe (ohms) black, fused probe (volts) red, replacement fuse, 4AA alkaline batteries and carrying case.

953-0110 ..... **EACH 189.00**

High/Low AC Voltage Detector

Optional TIF-310 Hot Stick Shown



The **TIF-TT300HV** is a portable, battery operated, electronic AC voltage detector with a high and low voltage switch. Provides a 'Geiger Counter' ticking signal which increases as AC voltage is approached, thereby eliminating the need for metal-to-metal contact. When switched to 'low', it detects voltage ranges from 25 to 1,500 Volts. When on 'high', it detects voltage from 1,500 to 122,000 Volts. Features include a blinking light for use in a noisy area and is automatically adaptable to a hot stick (optional). The **TIF-310 Hot Stick** gives an extra margin of safety when checking voltage in hard to reach of confined areas. Leather carrying case and batteries included.

953-0301. TIF-TT300HV ..... **EACH 59.95**
953-0310. TIF-310 Hot Stick ..... **EACH 59.95**

TIF 1250 AC Clamp-On

► **5 Ohms Midscale**

► **100% Linear Scale**

► **For Electrical, Air Conditioning, Refrigeration and Automotive Applications**

Includes range selector for dialing up to 10 ranges from 0 to 1250 amps and volts, full scale, plus a low ohm-meter for checking motor windings. No switching is required between amps and volts...both are read on the linear scale. With carrying case, batteries, and probes. **Specifications. Power Requirements:** 6 volts DC (4 AAA alkaline batteries). **Circuit Protection:** one PP1205 fuse in 3 ft. flexible probe. **Amp Range:** 0 to 1250 amps AC. **Volt Range:** 0 to 1250 volts AC. **Ohm Range:** .1 to infinity. **Accuracy:** ± 3% full scale. **Ambient Temperature:** 32° to 105°F (0° to 40°C). **Max. Dia. of Cable:** 1.25"(32mm). **Battery Life:** 1 year. **Weight:** 14 oz. (397g). **Dimensions:** 8 × 3 × 1.5" (20.32 × 7.62 × 3.81cm).

953-1250. TIF-1250 ..... **EACH 99.50**

TIF-1000LCD Volt-Ohm Ammeter

► **Accurately Measures and Locks In Peak Surge Current**

► **Measure as Low as 1/10 of an Amp, Volt or Ohm**

► **No Switching Required Between Amps, Volts**

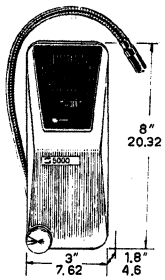
► **Automatic Ranging in All Modes**

An advanced compact LCD, volt, ohm, ammeter clamp-on with sophisticated internal design. Long battery life. Captures millisecond power surges and has a built-in low ohmmeter, auto zero and auto ranging. The meter display is a new LCD made for maximum contrast. **Ranges:** 0-1000 Amps, volts, 0-800 Ohms. Interchangeable jaw for large cables. Includes low battery indicator. **Specifications. Power Requirements:** 4 'AAA' batteries. **Circuit Protection:** One TIF-1205 fuse in 3-ft. flexible probe. **Amp Range:** 0.1 to 1000 Amps AC with automatic ranging. **Frequency Ranges:** 50-60 Hz. **Weight:** Approx. 13 oz. (370gr). **Case:** high impact ABS plastic.

953-0999. TIF-1000LCD ..... **EACH 189.00**

16

TIF-5000 Automatic Halogen Leak Detector

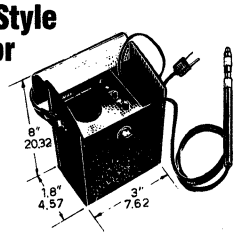


- No Calibration Required
- Auto-Set Control: Re-Sets to Any Ambient Level
- Cordless: Operates on Two C—Cell Batteries (3 Volts)
- Sensor Not Poisoned by Large Doses of Refrigerant
- Instant-On - No Warm Up
- Constant Power Indication
- No Dangerous or Poisonous Gases Are Generated
- Long, Flexible Stainless Probe for Hard-to-Reach Areas

Fully automatic self-correcting (patented). All you do is turn it on and pin-point your leak. Even in contaminated areas. The computer-like beeping signal increases in speed as the leak source is approached. So sensitive to halogen, it detects leaks as small as 1/2 ounce per year. It automatically adjusts itself when being used. Two C-cell batteries provide cordless operation for over 300 service calls. The TIF-5000 Automatic Leak Detector may be used on air conditioning and refrigeration systems; Ethylene Oxide gas leaks in hospital sterilizing equipment (detects freon mixture). Detects SF-6 in high voltage circuit breakers. Detects SF-6 in high voltage circuit breakers. Detects most gases containing Chlorine, Fluorine & Bromine, e.g., halogen gases. Also detects cleaning agents used in the dry cleaning industry. **Probe length:** 12.5" (31.75cm). **Weight:** 28 ozs. (.79kg) with batteries.

953-5000. TIF-5000 ..... **EACH 129.95**

TIF-6000 Pump Style Halogen Detector

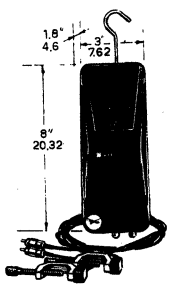


- High Efficiency Pump
- Plugs Into Standard 115VAC Outlet
- Instant On - No Warm Up
- Constant Power Indication
- No Dangerous or Poisonous Gases Generated
- Made in U.S.A.

Equipped with a high efficiency pump and an instant re-set button, the TIF-6000 responds instantly with audible/visual indication for rapid fire-searching, detecting leaks as minute as 1/2-ounce per year. Performs even in areas of high air turbulence. Finds leaks in contaminated atmospheres. **Super-sensitive:** responds to minute traces of halogen gas. **Auto-set control:** resets to any ambient level. Sensor is not poisoned by large doses of refrigerant. Blinking light at probe tip gives visual indication of leak source. Its computerized circuitry make this instrument extremely easy to use, and even the most inexperienced person will be able to operate the TIF-6000. Competitively priced, this instrument comes with extra sensing tip, tip protector, filter cloths and a carrying case. A tremendous service advantage in the air conditioning/refrigeration industry. **Wt.:** 35 oz. (980g).

953-6000. TIF-6000 ..... **EACH 249.00**

TIF-4000 Electronic Sight Glass

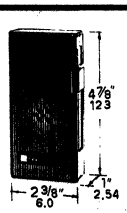


- Optimizes Refrigerant Charge
- Detects Flash Gas and Bubbles in Liquid Line
- Detects Droplets in Suction Line
- Detects Starved Evaporators
- Checks for Refrigerant Floodback
- Maximizes Evaporator Capacity
- Useful for Multiple Evaporator Balancing
- Aids in Adjusting Thermostatic Expansion Valves

The TIF-4000 emits an audible signal indicating that the refrigeration system being charged is full. Through the principles of SONAR, the 4000 actually "looks" inside refrigeration tubing and in effect, can be considered an "electronic" sight glass. An absolute requirement for capillary systems which have no sight glass whatsoever, the 4000 also is necessary when charging household and commercial refrigerators/freezers; packaged systems such as window and room air-conditioning units and many late model automobiles with factory air. Ideal for expansion valve systems. **Transducer cord length:** 42". Transducer clamps fit tubing 1/8" to 1 1/4" in diameter. **Wt.:** 14 ozs. (392g) with batteries.

953-4000. TIF-4000 ..... **EACH 189.95**

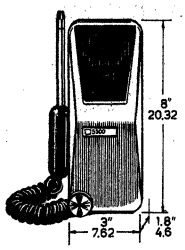
TIF-660 Audible Capacitor Testor



The TIF-660 is pocket-sized and designed to quickly check all types of capacitors and diodes. It also checks continuity in fuses, transformers, motors and circuits. Comes with built-in leads, 9-Volt battery and carrying case. Includes one-year 'no bull' warranty. **Wt.:** 6 1/2 oz.

953-0660. TIF-660 ..... **EACH 30.55**

TIF-5500 Micropump™ Automatic Halogen Leak Detector

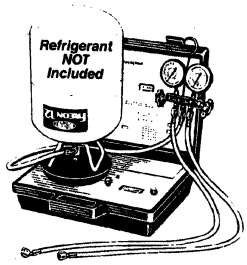


- High Efficiency Micropump
- No Calibration Required
- Finds Leaks in Contaminated Atmospheres
- Auto-set Control: Re-sets To Any Ambient Level
- Sensor Not Poisoned by Large Doses of Refrigerant
- Instant On - No Warm Up
- Constant power Indication
- No Dangerous or Poisonous Gases Are Generated
- Stainless Probe, 54" (137cm) Cord
- Made in U.S.A.

The TIF-5500 has a permanently sealed miniature battery-operated pump and produces a computer-like beeping signal in both speed and frequency as the leak source (halogen or vapor) is approached, detecting leaks as minute as 1/2 ounce per year. An additional feature is that this instrument is capable of calibrating itself automatically 'while in use'. Competitively priced, this instrument comes complete with Micropump™, two 'C' cell batteries (allowing cordless operation for over 300 service calls), Extra Sensing Tip, Tip Boot and a Carrying Case. Wt. 35 oz. (980g), with batteries.

953-5500. TIF-5500 ..... **EACH 179.00**

TIF-9000A Automatic Programmable Charging Meter



Units do not include gauges.

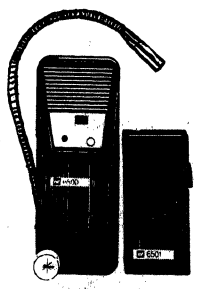
- Speeds and simplifies charging.
- Measures charge dispensed into the system, and shuts off automatically.
- Designed for hand use in field service.
- Very sensitive, reads to 1/2 oz.
- Can operate in a fully automatic, semi-automatic or manual mode.
- No warm-up required.
- Made in U.S.A.

The TIF9000A Automatic Charging Meter is a new tool for automatically dispensing a preset amount of refrigerant into a system, in fractions of an ounce, from standard cylinder up to 60-lbs. The Automatic Charging meter will operate in a 'set and forget' mode, allowing the user to set the factory designated refrigerated amount, on the easy to read Liquid Crystal Display (LCD), start the dispensing at the push of a button, and have the TIF9000A do the rest. The refrigerant charge is monitored by a microcomputer, and automatically turned off when the preset is reached. No more wasted time refilling a charging cylinder; no more correcting for temperature or type of refrigerant; and no more 'amateur' 1-lb cans. The operation is simple and foolproof. **Specifications.** 5 digit Liquid Crystal Display. Reads pounds & ounces, from 1/2-oz. to 60-lbs. **Weight:** 12 lbs; 5.5-kg. **Dimensions:** 16" × 13" × 5" (40.6cm × 33.0cm × 12.7cm). **Batteries:** 6 "C" cells. **AC Power:** 120 volts 60 Hz 11 watts (required for fully automatic mode only). **Platform:** Fits standard 50-lb. cyclinder. **Includes:** 6 "C" cell batteries. One 36" connection hose.

953-9001 ..... **EACH 329.95**

*Also available is the TIF9000 Electronic Charging Meter non-automatic version. Units do not include gauges.

TIF-6500 Vacuum Leak Detection



- No knobs to adjust.
- Audible indication: beep rate increases as leak is approached.
- Extremely sensitive - will detect a strong leak from 4 feet away.
- Push button (automatic) adjustment for homing in on a leak.
- Cordless, uses one 9 V battery.
- Automatic gain control.
- Resets to maximum gain in one second.

The TIF6500 is the most technologically advanced approach to vacuum leak detection on the market today. Vacuum leaks that cause computerized cars' bizarre behavior often seem impossible to sort out, are easily spotted no matter how small with the TIF6500 ultrasonic tester.

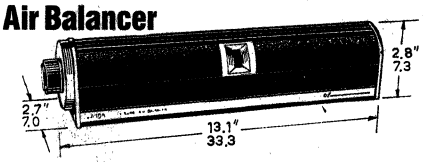
953-6500 ..... **EACH 249.95**

TIF6501 Accessory Transmitter

The TIF6501 Accessory Transmitter is an adjustment free ultrasonic transmitter for use with the TIF6500 ultrasonic leak detector. Finds cracks and gaps in solid barriers. Tough to trace wind and water leaks in unit body cars are easily spotted.

953-6501 ..... **EACH 85.95**

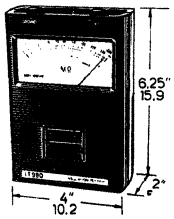
TIF-VA105 Volume-Aire Air Balancer



Permits measuring CFM directly and makes systems balancing easy. Can be used on all grilles, registers and diffusers. The Volume-aire gives actual indications of conditions when pressure is exterted on the vane. When the base of the Volume-aire is placed against the face of the system outlet, it will average the velocity jets to which it is exposed. Measures an area of 50 to 500 sq. in. (300-400 sq. cm.); velocity - 70 to 3000 FPM (40-1400cm/s); volume - 70 to 300 CFM (40-1400 l./s. **Wt.:** 28 oz. (793g).

953-0105. TIF-VA105 ..... **EACH 149.95**

TIF-IT990 Megohmmeter-Insulation Tester

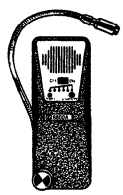


- Measures Leakage Up to 1,000 Megohms
- Measures Up to 500VAC
- Uses 8 "AA" Cell Batteries
- Guard Circuit to Eliminate Surface Leakage
- Built-in Battery Check
- Easy-to-read Scale
- Waterproof, Dustproof Switch
- High Impact ABS Plastic Case

Here's a valuable instrument for all maintenance-minded people. Use it for non-destructive testing of electrical insulation and resistance. Take measurements on transformers, motors, cables, switches, electrical wiring relays and appliances. Measure from 1 to 1000 meg-ohms at 500 Volts. Comes with carrying case, leads and batteries, plus simple instruction manual covering many applications. **Specifications: Battery Life:** Approximately 50 hours, normal usage; **Measuring Terminal Voltage:** Over 90% of rated voltage at center scale; **Accuracy:** 5% of indicated value; **Dimensions:** 6.25 × 4 × 2"; **Weight:** 2 lbs. (907.2 grams). Comes with complete one-year warranty.

953-0990. TIF-IT990 ..... **EACH 198.75**

TIF-8800A Combustible Gas Detector



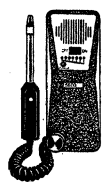
- Audible "Geiger Counter" Signal
- Automatic Warm-up
- Adjustable Sensitivity
- Cordless Operation
- Low Battery Indicator
- Long, Flexible Probe
- Made in U.S.A.
- Visual LED Readout

Portable, battery-operated, solid-state electronic combustible gas detector. Provides a 'geiger counter' ticking signal which increases in frequency as the source of combustible gas or vapor is approached. Excellent for pinpointing combustible gas leaks as minute as 50-1000 PPM. Carrying case, rechargeable batteries and recharger adapter included. **Specifications: Power Supply:** 2 (2.4V) Ni-Cad rechargeable batteries. Battery life 4 hours; **Sensitivity:** 50-1500 PPM; **Response Time:** Instantaneous. **Detects:** Hydrocarbons, halogenated hydrocarbons, alcohols, ethers, ketones, and other gases and chemicals. **Weight:** 15.5 ounces (439 grams); **Operating Temperature Range:** 33° to 100°F (0°C to 38°C). **Probe length:** 12.5"(31.75cm).

953-8801. TIF-8800A ..... **EACH 289.95**

953-8800. TIF-8800. As above without LED readout. ..... **EACH 199.95**

TIF-5600 Halogen Leak Detector



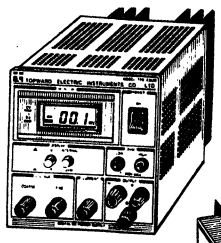
- Visual Leak Size Indicators.
- Reset Switch
- High Efficiency Pump
- Super Sensitive; Responds to Minute Traces of the Gas
- Cordless
- Sensor not Poisoned by Large Doses of Refrigerant
- Rugged Probe with Flexible Cord for Hard to Reach Areas
- Made in U.S.A.

The TIF-5600 is equipped with leak size indicators and a reset switch. The visual leak size indicators consisting of 7 high brightness LEDs begin to light up as you approach the leak. The more LEDs on, the larger the leak. The audible leak indicator has a computer-like beeping sound, which increases in speed as the leak is approached. The reset switch makes leak detection very precious and efficient. Used in air conditioning and refrigeration systems; ethylene oxide gas leaks in hospital sterilizing equipment, SF-6 in high voltage circuit breakers. Detects most gases containing chlorine, florine, and bromine. Also detects cleaning agents used in dry cleaning. **Specifications. Probe length:** 36". **Warmup:** Instantaneous. **Sensitivity:** Automatically set at turn-on. **Power:** 2 C-cells. **Battery Life:** Approx. 50 hours, normal usage. **Wt.:** 35 oz. **Dim.:** 8" × 3" × 1.8".

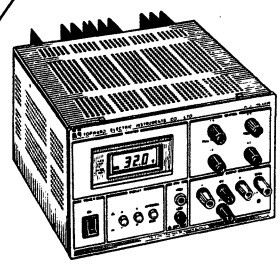
953-5600. TIF-5600 ..... **EACH 199.95**

Digital DC Power Supplies

- **Fully Variable Voltage and Current Controls**
- **Constant Voltage (CU) and Constant Current (CC) Modes**
- **3½ Auto-Range Digital Monitor for V or Fix-Range for A of Either Main Output**
- **Triple Output with ± Tracking and 5V/3A**
- **Use as a DVM w/DC ± 199.9 mV, ± 19.99 V, ± 199.9 V 4 Auto-Ranges**
- **3½ Auto-Range Digital Monitor for V or Fix-Range for A**
- **Use as a External DVM w/DC ± 199.9 mV, ± 19.99 V, ± 199.9 V 4 Auto-Ranges**
- **CV and CC Indication**



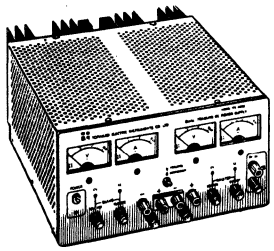
TPS-2000D

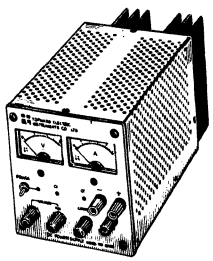


TPS-4000D SERIES

Common Specifications. Ripple and Noise: CV 0.5 mV rms or 4 mV p-p; CC 0.5 mA rms or 4 mA p-p. **Line Regulation:** CV 0.02% +2 mV; CC 0.02% +250 μA. **Load Regulation:** CV 0.02% +2 mV; CC 0.02% +500 μA. **Output Impedance:** 5 mΩ +2 μH. **Programming Speed (0.5%-9.5%):** UP NL 400 mS FL 600 mS; Down NL 2.5S FL200 mS. **Power:** 115 V/ 230 V ± 10%, 50/60 Hz. **TPS-2000 Series Specifications. Dimensions:** 4.92 × 5.51 × 11.81″ (125 × 140 × 300 mm). **Weight:** 9.04 lbs. (4.1 kg). **Accessory:** ACS-002x1 banana clip. **TPS-4000 Series Specifications. Tracking Error:** ± (0.2% +5 mV). **5V/3A Output. Voltage:** 5 V ± 5% (fixed). **Current:** 3 A (max.). **Ripple and Noise:** 2 mV rms. **Regulation:** 0.1% +5 mV. **Dimensions:** 9.84 × 5.51 × 14.29″ (250 × 140 × 363 mm). **Weight:** 19.62 lbs. (8.9 kg) **Accessory:** ACS-002x2 banana clip.

668-2304. Model TPS-2302D. ± 0-30V/-02A ..... **EACH 270.00**
668-2305. Model TPS-2303D. ± 0-30V/0-3A ..... **EACH 295.00**
668-4301. Model TPS-4302D. 30V/2A, X2 5V/3A..... **EACH 450.00**
668-4304. Model TPS-4303D. 30V/3A, X2 5V/3A..... **EACH 525.00**





Regulated DC Power Supplies

Common Specifications. Ripple and Noise: CV 0.5 mV rms or 4 mV p-p; CC 0.5 mA rms or 4 mA p-p. **Line Regulation:** CV 0.02% +2 mV; CC 0.02% +250 μA. **Load Regulation:** CV 0.02% +2 mV; CC 0.02% +500 μA. **Output Impedance:** 5 mΩ +2 μH. **Programming Speed (0.5%-9.5%):** UP NL 400 mS FL 600 mS; Down NL 2.5S FL200 mS. **Power:** 115 V/ 230 V ± 10%, 50/60 Hz. **TPS-2000 Series Specifications. Dimensions:** 4.92 × 5.51 × 11.81″ (125 × 140 × 300 mm). **Weight:** 9.04 lbs. (4.1 kg). **Accessory:** ACS-002x1 banana clip. **TPS-4000 Series Specifications. Tracking Error:** ± (0.2% +5 mV). **5V/3A Output. Voltage:** 5 V ± 5% (fixed). **Current:** 3 A (max.). **Ripple and Noise:** 2 mV rms. **Regulation:** 0.1% +5 mV. **Dimensions:** 9.84 × 5.51 × 14.29″ (250 × 140 × 363 mm). **Weight:** 19.62 lbs. (8.9 kg) **Accessory:** ACS-002x2 banana clip.

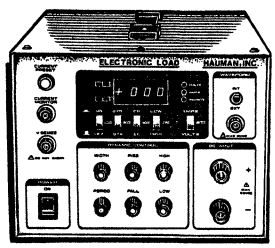
Stock No.	Mfr.'s Type	Voltage/ Current	EACH
668-2306	2306*	30V/6A	**385.00**
668-2603	2603*	60V/3A	**390.00**
668-4302	4302	I 30V/2A, 5V/3A	**395.00**
668-4303	4303	I 30V/3A, 5V/3A	**470.00**
668-4306	4306*	I 30V/6A	**695.00**
668-2203	2203	20V/3A	**230.00**
668-2302	2302	30V/2A	**230.00**
668-2303	2303	30V/3A	**250.00**
668-2601	2601	60V/1A	**235.00**

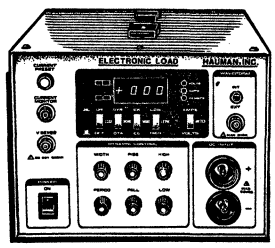
*Slightly different specifications and case sizes.

Multi-Function Electronic Loads

Features

- **Static and dynamic loading operation**
- **Constant resistance (CR) and constant current (CC) modes**
- **Presettable dynamic current waveform with independent control of rise and fall time, pulse width and period high and low current levels.**
- **3½ digit LED voltage and current display**
- **0-5 V proportional current waveform monitor**
- **Optional digital I/O control interface**
- **External, arbitrary waveform input (2 A/μS slew rate maximum, DC-20 KHz)**
- **Remote voltage sensing capability**
- **Protections against over-power, over-current, over-voltage over-temperature, and reverse polarity**
- **Multiple units paralellable to increase power/current capacity**
- **Advanced power MOSFET design**
- **Bench use**





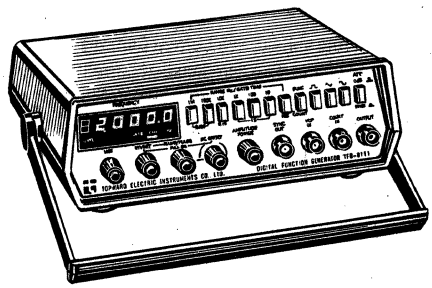
The series consists of four models **EL-100, EL-150, EL-200, EL-250** with maximum current ratings of 20 A, 30 A, 40 A, 50 A, respectively. Operating input voltage range is 3-60 VDC for all models. Voltage and current values are displayed on a 3½ digit, autoranging panel meter. LED indicators show complete state of the instrument. Front panel controls allow the user to preset input static current, or dynamic current with fully independent adjustments of period and width, rise and fall time, high and low current levels. Operating mode can be in Constant Current or Constant Resistance. The instrument is fully protected against over-power, -voltage, -current, -temperature, and reverse voltage. Current monitor connector provides the user with a mean of displaying the current waveform response on an oscilloscope. Multiple loads can be paralleled for increased power requirement.

External analog control is possible with a 0.5 VDC arbitrary waveform input of 0-20 KHz and maximum slew rate of 2 A/μS. Digital I/O option allows full control of mode settings, current setting, load on/off, fault reporting.

Stock No.	Mfr.'s Type	Voltage/ Current	EACH
668-6100	EL-100	3-60 V/0-20 A	**895.00**
668-6150	EL-150	3-60 V/0-30 A	**960.00**
668-6200	EL-200	3-60 V/0-40 A	**1030.00**
668-6250	EL-250	3-60 V/0-50 A	**1095.00**

Digital Function Generator/Frequency Counter

► **Combination Function Generator/Frequency Counter**
► **Counter 10 Hz-100 MHz, 6-Digit Display**
► **Generator 0.1 Hz-2 MHz Sine, Square, Triangle, Pulse, Ramp**

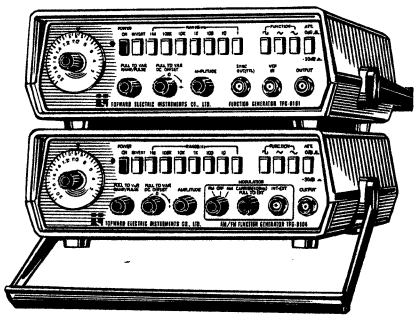


Common Specifications. Generator. Frequency Error: Counter accuracy. **Impedance:** 50 Ω ± 10%. **Output:** 5 mV p-p to 20 V p-p (open). **Attenuator:** 0 dB, – 30 dB. **DC Offset:** + 10 V to – 10 V, with Cal. SW. **Duty Cycle:** 20% to 80%, with Cal. **Counter. Range:** 10 Hz to 100 MHz. **Gate Time:** 0.01S, 0.1 S, 1 S, 10 S. **Accuracy:** ± (1 count + time base accuracy). **Sensitivity:** 25 mV rms (10 MHz), 50 mV rms (100 MHz). **Attenuator:** 0 dB, – 30 dB. **Maximum Voltage:** 150 V rms (DC + peak AC). **Impedance:** 1 MΩ/100 pF. **Time Base:** 10 MHz, ± 10 ppm (0° to 40°C). **Dimensions:** 8.78 × 3.15 × 12.99″ (223 × 80 × 330 mm). **Accessory:** ACS-003 × 1, BNC clip. **TFG-8112 Specifications. Generator. Waveforms:** Sine, square, triangle, pulse, ramp. **Frequency:** 0.1 Hz to 2 MHz, 7 manual ranges. **Display:** 6-digits with Hz, kHz, Gate, OVFL. **Distortion:** < 1%, 1 Hz to 100 kHz. **Rise/Fall Time:** < 100 nS. **Sync. Out:** 3 V p-p (open), Tr < 25 nS, 20 TTL load. **VCF:** 0 to 5 V control frequency to 1000:1 (linear). **Power Requirements:** 115 V/230 V ± 10%, 50/60 Hz, 12 VA. **Weight:** 3.53 lbs. (1.6 kg).

668-8111. Model TFG-8112 ..... **EACH 350.00**

TFG-8102
2 MHz

TFG-8105
AM/FM



Series TFG-8100 Function Generators

Model TFG-8102 Function Generator, and **Model TFG-8105** AM/FM Function Generator. Designed for accuracy and dependability. **Specifications (For both models). Waveform:** Sine, square, triangle, pulse, ramp (AM and FM Model TFC-8105 only). **Frequency:** 0.1 Hz to 2 MHz, 7 ranges. **Frequency Error:** ± 5% of Full Scale. **Impedance:** 50 Ω. **Output:** 5 mV p-p (min.) to 20 V p-p (max) continuously variable. **Attenuator:** 0 dB, – 30 dB. **DC Level:** + 10 V to – 10 V (open), continuously variable with zero offset SW. **Duty Cycle:** 20-80% continuously variable with 50-50 calibrated SW. **Distortion:** < 1%. **Rise Time:** < 100 nS. **Pulse:** > 3 V p-p (open), TR < 25 nS for 20 TTL load. **VCF:** 0-5 V control frequency to 1000:1. **Power Requirements:** 115/230 V ± 10%, 50/60 Hz, 9.6 VA approximately. **Accessory:** ACS-003 × 1 BNC-clip cable. **Dimensions:** 9.17 × 3.15 × 11.81″ (233 × 80 × 300 mm). **Weight:** 3.53 lbs, (1.6 kg). **Additional Specifications for Model TFG-8105 Only. Amplitude Modulation. Depth:** 0-100%. **Modulation Frequency:** 400 Hz (internal), DC-1 MHz (external). **Carrier Bandwidth:** 100 Hz to 1 MHz (– 3 dB). **External Sensitivity:** < 5 V p-p for 100% modulation. **Frequency Modulation. Deviation:** 0 ± 10%. **Modulation Frequency:** 400 Hz (internal), DC-20 KHz (external). **External Sensitivity:** < 5 V p-p for 100% modulation.

668-8101. Model TFG-8102 ..... **EACH 220.00**
668-8104. Model TFG-8105 ..... **EACH 280.00**

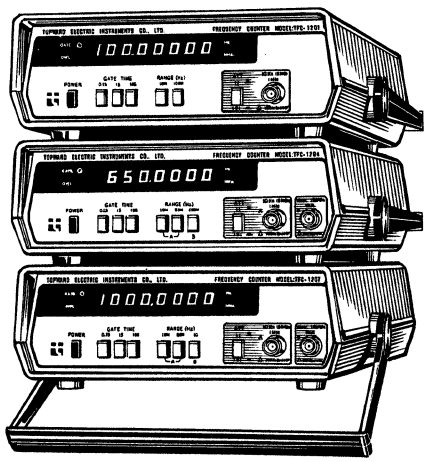
Series TFC-1200 Frequency Counters

► **25 mV Sensitivity**
► **8-Digit LED Display**

TFC-1201
100 MHz

TFC-1204
650 MHz

TFC-1207
1000 MHz



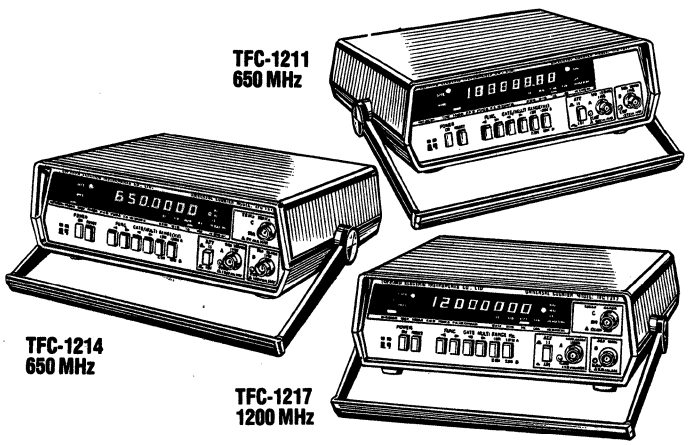
Model TFC-1201. Frequency Range (Direct): 10 Hz to 100 MHz. **Input Sensitivity (1 MΩ).** 25 mV rms (100 MHz). **Model TFC-1204. Frequency Range (Pre-Scaler):** 50 MHz to 650 MHz. **Input Sensitivity (50Ω):** 20 mV rms. **Model TFC-1207. Frequency Range (Pre-Scaler):** 50 MHz to 1000 MHz. **Input Sensitivity (50Ω):** 25 mV rms. **Common Specifications.** Specifications in parentheses for Models TFC-1204 and TFC-1207 only. **Gate Time:** Direct—0.1 S, 1 S, 10 S (Pre-Scaler—.128 S, 1.28 S, 12.8 S). **Resolution:** Direct—10 Hz, 1 Hz, 0.1 Hz (Pre-Scaler—1 kHz, 100 Hz, 10 Hz). **Frequency Accuracy:** ± 1 count ± 1 time-base accuracy. **Input Sensitivity:** 25 mV rms (@ 80 MHz, Model TFC-1201). **Attenuator (Direct Only):** 1, 1/10. **Time Base:** Direct—10 MHz (Pre-Scaler—7.8125 MHz). **Accuracy:** ± 10 ppm. **Other Specifications. Power:** 115 V/230 V ± 10%, 50/60 Hz, 7 VA, approx. **Accessory:** ACS-003 × 1 BNC-CLIP cable. **Dimensions:** 9.17 × 3.15 × 11.81″ (233 × 80 × 300 mm). **Weight:** 3.09 lbs. (1.4 kg).

668-1201. Model TFC-1201 ..... **EACH 220.00**
668-1204. Model TFC-1204 ..... **EACH 325.00**
668-1207. Model TFC-1207 ..... **EACH 400.00**

TFC-1211
650 MHz

TFC-1214
650 MHz

TFC-1217
1200 MHz



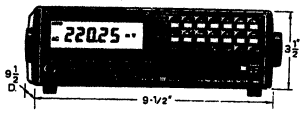
Universal Counters

► **25 mV Sensitivity**
► **8 Digit LED Display**
► **Frequency, Period, Interval, Ratio, Totalize Modes**

3 models available—**TFC-1211, TFC-1214, TFC-1217.** All units feature CH-A and CH-B; Models TFC-1214 and TFC-1217 also have CH-C. **Specifications. Frequency Range:** 5 Hz to 100 MHz to 650 MHz to 1200 MHz. **Accuracy:** ± (1 count + time base accuracy). **Period Measurement (CH-A). Range:** 0.04 μS-0.2 S. **Multiple:** × 1, × 10, × 100, × 1 K. **Resolution:** 0.01 nS-01 μS. **Accuracy:** ± (1 count + time base accuracy + trigger error). **Interval Measurement (CH-A Start, CH-B Stop). Range:** 0.4 μS-0.2 S. **Resolution:** 0.1 nS-0.1 μS. **Accuracy:** ± 1 count + time base + trigger error. **Ratio Measurement. Ratio Range:** 10E-3 to 10E8. **Frequency Range:** Ch-A 5 Hz-100 MHz; CH-B 5 Hz-25 MHz. **Accuracy:** ± 1 count + time base + trigger error. **Totalize Measurement (CH-A). Range:** 99999999 max. **Frequency:** 5 Hz-10 MHz. **Input. Sensitivity:** CH-A—25 mV rms (80 MHz), 35 mV rms (100 MHz); CH-B—25 mV rms; CH-C—20 mV rms (TFC-1214), 25 mV rms (1000 MHz) and 40 mV rms (1200 MHz) (TFC-1217). **Impedance:** (CH-A, CH-B) 1 MΩ/100 pF; (CH-C) 50 Ω. **Attenuator (CH-A):** 1, 1/10. **Power:** 115 V/230 V ± 10%, 50/60 Hz, 15 VA. **Accessory:** ACS-003 × 2 BNC-clip. **Dimensions:** 9.17 × 3.15 × 11.81″ (233 × 80 × 300 mm). **Weight:** 4.41 lbs (2 kg).

668-1211. Model TFC-1211 ..... **EACH 310.00**
668-1214. Model TFC-1214 ..... **EACH 415.00**
668-1217. Model TFC-1217 ..... **EACH 520.00**

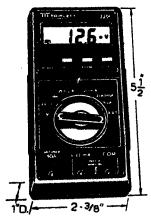
Model 4800 Digital Multimeters



Model 4800. Multi-function 4.5 digit bench tester featuring a custom LSI chip with 25,000 count, basic DCV accuracy ±0.04%. 17 functions including 5 DC/AC voltage ranges (DC to 1000 V, AC to 750 V), 2 DC/AC current ranges (to 10A), 6 resistance ranges (to 25mΩ), true RMS on AC voltage and current ranges, audible continuity, diode test (2500mV, .1%), dBm (−50 to 60), relative set, data hold, peak hold, dual frequency input (to 10 MHz), period indication (9μS to 100mS), comparator circuit (for GO, HI, LO testing with outputs), auto or manual ranging with full annunciators, and temperature (−50° to +1200°C), or manual ranging with full annunciators, and temperature (−50° to +1200°C). **Dimensions:** 9.5 × 3.5 × 9.5″ (24.13 × 8.89 × 24.13cm). **Weight:** 3 lbs (1.36kg) approximate. Comes with input cable, shielded frequency cable, and alligator clips. 3-year warranty, 1-year on calibration.

956-4800. Model 4800 ..... **EACH 600.00**

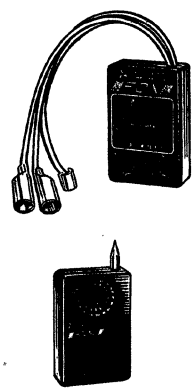
Model 3360 Digital Multimeter



Model 3360. 3.5 digit compact DMMs featuring auto ranging, auto polarity, diode test, continuity, overload protection, and single rotary function switch—7 functions and 23 ranges. **Specifications. DC Volts:** 0-200mV (±0.3%), 0-2-20 V (±0.5%), 0-200-1000 V (±0.7%). **AC Volts:** 0-20 V (±1.0%), 0-200-750 V (±1.2%). **Input Impedance:** >10MΩ. **DC Current:** 0-200μ A-10A (±1%). **AC Current:** 0-200μA-10A (±1.3%). **Resistance:** 0-200-2K-20K-200KΩ (±8%), 0-2MΩ (±1.0%), 0-20MΩ (±2%). **Audible Continuity Check:** 200Ω, 20Ω ± 10Ω trip point. **Diode Test:** 2 V, ±5% rdg. **Open Circuit Voltage:** To 1.5 V. **Dimensions:** 2⅔ × 5½ × 1″. **Weight:** 0.50 lbs. (226.8g) approximately. Features data and range hold plus 2 additional DC/AC current ranges (DC: 0-200μA-20mA, ±1%. AC: 0-200μA-20mA, ±1.3%). Comes with tilt safety leads and jacks, 3 terminal input jacks, and 21.5 V AA batteries, 3-year warranty, 1-year on calibration.

956-3360. Model 3360 ..... **EACH 91.00**

Fox and Hound



The Fox is a light weight, compact, battery powered instrument designed to perform a variety of tests on telephone lines. Alligator clips and a modular plug all allow the Fox to be quickly connected to stripped wires, a terminal panel, or a standard modular jack (single line). Two selector switches set the functions of the Fox while an LED acts as a visual indicator. The Hound is a portable, handheld, inductive tracer that will aid in identification of wires without piercing their insulation. The Hound has a self-contained amplifier and a rugged, moisture resistant, mylar cone speaker. When used in conjunction with the Fox, wire tracing is quick and efficient. **Fox Specifications. Tone Output Level:** Approximately +3 dBm, 600 ohms. **Battery:** 9-volt alkaline NEDA 1604A. **Size:** 1″ × 2½″ × 3½″. **Wt.:** 5 oz. without battery. **Hound Specifications. Battery:** 9-volt alkaline NEDA 1604A. **Size:** 1″ × 2½″ × 3½″. **Wt.:** 5 oz. without battery.

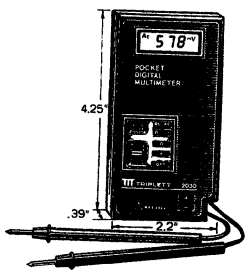
956-3380. Fox (3380) ..... **EACH 27.00**

956-3390. Hound (3390) ..... **EACH 47.00**

956-3385. Fox/Hound Combo (3385) ..... **EACH 69.00**

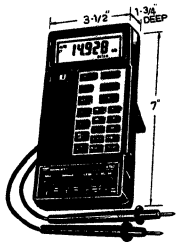
Model 2030 Pocket DMM

Triplett's smallest tester yet—pocket calculator size. Features 3.5 digit LCD display, 4 functions, auto-ranging, 14 ranges (to 400 VDC or AC), 5 resistance ranges, plus continuity check. High accuracy—±2.0% DC, ±3.0% AC. **Dimensions:** 2.20 × 4.25 × 0.39″ (5.59 × 10.80 × 0.99cm). **Weight:** 0.176 lbs. (80g). Comes with carrying case, test leads, and batteries.



956-2030. Model 2030 ..... **EACH 33.00**

Model 4750 Digital Multimeter

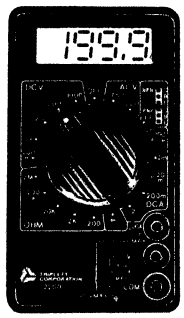


Model 4750. Precision 4.5 digit tester featuring a custom LSI chip with 25,000 basic count, basic VDC accuracy 0.04%. 14 functions including 5 DC/AC voltage ranges (DC to 1000 V, AC to 750 V), 2 DC/AC current ranges (to 10A), 6 resistance ranges (to 25MΩ), dBm (−50 to +60), frequency (10-100 Hz), diode test (2500mV), continuity, temperature (−50° to +1200°C), relative, data, and peak hold. Push-button operation. **Dimensions:** 7 × 3.5 × 1.75° (17.78 × 8.89 × 4.45cm). **Weight:** 1 lb. (.454kg) approximate. Comes with safety test leads, 9 V battery, and spare fuse. 3-year warranty, 1-year on calibration.

956-4750. Model 4750 ..... **EACH 399.00**

Model 2200

- **3½ digit high contrast display**
- **Rugged case design**
- **Overload protected to 450 volts on all resistance ranges**
- **Auto zero adjust, auto polarity, auto neg. (−) indication**



Specifications. 3½ digit LCD high contrast display. **Measurment Rate:** 2.5 per second nominal. **DC Volt Range:** 200mV, 2V, 20V, 200V, 1000V. **AC Volt Range:** 200V, 750V. **DC Current:** 200μA, 2mA, 20mA, 200mA, 2A. **Resistance:** 200, 2K, 20K, 200K, 2M (Use ohm symbol). **Diode Test:** Approximate forward voltage, short/open, and good/bad test. **Power:** Single 9V battery (NEDA 1604) 300 Hours Typ. with alkaline; 150 hours Typ. with carbon zinc. **Dim.:** (L)126mm × (W)70mm × (H)24mm. **Wt.:** 125g without battery. **Supplied Accessories:** test leads (pair), spare fuse (2A), instruction manual, battery.

956-2200. Model 2200 ..... **EACH 45.00**

Model 44

Specifications. 3½ digit LCD display, auto negative (−) display. **AC Current Range:** 20A, 200A, 1000A. **AC Volt Range:** 200V, 750V. **DC Volt Range:** 200V, 1000V. **Resistance Range:** 200, 2K ohms. **Continuity:** Built-in buzzer sounds when resistance is less than 100 ohms. **Diode Test:** Approximate forward voltage, short/open and good/bad test. **Peak Hold:** DCV, ACV, ACA. **Data Hold:** Holds display reading for all functions on all ranges.

956-0044. Model 44 ..... **EACH 99.00**

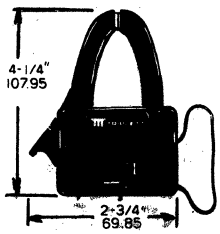
Model 3525-B DIGI-Probe

Pocket-sized trouble shooter with autoranging, annunciators, and audible tone for continuity. Features 4 functions, 16 ranges—5 DC voltages, 4 AC voltages, 6 resistance, continuity, and data hold. **Specifications. VDC Range:** 200m V (±0.5% rdg +2 lsd accuracy), 2, 20, 200, and 500 V with ±1.7% rdg +2 lsd accuracy. **VAC Range:** 2, 20, 200, and 500 V with ±1% rdg + 10MΩ accuracy. **Resistance:** 200, 2K, 20K, 200K, 2M, and 20MΩ. **Annunciators:** B (low battery), mV, V, K, M, AC, and "—". **Operating Temperature:** 0° to 40°C, 80% R.H. noncondensing. **Battery:** 21.5 V button type NEDA 1107 silver oxide (100 hours typ. life), or 1166A alkaline (50 hours typ. life). **Dimensions:** 1⅛ × ¾ × 6⅜″ (30 × 20 × 162mm). **Weight:** 4 oz. (65g). Unit comes with soft carrying case, common test lead, long pin tip, batteries, and instruction manual. 1-year warranty.

956-3525. Model 3525-B ..... **EACH 55.00**

16

Model 10 Ammeter Adapter

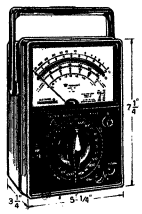


Plugs into Model 310 or 310-FET to make a clamp-on AC ammeter. Can be used with any VOM with a 3 VAC scale at 5000 ohms/volt. Checks all line loads without breaking circuit. **Six AC Ranges:** 0-6-12-30-60-120-300 amps. Clips around single wire for direct reading. **Size:** $2^3/_4 \times 1^1/_4 \times 4^1/_4$" (6.83 × 2.86 × 11.11 cm). **Shipping Weight:** 1 lb.

956-5011 ..... **EACH 53.50**
Model 10-C. As above, but for Model 310C VOM.
956-5010 ..... **EACH 53.50**

Model 60 Multi-Tester

► **Approved by Mine Safety and Health Administration**



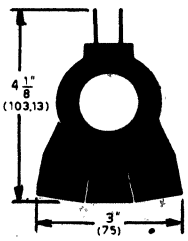
Extra rugged; will withstand an accidental drop up to a five foot height. Overload protected; all ranges protected by diode and three fuse arrangement, including 1/8 amp, 1 amp and 2 amp/1000 V fuses. Completely insulated unit with designed safety leads. **Ranges. DC Volts:** 0-0.3-1-3-10-30-100-300-1000 (Approx. 20,000 ohms per volt). **AC Volts:** 0-3-10-30-100-300-1000 (Approx. 5,000 ohms per volt). **Ohms:** 0-1K-10K-100K-1MΩ-10MΩ (12 ohms center scale on low range). **DC Microamperes:** 0-100 at approx. 320 mV. **DC Milliamperes:** 0-10-100-1000 at approx. 320 mV. **Decibels:** −20 to +52 ("0" db at 1 mW on 600 ohm line). **Accuracy:** ±2% DC; ±3% AC; (full scale). **Scale Length:** $4^1/_2$". **Meter:** Diode overload protected ruggedized suspension movement, easily replaced integral module, all range polarity reversing switch. **Confidence Test:** Reassurance check of instrument meter. **Case:** Molded, International Safety Orange, high impact thermoplastic; easy external access to sealed battery anf fuse compartment; molded plastic handle will hold tester at 30° angle; $5^1/_4 \times 7^1/_2 \times 3^1/_4$" (13.3 × 19.05 × 8.25 cm). **Batteries:** NEDA 9 V 1604 (1), $1^1/_2$ V 13F (1). Complete with 48" safety test leads, screw-on insulated alligator clips, batteries, spare 1/8A and 1A fuses and instruction manual. **Shipping Weight:** 4 lbs. (1.8 kg).
956-6000. Model 60 ..... **EACH 164.00**
956-6001. Model 60-NA. With Range Doubling Switch ..... **EACH 240.00**

Models 100 and 100-C VOM Outfits

Model 100. Includes **Model 310** pocket size VOM; **Model 10** clamp-on AC Ammeter Adapter; **Model 101** Line Separator; **Model 379** Carrying Case; **Model 311** Lead Attachment for separating VOM and Adapter. VOM has 20,000Ω/volt AC sensitivity, 5,000Ω/volt AC sensitivity. DC voltage ranges to 1200 volts in 5 ranges; current to 600mA in 4 ranges; Ω to 20 megs in 4 ranges. Adapter converts 310 to ammeter; reads current in 6 steps. Separator increases ammeter sensitivity. Case holds 310 and 10 with pocket for 101 Separator. **Weight:** 7 lbs. Save over cost of items when purchased separately.
956-5101. Model 100 ..... **EACH 135.00**

Model 100-C. Features **Model 310-C** VOM. 15,000Ω/volt AC sensitivity, 20,000Ω/volt DC. AC and DC voltage ranges to 600 volts. Polarity reversing switch. Includes **Model 10-C** clamp-on AC Ammeter Adapter; **Model 101** Line Separator; **Model 379** Carrying Case; **Model 311** Lead Attachment for separating VOM and Adapter. **Weight:** 7 lbs.
956-5100. Model 100-C ..... **EACH 170.00**

Model 101 Line Separator



Plugs into AC outlet to divide two-conductor cord. Increases Model 10 sensitivity 10X, 0.3-30 amps, AC in 9 ranges. **Shipping Weight:** 1 lb.

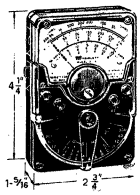
956-5102. 1-3 ..... **EACH 20.75**

Model 203 Analog Electrical Tester

AC and DC volt ranges from 1.5 to 550; continuity from 0 to 100,000 ohms, approximately 7000 ohms at 1/2 scale. Overload protected to 600 V. Comes with 2 probes (one attached to case, one on a 3' lead), battery, and handi pouch.

956-0203. Model 203 ..... **EACH 29.50**

Models 310 and 310C VOMs

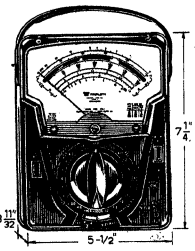


► **Diode Protected** ► **Hand-Sized**

Model 310. Features single enclosed range switch; direct reading AC amps range to facilitate AC ammeter usage. Miniature VOM is self-shielded, has spring-backed jewels for ruggedness. High-torque, bar-ring movement. **Accuracy:** ±3% DC, ±4% AC. **DC Volts:** ·0-3-12-60-300-1200 (20,000 ohms/volt). **AC Volts:** 0-3-12-60-300-1200 (5000 ohms/volt). **Ohms:** 0-20,000-200,000; 0-2-20 megs. **DC Current:** 0-600μA; 0-6-60-600 mA. Molded black case. **Size (W × D × H):** $2^3/_4 \times 4^1/_4 \times 1^5/_{16}$" (6.99 × 3.33 × 10.80 cm). With test leads, battery, manual. See Model 10 clamp-on AC ammeter adapter. **Shipping Weight:** 2 lbs.
956-5312. Model 310 ..... **EACH 72.00**

Model 310C. Features single range switch. **DC Volts:** 0-3-12-60-300-600 (20,00 ohms per Volt). **AC Volts:** 0-3-12-60-300-600 (5,000 ohms per volt). **Ohms:** 0-20K-200K-2MΩ-20MΩ (200 ohm center scale on low range). **DC Microamperes:** 0-600 at 250 mV. **DC Milliamperes:** 0-6-60 at approx. 250 mV; 0-600 at approx. 330 mV. **Accuracy:** ±3% DC; ±4% AC; (full scale). **Scale Length:** $2^1/_8$". **Batteries:** NEDA 15 V 220 (1), $1^1/_2$ V 910 F (1). Molded, black, high impact thermoplastic case, $2^3/_4$"W × $1^5/_{16}$"D × $4^1/_4$"H. Complete with 42" leads, screw-on insulated alligator clips, batteries and manual. **Shipping Weight:** 2 lbs.
956-5310. Model 310C ..... **EACH 99.00**

630 Series Analog Testers

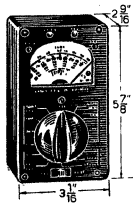


► **All 630 Series Meters Have Mirror Scale**
► **Highly Accurate General Purpose and Laboratory Quality VOMs**
► **Each Unit Features Single Range Switch to Minimize Error**
► **Models Available with up to 58 Ranges, to 1200 Volts AC or DC**

Model 630-NA: 6 ohmmeter ranges, 12 DC amps at 350 mV, laboratory accuracy with mirrored scale, single range, range doubling, and polarity reversing switches, diode overload protection, and temperature compensation. **Model 630-NS:** Same as 630-NA but 12 DC amps at 400 mV. **Model 630-PL:** 4 ohmmeter ranges, 10 amps DC current, multi-fuse protection on all ranges, diode overload protection, temperature compensation, and single range and polarity reversing switches. **Model 630-PLK:** Same as 630-PL but with combination multi-fuse and solid-state overload protection. **Model 630:** Diode overload protection and 2 fuse arrangement. On all models, no external shunt required on DC amps. All ohmmeter ranges to 100 megohms. Each unit has a 3-year warranty, one-year on calibration.

Stock No.	Mfr.'s Type	Voltage Ranges	Accuracy		EACH
			VAC	VDC	
956-5645	630-NA	58-1200 VAC/DC	±3%	±1.5%	**240.00**
956-5648	630-NS	57-1200 VAC/DC	±3%	±1.5%	**299.00**
956-5651	630-PL	28-1000 VAC/DC	±3%	±1.5%	**160.00**
956-5653	630-PLK	28-1000 VAC/DC	±3%	±1.5%	**225.00**
956-5656	630	25-600 VAC/DC	±3%	±1.5%	**132.00**

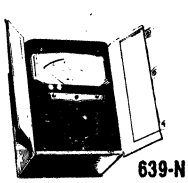
Model 666-R-VOM

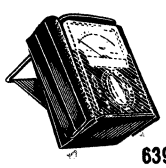


Rugged 14-range VOM; single range switch minimizes error. **DC and AC Volts:** 0-10-50-250-1000 (1,000 ohms per volt). **Ohms:** 0-3K-300K-3MΩ (20 ohm center scale on low range). **DC Milliamperes:** 0-10-100 at 250m V. **DC Amperes:** 0-1 at 250m V. **Accuracy (Full scale):** ±3% DC; ±4% AC. **Scale Length:** 3". **Case:** Molded, black, $3^1/_{16}$"W × $2^9/_{16}$"D × $5^7/_8$"H. **Batteries:** NEDA $1^1/_2$ V 15A (2), $1^1/_2$ V 14F (1). Complete with 48" leads, screw-on insulated alligator clips, batteries, instructions. **Shipping Weight:** 3 lbs.

956-5666. Model 666-R ..... **EACH 105.00**

Accessories


639-N


639-OS

369

379

Model 639-N Leather Case
For **Model 630** Series. Center cover flaps snap back allowing full view of scales and permitting complete access to instrument in case. Tester stand available at extra cost.
956-5662. 1-3 ..... **EACH 40.00** **4-Up** ..... **EACH 38.00**

Model 639-OS Leather Case
For **Model 630** Series. Flaps open to permit use of tester in case. Accessory compartment, built-in stand on back.
956-5378. 1-3 ..... **EACH 37.00** **4-Up** ..... **EACH 36.00**

Model 639 Leather Case
For **Model 630** Series. This black leather case protects your VOMs wherever they go. Has sturdy carrying handle, stitched around edges and metal clasp keeps lid securely closed.
956-5664. 1-3 ..... **EACH 37.00** **4-Up** ..... **EACH 36.00**

Model 369 Leather Case
Black case for **310, 310-C** Portable Miniature VOMs listed above. Trouser belt slips through loop on back of case for convenient out-of-the-way carrying.
956-5369. 1-3 ..... **EACH 10.50** **4-Up** ..... **EACH 10.00**

Model 379 Leather Case
For **310** and **Model 10** clamp-on ammeter combination. Has pocket for **Model 101** line separator. All items listed above. Black leather, with strap. **Weight:** 1 lb.
956-5379. 1-3 ..... **EACH 21.00** **4-Up** ..... **EACH 20.00**

Type 79-415 Test Leads. For Model 10 AC-Ammeter Adapter (above) when used with 630 series (or with any VOM having a 3 volt AC scale at 5000 ohms/volt). Long lead attachment. **Weight:** 10 oz.
956-0611. 1-3 ..... **EACH 12.00** **4-Up** ..... **EACH 11.50**

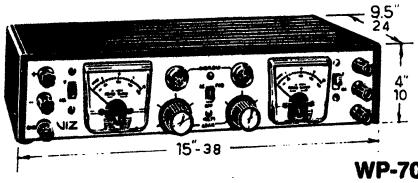
Type 79-153 Test Lead. For **310** and **310C, 310 FET. Shipping Weight:** 10 oz.
956R3727. 1-3 ..... **EACH 8.35** **4-Up** ..... **EACH 8.00**

Type 311 Test Leads. Allows separate use of **Model 10** AC-Ammeter with series 310 test equipment. **Weight:** 10 oz.
956-0311. 1-3 ..... **EACH 12.00** **4-Up** ..... **EACH 11.50**

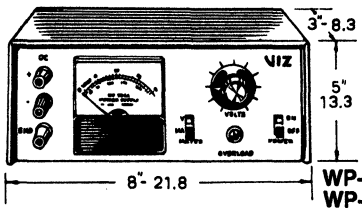
Type 79-374 Test Lead. 48" long for **Model 60** Series.
956-5710. 1-3 ..... **EACH 8.90** **4-Up** ..... **EACH 8.50**

Type 79-127 Test Lead. 48" long for **Model 630** Series and **666R.**
956-5270. 1-3 ..... **EACH 6.95** **4-Up** ..... **EACH 6.50**

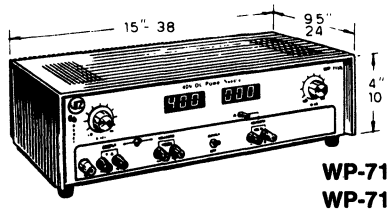
Power Supplies



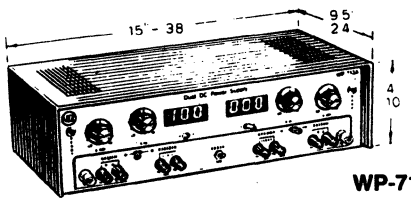
WP-702A



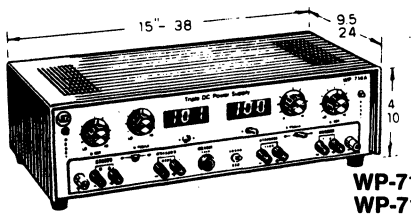
WP-703A
WP-704A



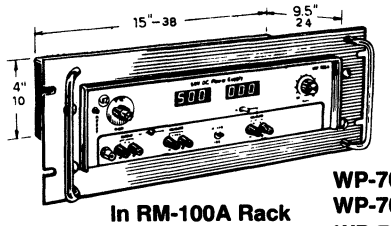
WP-711A
WP-712A



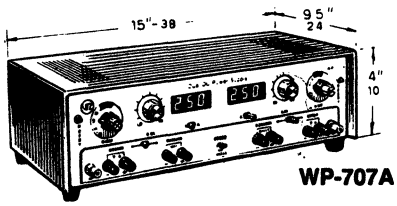
WP-713A



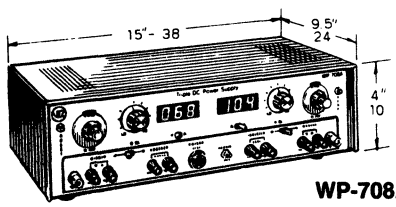
WP-714A
WP-716A



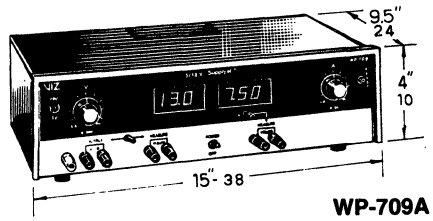
In RM-100A Rack
WP-705A
WP-706A
WP-717A



WP-707A



WP-708A



WP-709A

Line Regulation: .05%. **Overshoot:** No. **Load Protection:** Current limiting and shutdown with reset for all models except for WP-702A, WP-703A and WP-704A which have none. **Input Impedance:** 5 megohms for all models except for WP-702A, WP-703A and WP-704A. **Panel Meter:** 3 Digit, 0.56″ LED, resolution 0.1V and 0.01A; Accuracy 1% ± 1 digit for all models except for WP-702A, WP-703A and WP-704A which have an Analog Meter and Overload Indicator Light. **Size:** 4 × 15 × 9.5″ (10 × 38 × 24 cm). **AC Power Required:** 110/120V 50/60 Hz; 220/240V 50/60 Hz available on all models except WP-715A and WP-717A.

8 and 10 Watt

Stock No.	Mfr.'s Type	Configuration	Output Voltage (V)	Output Current (A)	Load Regulation	Ripple	Output vs. Temperature	Output Impedance	Isolated Outputs	Weight Lbs. (kg)	EACH 1-4	EACH 5-Up
901-5702	WP-702A	Dual and Single	0-20	0-.2	.050%	2mV(P-P)	.01%/°C	1 ohm	2	3.3 (1.5)	**251.00**	**229.00**
901-5703	WP-703A	Dual and Single	0-20	0-.5	.050%	2mV(P-P)	.01%/°C	1 ohm	1	3.8 (1.7)	**185.00**	**176.00**
901-5704	WP-704A	Single	0-40	0-.25	.050%	2mV(P-P)	.01%/°C	1 ohm	1	3.8 (1.7)	**185.00**	**176.00**

40 Watt

901-0711	WP-711A	Single	0-40	0-1	.075%	5mV(P-P)	.01%/°C	1 ohm	1	10.0 (4.5)	**363.00**	**339.00**
901-0712	WP-712A	Single and Dual	0-20	0-2	.075%	5mV(P-P)	.01%/°C	1 ohm	1	10.0 (4.5)	**374.00**	**349.00**
901-0713	WP-713A	Single and Dual	0-20	0-1	.075%	5mV(P-P)	.01%/°C	1 ohm	2	11.0 (5.0)	**484.00**	**452.00**
901-0714	WP-714A	Triple	0-20 (Dual) & 5 (Fixed)	0-.75 & 4	.075%	5mV(P-P)	.01%/°C	1 ohm	3	12.0 (5.6)	**515.00**	**490.00**

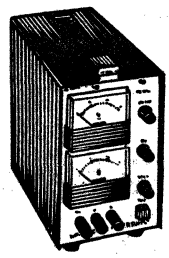
100 Watt

901-5705	WP-705A	Single	0-50	0-2	.075%	5mV(P-P)	.01%/°C	1 ohm	1	14.0 (6.4)	**464.00**	**430.00**
901-5706	WP-706A	Single and Dual	0-25	0-4	.075%	5mV(P-P)	.01%/°C	1 ohm	1	14.0 (6.4)	**486.00**	**455.00**
901-5707	WP-707A	Single and Dual	0-25	0-2	.075%	5mV(P-P)	.01%/°C	1 ohm	2	15.0 (6.8)	**598.00**	**569.00**
901-5708	WP-708A	Triple	0-20 (Dual) & 5 (Fixed)	0-2 & 4	.075%	5mV(P-P)	.01%/°C	2 ohm	3	16.5 (7.5)	**645.00**	**598.50**
901-5709	WP-709A	Single	5 or 13 ± 1.5	0-7.5	.100%	15mV(P-P)	.05%/°C	2 ohm	1	17.0 (7.7)	**501.00**	**469.00**
901-0717	WP-717A	Single	0-20	0-5	.075%	5mV(P-P)	.01%/°C	1 ohm	1	15.0 (6.8)	**459.00**	**437.50**

16

CC/CV DC Power Supplies

- Automatic Constant Current (CC) Constant Voltage (CV)
- Low Noise and Ripple—Less than 2mV RMS
- Excellent Line and Load Regulation—Less than ±0.1V
- Overload Protected—Adjustable
- Current Limiting
- Adjustable Current and Voltage
- Analog Meter Indicates Current and Voltage
- Compact Size and Solid Construction



The WP-773 & WP-775 are Automatic Constant Current (CC), Constant Voltage (CV) DC Power Supplies. Voltage and current can be varied from 0-30 VDC and 0-3 ADC on WP-773 or 0-32 VDC and 0-5 ADC on WP-775 by the use of the front panel current and voltage (coarse and fine) controls. Indications of voltage and current output are monitored by the two front panel analog meters. Accuracy is ±2.5%. The WP-773 & WP-775 have extremely stable voltage output and very low noise and ripple, which make them ideal for all critical design and electronic laboratory situations. The supplies have no overshoot at turn-on or turn-off, and both are fully protected against reverse polarity usage. The WP-773 & WP-775 can be used in series with another similar supply to double the output capability. The supplies are very compact and solidly built. Each power supply comes complete with test leads with dual banana plugs, and instruction manual with schematic, spare parts list and function and operation procedures.

901-0773. WP-773 ..... **EACH 240.00**

901-0775. WP-775 ..... **EACH 295.00**

WP-26A

WP-27A

WP-28

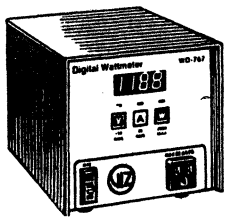
WP-31

Fixed and Variable Isolated AC Power Sources

- Protect Against Shock: Isolate Power Line
- Provide for High-Low-Medium Line-Voltage Testing
- Minimize Shock Hazards, Protect Test Instruments
- Primary-to-Secondary Current Leakage Less than 0.1 mA—Meets ANSI Specifications C101.1, 1971, for Leakage
- Isolated Secondary Windings Have High Volt-Ampere Rating
- Thermally Protected Primary
- Output Protected by Circuit Breaker
- 120 and 240 VAC Designs
- Fixed & Variable Outputs Available
- Lighted On/Off Switch
- Variable Output Models Feature Positive Measurement Reproducibility
- Low Harmonic Distortion
- Low Leakage Current
- Overload Protection—Thermal and Circuit Breaker

Stock No.	Mfr.'s Type	Output Voltage	Maximum VA		No. of Outputs		Maximum Leakage (mA)	Load Protection	On/Off Switch	Size		Weight		AC Power	EACH
			Continuous	Intermittent	Isolated	Non-Isolated				Inches	(cm)	Lbs.	Kg		
901-5726	WP-26A	105-115-130 VAC	400	450	3	3	.01	fuse	no	5¾ × 5 × 4⅜	14.6 × 12.7 × 11.1	15	6.8	105/130V 50/60 Hz	**170.00**
901-0027	WP-27A	20-150 in 5 VAC steps	400	400	1	—	.01	circuit breaker	no	5¾ × 5 × 4⅜	14.6 × 12.7 × 11.1	16	7.3	105/130V 50/60 Hz	**180.00**
901-0028	WP-28	120 VAC fixed	150	165	1	1	.01	fuse	indicator	3¾ × 3⅜ × 5⅜	9.5 × 8.6 × 13.7	8	3.6	105/130V 50/60 Hz	**107.00**
901-0031	WP-31A	110-125 VAC fixed	1050 (3 × 350)	—	3	—	.01	circuit breaker	yes	9⅛ × 5½ × 7	23.2 × 14 × 17.8	30	13.6	150/130V 50/60 Hz	**318.00**
901-0032	WP-31B	105-115-130 VAC fixed	1050 (3 × 350)	—	3	—	.01	circuit breaker	yes	9⅛ × 5½ × 7	23.2 × 14 × 17.8	30	13.6	105/130V 50/60 Hz	**318.00**
901-0033	WP-31C	0-155 VAC in 1V steps	1050	—	1	—	.01	circuit breaker	yes	9⅛ × 5½ × 7	23.2 × 14 × 17.8	30	13.6	105/130V 50/60 Hz	**350.00**
901-0034	WP-31D	190-260 VAC in 2V steps	1050	—	1	—	.01	circuit breaker	yes	9⅛ × 5½ × 7	23.2 × 14 × 17.8	30	13.6	220/250V 50/60 Hz	**328.00**

AC/RMS Digital Wattmeters and Power Line Monitors



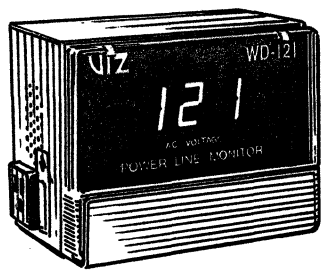
WD-766A and WD-767 Wattmeters

AC/RMS Digital Wattmeters. LED display and indicators. Measures true-RMS voltage and current, and true power. Operates directly from 120VAC line. **Specifications. Line Voltage Input:** 105 to 150VAC. **Power Factor:** .5 to unity. **AMP Accuracy:** ±1% ±1 digit. **Watt Accuracy:** ±1% ±2 digits. **Frequency Response:** 40 Hz to 5KHz. Model WD-766A. 1KW, 10A. 3-digit display. **Max. Current:** RMS 10A; Peak 20A. **Max. Power:** 999W. **Volt Accuracy:** ±1% ±1 digit. **Resolution:** 1V, .1A, 1W. Model WD-767. 2KW, 20A, 3.5-digit display. **Max. Current:** RMS 20A; Peak 35A. **Max. Power:** 1999W. **Volt Accuracy:** ±.75% ±1 digit. **Resolution:** .1V, .01A, 1W. **Dimensions:** 5.75 × 5.8 × 8.5″ (14.6 × 14.9 × 21.6 cm). **Weight:** 4 lbs. (1.8 kg).

901-0766. Model WD-766A. ..... **EACH 270.00**

901-0767. Model WD-767 ..... **EACH 372.00**

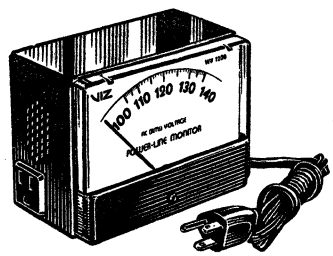
WD121A Digital Power Line Monitor



Model WD121A. Power Line Monitor is designed for use by technicians and others working in laboratories and industries where it is important to know the power-line voltage at all times. This instrument provides a continuous, accurate indication of the AC line voltage at a glance, without the inconvenience of handling probes and switches or the necessity of selecting one of several scales to determine the proper meter reading. Warns of "brown-out" condition. Can be installed between AC line and unit to be monitored. High accuracy, easy-to-read .8″ LED display-fused. **Specifications (Thru Line). Frequency Range:** 50-60 Hz; **Voltage Range:** 100-150 VAC Line; **Accuracy:** Line ±1%; **AC Current:** 8 Amps Max.; **Specifications (Auxiliary Input for use as Digital Voltmeter). Frequency Range:** 50-60 Hz; **AC Voltage Range:** 0-500VAC; **External Accuracy:** ±2%. **Dimensions:** 4 × 5 × 3″ (10 × 12.7 × 7.8 cm); **Weight:** 1½ lbs. (670g).

901-4621. WD121A ..... **EACH 151.00**

WV-120C Power Line Monitor



- Continuous Line Voltage Monitoring

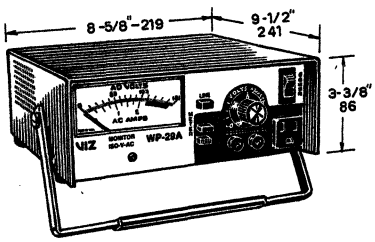
Provides continuous line voltage monitoring without need for interrupting work to check. Can be used with isolation transformer for selecting line voltages for accurate equipment checks. **Voltage range:** 100-140V. **Frequency range:** 25-400 Hz. **Accuracy:** ±2% at 120 volts. Moving vane type meter provides accurate readings. Metal case. 3 15/16 × 5 × 3 1/16″ (10 × 12.7 × 7.8 cm). **Shpg. wt.:** 1½ lbs., (670g).

901-4620 ..... **EACH 104.00**

WV-503C. As above, 200-240 volts.

901-4703 ..... **EACH 95.00**

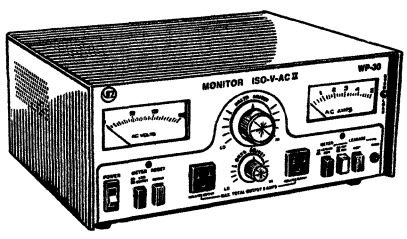
WP-29A Monitor Isotap



Designed to provide isolated AC output from 0 to 150 volts continuous. Input and isolated output voltage can be monitored on 3½″ taut band meter with ±2% accuracy. **Two isolated outputs:** polarized 3-prong ACt socket and two banana jacks. Power rating (resistive load) is 300 VA. Primary to secondary leakage is limited to less than 0.1 milliampere—5 times lower than limits established in ANSI spec C101-1-1971. **AC input:** 110 to 130 VAC, 60 Hz. With WG-413A output cables. **Wt.:** 15 lbs.

901-0029 ..... **EACH 272.00**

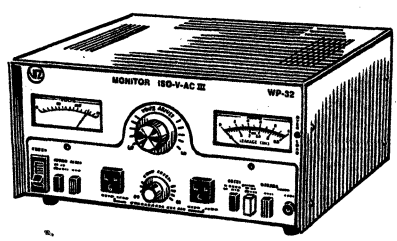
WP-30 Monitor ISO-V-AC II



Provides isolated AC output variable from 0 to approximately 150 volts. Supplies a continuous 5 amp output current to a maximum of 650VA. Includes a power line leakage tester. Supplied with two 3½ meters. One monitors output voltage and the other can display output current or leakage. Accuracy of the meters is ±2%. Two parallel three prong AC sockets are provided. **Input:** 110 to 130 VAC, 60 Hz. **Protection:** Output-relay, input-thermal sensor. **Temp. Rise:** 10°C (30°F). **Dimensions:** 6″H × 14″W × 12½″D. **Weight:** 25 lbs.

901-0030 ..... **EACH 420.00**

WP-32 Monitor ISO-V-AC III

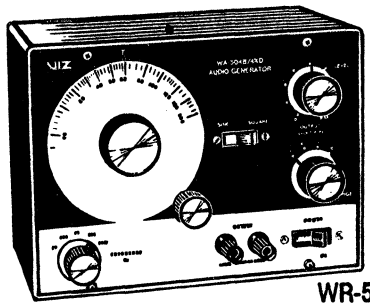


Designed to provide isolated power to equipment and to provide fixed or variable output voltages. **Meter Accuracy:** Voltage—±3% FS; Current Leakage—± 2% FS. **Load Protection:** AC Input—fuse; AC Output—adjustable current relay with manual reset. **Output Voltage:** 0-150 VAC continuous. **Dimensions:** 7 × 14 × 12.5″ (17.8 × 35.6 × 31.8 cm). **Weight:** 42.3 lbs. (19.2 kg). Features leakage meter and audible alarm.

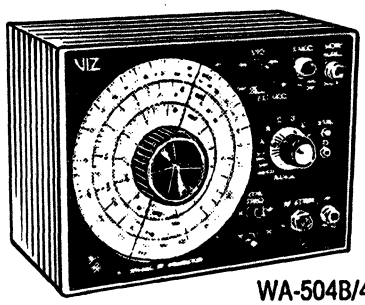
901-3200 ..... **EACH 615.00**

Signal Generators

- ► Extremely low sine wave distortion WA-504B/44D
- ► Special sweep output 455KHz and 10.7 MHz WR50C
- ► Ideal for Alignment. Trouble-Shooting, and Servicing
- ► Two Models for use in the Lab, Shop, Factory, School, or Home
- ► All Models are Low Cost, Accurate Units
- ► Rugged, Vinyl-Clad Steel Cases



WR-50C



WA-504B/44D

Description and Applications

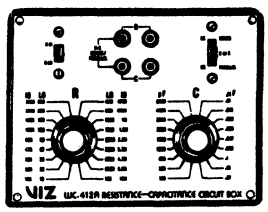
The line features two low cost, rugged, Signal Generators. They can be used for servicing audio systems, aligning and servicing radio and T.V. receivers, measuring the frequency response characteristics of audio amplifiers, testing speakers and enclosures, and finding the impedance of LC combinations. The **WR-50C** Solid-State RF Signal Generator produces tunable RF output from 85KHz to 40MHz, 600Hz audio output, and sweep output at 455KHz and 10.7MHz. A crystal-controlled oscillator is also provided for use with an external crystal. The crystal oscillator circuit in the **WR-50C** enables the instrument to be used as a crystal calibrator. A convenient crystal socket is provided on the panel. This crystal oscillator can be used as a frequency calibration reference for the variable oscillator, or can be used directly as a crystal-controlled signal source. The **WA-504B/44D** produces an output signal continuously tunable from 20Hz to 200KHz in four ranges. Either low-distortion sine-wave signals or fast rise time square-wave signals can be selected. Special features of the **WA-504B/44D** include constant 600 ohm output impedance and an attenuator system having both 10-to-1 step voltage range selector and continuous level control. Separate, easy-to-use rocker type power and function switches permit turning on the instrument and selecting the output function without disturbing the output level setting. The frequency is determined with a convenient range switch and single-scale dial. Both coarse and vernier dial controls are provided.

Stock No.	Mfr.'s Type	Frequency Range	Dial Accuracy	Waveforms	Output	AC Voltage Required @ 50-60 Hz	Sine Wave Distortion	EACH
901-1050	WR-50C	85KHz-40MHz in 6 ranges	±2%	Sine	RF .05V RMS (min.)	115	±2%	**318.00**
901-0504	WA-504B/44D	20Hz-200KHz in 4 ranges	±5%	Sine, Square	0-10V cont. variable @ 600 ohms	115	0.15% typical	**285.00**

Digital and Analog Meters

WC-412A R-C Circuit Box

- ► 36 Resistor Values
- ► 18 Capacitor Values
- ► 10% Tolerance

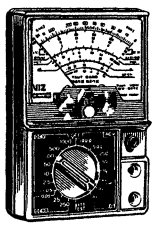


Offers 36 standard resistor values from 15 ohms 10M ohms. 1W power rating; tolerance +10%, and 18 capacitor values from 100 pf to .22uf, 600V rating tolerance ±10%. Selections are available individually, in series, or in parallel RC combinations. Switchable high or low resistance. Comes with plug-in test leads. **Dimensions:** 7 × 5½ × 2½" (17.5 × 13.7 × 6cm) **Weight:** 28 oz (340g).

901-0412. Model WC-412A .....**EACH 126.00**

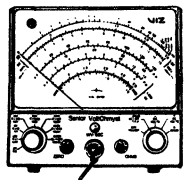
WV-547D Analog Meter

- ► Drop Proof
- ► Case Included



Hand-held unit featuring rugged taut-band meters and a high-impact case. **Specifications. DC Volts:** 0-.5, 2.5, 10, 50, 100, 500, 1000. Sensitivity 20K. Accuracy ±3% FS. **AC Volts:** 0-10, 50, 250, 500, 1000. Sensitivity 9K. Accuracy ±3% FS. Frequency Response ±1 dB (10V range). **DC Current:** 0-.05, 25, 250 milliamps. Accuracy ±3% FS. **Resistance (RX):** 1, 10, 100 2 ohm to 1 Megohm. Accuracy ±3% FS. **Decibel Ranges:** −20 to +22 (10VAC); +20 to +36 (50VAC). **Battery:** 1.5V penlight. **Fuse:** .3A, 250V. **Dimensions:** 5¼ × 3⅝ × 1½" (13.6 × 9.6 × 3.9cm). **Weight:** 9.2 oz (260g). Comes with 2 test leads.

901-0548. Model WV-547D .....**EACH 67.00**



WV-98C Analog Meter

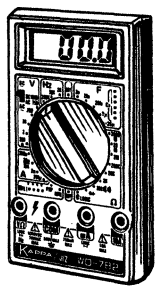
Famous Senior VoltOhmyst features 6.5" mirrored scales. Measures RMS and peak-to-peak values of sine and complex waves. **Specifications. DC Volts:** 0-.5, 1.5, 15, 50, 150, 500, 1500. **Input Resistance:** 11 Megohms. Accuracy ±3% FS. **AC Volts (RMS):** 0-1.5, 5, 15, 50, 150, 500, 1500. Peak-to-peak Sine Wave Values 0-4, 14, 42, 140, 420, 1400, 4200. Input Resistance and Capacitance 1.5, 5, 50, 150V (.83 Megohms shunted by 70pf): 500V (1.3 Megohms shunted by 60 pf): 1500V (1.5 Megohms shunted by 60pf). **Resistance (RX):** 1, 10, 1000, 10K, 100K, 1M. Accuracy ±3% CS. **Power Consumption:** 6W. **Battery:** 1.5V 'D' supplied. **Dimensions:** 7 × 6½ × 3¾" (17.8 × 16.5 × 9.5cm). **Weight:** 6 lbs. (2.7kg).

901-0098. Model WV-98C .....**EACH 312.00**

WD-790 Capacitance Meter

- ► Large display: 3½ digit 0.5" with a maximum reading of 1999
- ► Wide measurement ranges, from 0.1PF to 20mF
- ► Range: 9 test ranges, full scale value from 200PF-20mF
- ► Overload Display: Highest figure '1' glows alone
- ► Zero adjustment: ±20PF approx.
- ► Reading speed: 0.5 second
- ► High over-load protection for all ranges by the fuse 0.1A, 250V, fast blow type. Plus spare supplied
- ► Push-button switch services for single-hand operation, and the handy stand for wide sight-vision
- ► Power supply: DC 9V battery one supplied, or 9V AC adaptor, not supplied—Accessory
- ► Battery life: Up to 200 hours typical with alkaline, and up to 100 hours typical with zinc-carbon

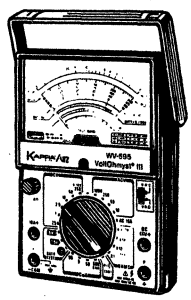
901-0790. Model WD-790 .....**EACH 115.00**



WD-732 Multi-Function DMM

- ► Frequency Measurement Ranges
- ► Capacitance Measurement Ranges
- ► Logic Test Range
- ► Transistor Test Range
- ► Diode Test Range
- ► Continuity Test Range with Beeper
- ► Battery Test Range
- ► 3½ Digit LCD Display with Polarity & Over Range Indicators
- ► Compact Size
- ► Unit Measures Only! 5" × 2.8" × 1.3"
- ► Unit Weighs Only! 7 oz.

901-0782. Model WD-782 .....**EACH 98.00**



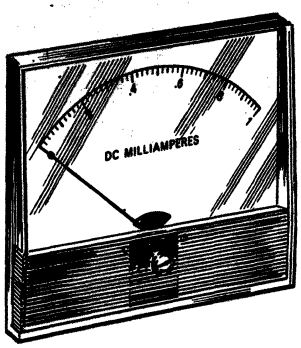
WV-595 VoltOhmyst® III

WV-595 VoltOhmyst® III is a high quality, versatile 50,000Ω/V meter with mirrored and multi-colored meter scale. The WV-595 features a sturdy, one-piece circuit board with precision 1% resistors, sturdy switch assembly with gold plated switch contacts, and strong dual-dent switch action, extended measuring capabilities by utilizing the mid-scale switch function, as well as the separate battery test and continuity buzzer test ranges. The WV-595 is fully protected by both diode and fuse circuits. The WV-595 comes complete with test leads, instruction manual, spare fuse, transistor test leads, (2) 1.5V and (1) 9V battery.

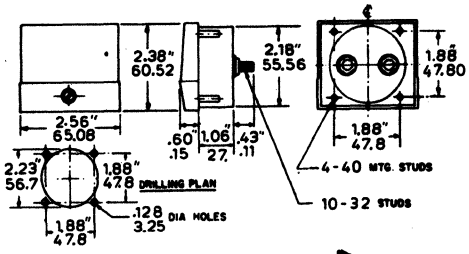
901-0595. Model WV-595 .....**EACH 74.00**

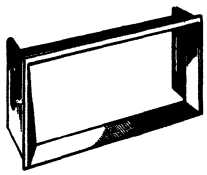
16

Allied® 2½", 3½ and 4½" Panel Meters

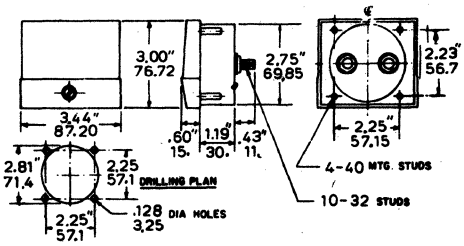


2-1/2" METER DIMENSIONS

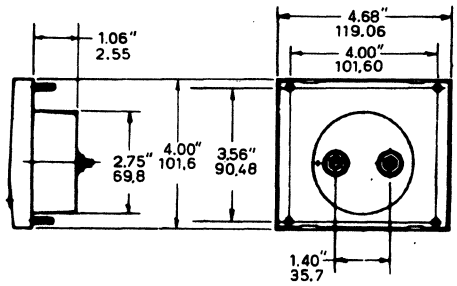




3-1/2" METER DIMENSIONS



4-1/2" METER DIMENSIONS



Quality-made panel meters feature full scale accuracy of 2%, shielded meter movements, easy-to-read knife-edge pointer, spring-back jewel design. All have 1/4-28 × .43" terminals. Mounting studs on 4½" models are 6-32 × .53"; 2½ and 3½" models, 4-40 × 43". **Average shipping weight:** 1 lb.

Bezel Mount Kit
For 3½" and 4½" meters only. Package includes bezel, bracket and screws for quick installation.

701-0470. For 4½" Meters .....**EACH 10.20**
701-0468. For 3½" Meters .....**EACH 8.28**

DC Microammeters

Range	Ohms Approx. Res.	2½" Meters Stock No.	2½" Meters EACH 1-9	10-24	25-49	50-Up	3½" Meters Stock No.	3½" Meters EACH 1-9	10-24	25-49	50-Up	4½" Meters Stock No.	4½" Meters EACH 1-9	10-24	25-49	50-Up
25-0-25 μA DC	1800.0000	—	—	—	—	—	701-0500	34.87	32.18	29.89	27.89	701-0309	32.20	29.72	27.60	25.76
0-50	1800.0000	701-0011	28.63	26.43	24.54	22.91	701-0234	31.35	28.94	26.87	25.08	701-0311	32.20	29.72	27.60	25.76
50-0-50	1800.0000	701-0012	28.63	26.43	24.54	22.91	701-0238	30.42	28.08	26.07	24.33	701-0313	32.20	29.72	27.60	25.76
0-100	1800.0000	—	—	—	—	—	701-0242	30.42	28.08	26.07	24.33	701-0315	32.20	29.72	27.60	25.76
100-0-100	1100.0000	701-0014	28.63	26.43	24.54	22.91	701-0245	30.42	28.08	26.07	24.33	701-0317	32.20	29.72	27.60	25.76
0-200	1100.0000	701-0015	28.63	26.43	24.54	22.91	—	—	—	—	—	701-0319	32.20	29.72	27.60	25.76

DC Milliammeters

0-1 mA DC	43.0000	701-0020	28.63	26.43	24.54	22.91	701-0250	30.42	28.08	26.07	24.33	701-0321	32.20	29.72	27.60	25.76
0-10	10.0000	701-0022	28.63	26.43	24.54	22.91	—	—	—	—	—	—	—	—	—	—
0-15	6.6000	—	—	—	—	—	701-0256	30.42	28.08	26.07	24.33	—	—	—	—	—
0-20	5.0000	701-0024	28.63	26.43	24.54	22.91	701-0258	30.42	28.08	26.07	24.33	—	—	—	—	—
0-100	1.0000	—	—	—	—	—	701-0264	30.42	28.08	26.07	24.33	—	—	—	—	—
0-200	5.5000	—	—	—	—	—	701-0328	30.42	28.08	26.07	24.33	—	—	—	—	—

DC Ammeters

0-1 A DC	.0500	701-0001	28.63	26.43	24.54	22.91	—	—	—	—	—	701-0301	32.20	29.72	27.60	25.76
0-5	.0100	701-0002	28.63	26.43	24.54	22.91	—	—	—	—	—	—	—	—	—	—
0-10	.0050	701-0003	28.63	26.43	24.54	22.91	701-0210	30.42	28.08	26.07	24.33	701-0305	32.20	29.72	27.60	25.76
0-15	.0033	701-0004	28.63	26.43	24.54	22.91	701-0215	30.42	28.08	26.07	24.33	—	—	—	—	—

DC Millivoltmeters

0-100 DC mV	20.0000	701-0045	28.63	26.43	24.54	22.91	—	—	—	—	—	701-0339	32.20	29.72	27.60	25.76

DC Voltmeters (1000 Ohms/Volt)

0-15 VDC	—	701-0105	28.63	26.43	24.54	22.91	701-0277	30.42	28.08	26.07	24.33	—	—	—	—	—
0-30	—	701-0110	28.63	26.43	24.54	22.91	—	—	—	—	—	—	—	—	—	—
0-50	—	—	—	—	—	—	701-0281	30.42	28.08	26.07	24.33	—	—	—	—	—
0-150	—	—	—	—	—	—	701-0285	30.42	28.08	26.07	24.33	—	—	—	—	—
0-300	—	701-0130	28.63	26.43	24.54	22.91	701-0287	30.42	28.08	26.07	24.33	—	—	—	—	—

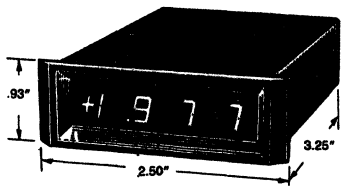
AC Voltmeters (1000 Ohms/Volts)

0-150* VAC	—	701-0435	35.03	32.34	30.03	28.03	701-0445	35.72	32.97	30.61	28.57	—	—	—	—	—
0-300*	—	—	—	—	—	—	701-0450	33.28	30.72	28.53	26.63	701-0460	32.48	29.98	27.84	25.99

*Indicates rectifier type.

PM-349 Thriftmeter 3 1/2-Digit DC Panel Meters

Low-cost 3 1/2-digit panel meters (3-digits plus 100% overrange) offer 0.05% accuracy. Low power requirement; input voltage protection; automatic polarity; overload indication; display blanking. Small size, only 1"H × 2.5"W × 3.25"D. Unichip MOS/LSI construction. Large LED display with programmable decimal; no zero adjustment required. **Ranges:** 0.2V to ±0.1999 VDC; 2 V, 0 to ±1.999 VDC; 20 V to ±19.99 VDC; 200 V, 0 to ±199.9 VDC; 100 V, 0 to ±1000 VDC. **Accuracy:** ±(0.05% reading + 0.05% full scale), +23°C. **Display Height:** 0.3". **Oper. Temp.:** 0°C to +50°C. **Power Required:** +4.75 to 5.25 VDC at 200 mA nom.

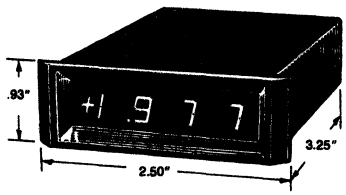


Stock No.	Mfr.'s Type	DC Volts	EACH 1-4	EACH 5-9	EACH 10-24
667-8000	39-349-0	0.2	63.00	58.16	54.00
667-8010	39-349-1	2.0	63.00	58.16	54.00
667-8020	39-349-2	20.0	83.00	76.62	71.15
667-8030	39-349-3	200.0	83.00	76.62	71.15
667-8040	39-349-4	1000.0	83.00	76.62	71.15

667-0001. 39-195. Edge Connector. ..... **EACH 6.00**
667-0356. 39-356. Range Change Kit. ..... **EACH 4.00**
667-0193. 39-193-1. Power Supply. ..... **EACH 39.00**

PM-4 Three Digit DC Panel Meters

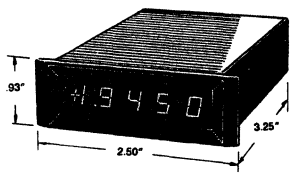
For measuring DC voltages with accuracy of ±0.02% of full scale. External 5 volt power supply is required. Decimal position may be positioned by jumper on connector to any of four locations. Auto zeroing eliminates zero drift. Range may be changed by adding or removing 1 to 3 resistors. Red LED display is 0.3" high. **Control signals:** Hold line to inhibit further readings, polarity enable, readout enable. **Output signals:** busy/done 5v logic level change. **Speed:** 2 reading/second, nominal. **Power:** 5 vdc ±5%, 160mA, 0.8W. **Wt.:** 4 oz.



Stock No.	Mfr.'s Type	DC Volts	EACH 1-4	EACH 5-9	EACH 10-24
667-2100	PM-4 1 VDC	0-1	182.00	168.00	156.00
667-2102	PM-4 10 VDC	0-10	202.00	186.46	173.15
667-2104	PM-4 100 VDC	0-100	202.00	186.46	173.15
667-2106	PM-4 1000 VDC	0-1000	202.00	186.46	173.15

667-0001. 39-195. Edge Connector. ..... **EACH 6.00**
667-0189. 39-189. Range Change Kit. ..... **EACH 4.00**
667-0193. 39-193-1. Power Supply. ..... **EACH 39.00**

PM-452 4 1/2 Digit DC Voltmeter System DPM

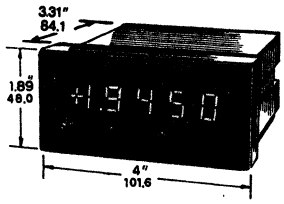


MOS/LSI construction. Programmable decimal. Bright LED display. Input voltage protection. Automatic polarity and overload indication. **Power consumption:** .7 watt. **Accuracy (+23°C ± 2°):** ±0.02% full scale. **Display:** 0.3" high, LED. **Update Rate:** 3 rdg/sec, nominal. **Power Requirements:** 5 VDC ±5% at 140 mA. **Common-Mode Rejection:** 80 dB, minimum. Multiplexed BCD outputs. **Operating Temperature Range:** 0°C to +50°C.

Stock No.	Mfr.'s Type	Range (Volts)	Impedance	EACH 1-4	EACH 5-9	EACH 10-24
667-5501	PM-452-2VDC	±1.9999	1000M	154.00	142.15	132.00
667-5503	PM-452-20VDC	±19.999	1M	174.00	160.62	149.15
667-5505	PM-452-200VDC	±199.99	10M	174.00	160.62	149.15
667-5506	PM-452-1000VDC	±1000.0	10M	174.00	160.62	149.15

667-0001. 39-195. Edge Connector. ..... **EACH 6.00**
667-0356. 39-356. Range Change Kit. ..... **EACH 4.00**
667-0193. 39-193-1. Range Change Kit. ..... **EACH 39.00**

RM-452 4 1/2 Digit DC Voltmeter



The RM-452 Digital Panel Meter is a fixed range, 4 1/2-digit (20,000 counts), bipolar DC digital voltmeter. Features multiplexed BCD outputs, as well as hold and conversion status functions. Fits a standard DIN/NEMA cutout. Utilizes a double row, 15-pin, edge connector. Large 0.5" LED. Polarity is automatic and indicated by large + and − LED symbols. **Specifications. Accuracy:** 0.02% F.S.; **Update Rate:** 3 readings/second, nominal; **Operating Temperature:** 0° to +50°C; **Decimal Location:** May be positioned by an internal jumper to any one of four locations: X.X.X.X; **Input Current:** 50 pA, typ. at 23°C(2V range); **Weight:** 6 oz. (170g). **Ranges:** 2V — 0 to ±1.9999VDC, 20V — 0 to ±19.999VDC, 200V — 0 to ±199.99VDC, 1000VDC — 0 to 1000.0VDC. **Optional Accessory:** 115/230VAC to 5VDC Power Supply. Capacity of more than 300 milliamperes. Regulation better than ±1%. Common-mode compliance is ±100VDC.

Stock No.	Mfr.'s Type	DC Volts	EACH 1-4	EACH 5-9	EACH 10-24
667-5600	RM452EC-2VDC	0-2	171.00	157.85	146.58
667-5602	RM452EC-20VDC	0-20	191.00	176.31	163.72
667-5604	RM452EC-200VDC	0-200	191.00	176.31	163.72
667-5605	RM452EC-1000VDC	0-1000	191.00	176.31	163.72

667-5695. 46-279-1. Power Supply. ..... **EACH 48.00**
667-0291. 39-291. Range Change Kit. ..... **EACH 4.00**

PM-352 3 1/2 Digit DC Voltmeter System DPM

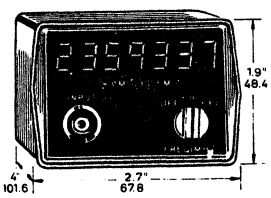
Fixed range 3 1/2-digit instrument with automatic polarity. Modification from one range to another is accomplished by the substitution, addition or deletion of one to three resistors. Active filter input provides high normal-mode rejection. Automatic zeroing eliminates zero drift. Calibration is achieved by adjustment of one potentiometer, accessible at the rear of the instrument. An external 5-volt power supply is required. **Ranges:** 2V, 0 to ±1.999VDC; 20V, 0 to ±19.99VDC; 200V, 0 to ±199.9VDC; 1000V, 0 to 1000VDC. **Accuracy:** ±(0.05% of reading + 0.05% full scale). **Speed:** 3 readings/second, nominal. **Power Required:** 5V ±5% at 200mA. **Control:** Scale factor, screwdriver adjust at rear, 5% nom. **Display:** LED, 0.3" high. **Case Size:** 15/16"H × 2 1/2"W × 3 1/4"D.

Stock No.	Mfr.'s Type	DC Volts	EACH 1-4	EACH 5-9	EACH 10-24
667-5001	PM-352-2VDC	2	138.00	127.39	118.30
667-5003	PM-352-20VDC	20	158.00	145.85	135.43
667-5005	PM-352-200VDC	200	158.00	145.85	135.43
667-5006	PM-352-1000VDC	1000	158.00	145.85	135.43

667-0002. 39-282. Edge Connector. ..... **EACH 8.00**
667-0291. 39-291. Range Change Kit. ..... **EACH 4.00**
667-0284. 39-284-1. Power Supply. ..... **EACH 39.00**

FM-7 60 MHz Frequency Counter

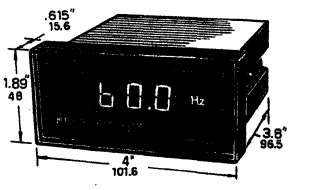
Portable frequency monitor for audio, broadcast, amateur, CB and industrial frequencies. 10 Hz to 60 MHz frequency range. **Sensitivity:** 30mV(RMS Sinewave) — 50 Hz to 30 MHz. 100mV (RMS Sinewave) — 10 Hz to 50 Hz, 30 MHz to 60 MHz. **Impedance:** 1MΩ, <50 pF up to 0.5V rms input. **Max. Input:** ±100VDC. 250V rms — 10 Hz to 500 kHz. Uses four AA Nicad batteries with charger unit, all included. 1.9 × 2.7 × 4". Wt. 9 oz.



667-6000. 1-4 ..... **EACH 273.00**
5-9. ..... **EACH 252.00**
667-1010. Type 39-439. Leather Case and Strap ..... **EACH 42.00**

Digital Line-Frequency Monitors

Dependable and rugged. No calibration required. **Line Voltage:** FM-3TB/115, FM-300TB/115, FM-340TB/115 — 85 VAC to 125 VAC. FM-3TB/230, FM-300TB/230, FM-340TB/230 — 170 VAC to 250 VAC. **Frequency Range:** FM-3TB, FM-300TB — 45.0 Hz to 99.9 Hz. FM-340TB — 45 Hz to 450 Hz. **Resolution:** FM-3TB and FM-300TB, 0.1 Hz. FM-340TB, 1 Hz. **Accuracy:** FM-3TB and FM-300TB, ±0.1 Hz. FM-340TB, ±1 Hz. **Display:** FM-3TB, 3 digits, 0.5" high LDC. FM-300TB and FM-340TB, 3 digits, 0.6" high LCD. Display is updated every two seconds. **Time Base:** 1 second, cystal controlled. **Operating Temperature:** 0°C to +50°C. **Weight:** 6.6 oz. (187 g).



667-6005. FM-340TB/115 ..... **EACH 141.00**
667-6011. FM-340TB/230 ..... **EACH 145.00**
667-6015. FM-300TB/115 ..... **EACH 138.00**
667-6020. FM-300TB/230 ..... **EACH 141.00**
667-6025. FM-3TB/115 ..... **EACH 122.00**
667-6030. FM-3TB/230 ..... **EACH 124.00**

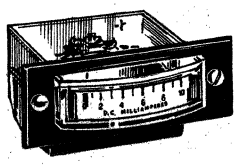
CM-1 TB Current Loop Meter

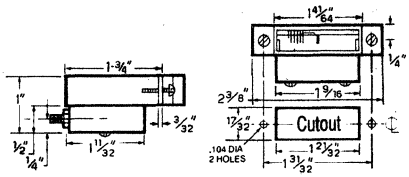
The NLS Model CM-1TB Current Loop Meter is a 3 1/2 digit panel meter packaged in a DIN/NEMA instrument case. Unless otherwise ordered, CM-1TB's leave the factory calibrated so that 4 mA reads 000, and 20 mA reads 100. However, recalibration to display directly in various engineering units is readily accomplished in the field. The readout is a large 0.6 inch high liquid cystal display (LCD) suitable for outdoor or indoor viewing. Three programmable decimal points and large + and − signs are included. Polarity display for positive and negative loop currents is automatic. Overload indication is provided. Accuracy is ±(0.1% of reading + 1 digit). The popular DIN/NEMA instrument case uses a retaining spring so that no tools are needed for quick installation and removal. Weight is a mere 5 ounces. In single loop systems it provides improved resolution, fewer errors and more operator convenience. In multiloop systems the CM-1TB is an excellent monitor which can be used for trend sensing without interrupting the process control system. CM-1TB is a modern digital current loop meter which converts standard current loop currents to engineering units without any source of power other than the current loop input.

667-1000. CM-1TB ..... **EACH 124.00**
Other ranges available. Call for information.

Model 350 Edgewise Meters

Model 350. DC types are moving magnet. AC types incorporate a rectifier. Mount in rectangular hole, 1 21/32" × 17/32". Accuracy within ± 5% of full scale. High temperature polystyrene case. 1 1/16" scale length. Black escutcheon plate.





DC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-3300	3303	0-1	500.000	12.80	11.82	10.97	10.24
698-3302	3302	0-5	90.000	11.40	10.52	9.77	9.12
698-3303	3303	0-10	40.000	11.40	10.52	9.77	9.12
698-3305	3305	0-25	15.000	11.40	10.52	9.77	9.12
698-3306	3306	0-50	4.000	11.40	10.52	9.77	9.12
698-3307	3307	0-100	1.000	11.40	10.52	9.77	9.12

DC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-3202	3202	0-3	0.004 max.	11.60	10.71	9.94	9.28
698-3203	3203	0-5	0.004 max.	11.60	10.71	9.94	9.28
698-3205	3205	0-10	0.004 max.	11.60	10.71	9.94	9.28

DC Voltmeters

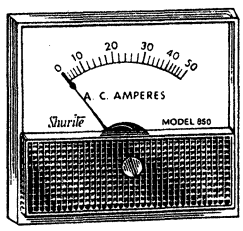
Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-3104	3104	0-5	1100.000	11.90	10.98	10.20	9.52
698-3107	3107	0-10	2100.000	11.90	10.98	10.20	9.52
698-3108	3108	0-15	3100.000	11.90	10.98	10.20	9.52

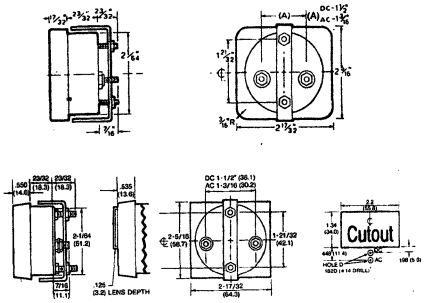
AC Voltmeter

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-3406	3406	0-150	—	14.00	12.92	12.00	11.20

Model 850 Rectangular Panel Meters

Model 850. 2 1/2 inch rectangular panel meters have snap-on plastic crystal and an accuracy of ± 5% of full scale. DC types polarized-vane solenoid; AC types double-vane repulsion jeweled bearing. Front panel meters mount in 25/32" dia. hole; Behind panel meters mount in rectangular hole. With zero adjust. **Wt.:** 6 oz. **Replace "X" in stock number with "8" for in front of panel meters; replace with "6" for behind panel meters.**





DC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X336	8336Z	0-1	1000.000	14.50	13.38	12.43	11.60
698-X302	8302Z	0-5	3700.000	13.25	12.23	11.36	10.60
698-X305	8305Z	0-25	170.000	13.00	12.00	11.14	10.40
698-X306	8306Z	0-50	60.000	13.00	12.00	11.14	10.40
698-X307	8307Z	0-100	15.000	13.00	12.00	11.14	10.40
698-X309	8309Z	0-200	4.500	13.00	12.00	11.14	10.40
698-X310	8310Z	0-300	1.700	13.00	12.00	11.14	10.40
698-X312	8312Z	0-500	0.700	13.00	12.00	11.14	10.40

DC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X201	8201Z	0-1	0.105	13.00	12.00	11.14	10.40
698-X202	8202Z	0-3	0.020 max.	13.00	12.00	11.14	10.40
698-X203	8203Z	0-5	0.020 max.	13.00	12.00	11.14	10.40
698-X205	8205Z	0-10	0.020 max.	13.00	12.00	11.14	10.40
698-X206	8206Z	0-15	0.020 max.	13.00	12.00	11.14	10.40
998-X207	8207Z	0-25	0.020 max.	13.60	12.55	11.66	10.88
698-X208	8208Z	0-50	0.020 max.	13.60	12.55	11.66	10.88
698-X215	8215Z	30-0-30	0.020 max.	13.60	12.55	11.66	10.88

DC Voltmeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X102	8102Z	0-3	95.000	13.00	12.00	11.14	10.40
698-X104	8104Z	0-5	300.000	13.00	12.00	11.14	10.40
698-X107	8107Z	0-10	900.000	13.00	12.00	11.14	10.40
698-X108	8108Z	0-15	2400.000	13.00	12.00	11.14	10.40
698-X109	8109Z	0-25	1450.000	13.25	12.23	11.36	10.60
698-X122	8122Z	0-50	2850.000	13.25	12.23	11.36	10.60
698-X115	8115Z	0-150	8650.000	13.75	12.69	11.79	11.00

AC Voltmeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X403	8403Z	0-10	30.000	15.00	13.85	12.86	12.00
698-X404	8404Z	0-15	35.000	15.00	13.85	12.86	12.00
698-X406	8406Z	0-150	100.000	15.00	13.85	12.86	12.00
698-X407	8407Z	0-300**	100.000	16.00	14.77	13.71	12.80

AC Ammeters

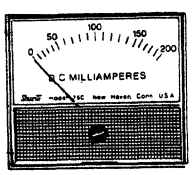
Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X501	8501Z	-1	0.420 max.	14.90	13.75	12.77	11.92
698-X503	8503Z	0-5	0.400 max.	15.80	14.58	13.54	12.64
698-X504	8504Z	0-10	0.400 max.	15.80	14.58	13.54	12.64
698-X508	8508Z	0-15	0.400 max.	15.80	14.58	13.54	12.64
698-X506	8506Z	0-50	0.400 max.	16.90	15.60	14.49	13.52
698-X507	8507Z	0-80	0.400 max.	17.10	15.78	14.66	13.68

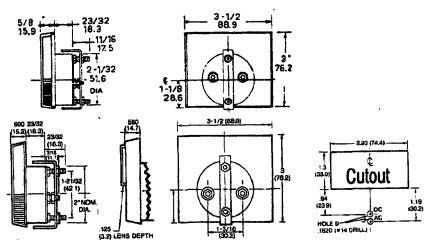
AC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X605	8605Z	0-500	1.800	16.20	14.95	13.89	12.96

Model 750Z Rectangular

Model 750. Accuracy within ± 5% of full scale. DC movements have moving magnet design. AC types have high torque repulsion vane design. Both AC and DC types have jeweled bearings. Polystyrene meter fronts. Front panel meters mount in 25/32" dia. hole; Behind panel meters mount in rectangular hole. With zero adjust. **Wt.:** 6 oz. **Replace "X" in stock number with "7" for in front of panel meters; replace with "5" for behind panel meters.**





DC Milliammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X336	7306Z	0-1	1000.000	14.80	13.66	12.69	11.84
698-X303	7303Z	0-10	45.000	14.80	13.66	12.69	11.84
698-X305	7305Z	0-25	15.000	14.80	13.66	12.69	11.84
698-X309	7309Z	0-200	0.400	14.95	13.80	12.81	11.96
698-X312	7312Z	0-500	0.070	14.95	13.80	12.81	11.96

DC Ammeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X201	7201Z	0-1	0.015 max.	14.95	13.80	12.81	11.96
698-X203	7203Z	0-5	0.015 max.	14.95	13.80	12.81	11.96
698-X205	7205Z	0-10	0.015 max.	14.95	13.80	12.81	11.96
698-X207	7207Z	0-25	0.015 max.	15.35	14.17	13.16	12.28
698-X208	7208Z	0-50	0.015 max.	15.35	14.17	13.16	12.28

DC Voltmeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X104	7104Z	0-5	900.000	15.75	14.54	13.50	12.60
698-X108	7108Z	0-15	2500.000	15.75	14.54	13.50	12.60
698-X109	7109Z	0-25	4100.000	15.75	14.54	13.50	12.60
698-X122	7122Z	0-50	8300.000	16.00	14.77	13.71	12.80

AC Voltmeters

Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X406	7406Z	0-150	100.000	16.40	15.14	14.06	13.12
698-X407	7407Z	0-300**	100.000	17.10	15.78	14.66	13.68

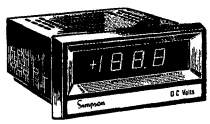
AC Ammeters

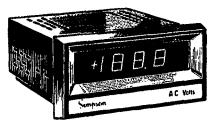
Stock No.	Mfr.'s Type	Range	Ohms	EACH 1-24	25-49	50-99	100-499
698-X503	7503Z	0-5	0.040 max.	16.95	15.65	14.53	13.56
698-X504	7504Z	0-10	0.040 max.	17.60	16.25	15.09	14.08
698-X508	7508Z	0-15	0.040 max.	17.60	16.25	15.09	14.08
698-X505	7505Z	0-30	0.040 max.	17.90	16.52	15.34	14.32
698-X506	7506Z	0-50	0.040 max.	18.00	16.62	15.43	14.40
698-X507	7507Z	0-80	0.040 max.	18.50	17.08	15.86	14.80

**Supplied with external resistor.

3 1/2 Digit Panel Meters

- 3 1/2 Digit (1999 counts) readout
- Bright red or orange display (AC in orange only)
- Automatic zero and polarity indication
- 0.1% accuracy, DC; 1% accuracy, AC
- 120 VAC, 50-400 Hz or 5 VDC power input operation
- Jumper selectable decimal point on orange display
- Fits standard 1.682" × 3.622" panel cutout
- All models complete with panel mounting clips, input/output edge connector and manual





Sensitivity: 100 μV for 200 mV unit; 1 nA for 20 μA unit. **Resolution:** One part in 20,000. **Response Time:** < 1 second DC; < 3 seconds AC. **Display:** 3 1/2 digits (1999 counts), .56" high LED, 7 segment, automatic polarity (– & +). **Out of Range:** All digits blink '0' with '1' digit off. **Warm Up Time:** Less than 15 minutes at reference conditions. **Temperature Range: Operating:** 0° to +55°C. **Storage:** –40°C to +60°C. **Dimensions: Instrument:** 3.90" × 1.93" × 4.27". **Panel Cutout:** 3.622" × 1.680". **Weight:** Approx. 1 lb.

DC Volts

Power Input				120 VAC				5 VDC			
Display Color				Red		Orange		Red		Orange	
Range	Overload Protection	Maximum Indication	Input Resistance	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
200 mV	250 V All Ranges	± 199.900 mV	≥ 100 MΩ	918-4500	126.65	918-4620	137.05	918-4600	111.55	918-4640	122.40
2 V	250 V All Ranges	± 1.999 V	≥ 100 MΩ	918-4501	126.65	918-4621	137.05	918-4601	111.55	918-4641	122.40
20 V	250 V All Ranges	± 19.990 V	10 MΩ	918-4502	126.65	918-4622	137.05	918-4602	111.55	918-4642	122.40
200V	250 V All Ranges	± 199.900 V	10 MΩ	918-4503	126.65	918-4623	137.05	918-4603	111.55	918-4643	122.40

AC Volts

200 mV	250 V All Ranges	± 199.900 mV	≥ 100 MΩ	—	—	918-4630	194.20	—	—	918-4650	179.50
2 V	250 V All Ranges	± 1.999 V	≥ 100 MΩ	—	—	918-4631	194.20	—	—	918-4651	179.50
20 V	250 V All Ranges	± 19.990 V	10 MΩ	—	—	918-4632	194.20	—	—	918-4652	179.50
200 V	250 V All Ranges	± 199.900 V	10 MΩ	—	—	918-4633	194.20	—	—	918-4653	179.50

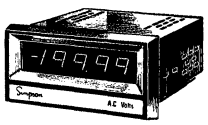
DC Current

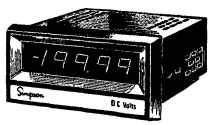
Range	Voltage Drop, FS	Maximum Indication	Maximum Input Current	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
20 μA	200 mV All Ranges	± 19.990 μA	20 mA	918-4504	126.65	918-4624	137.50	918-4604	111.55	918-4644	122.40
200 μA	200 mV All Ranges	± 199.900 μA	20 mA	918-4505	126.65	918-4625	137.50	918-4605	111.55	918-4645	122.40
2 mA	200 mV All Ranges	± 1.999 mA	20 mA	918-4506	126.65	918-4626	137.50	918-4606	111.55	918-4646	122.40
20 mA	200 mV All Ranges	± 19.990 mA	100 mA	918-4507	126.65	918-4627	137.50	918-4607	111.55	918-4647	122.40
200 mA	200 mV All Ranges	± 199.900 mA	1 A	918-4508	126.65	918-4628	137.50	918-4608	111.55	918-4648	122.40

AC Current

20 μA	200 mV All Ranges	± 19.990 μA	20 mA	—	—	918-4634	194.20	—	—	918-4654	179.50
200 μA	200 mV All Ranges	± 199.900 μA	20 mA	—	—	918-4635	194.20	—	—	918-4655	179.50
2 mA	200 mV All Ranges	± 1.999 mA	20 mA	—	—	918-4636	194.20	—	—	918-4656	179.50
20 mA	200 mV All Ranges	± 19.990 mA	100 mA	—	—	918-4637	194.20	—	—	918-4657	179.50
200 mA	200 mV All Ranges	± 199.900 mA	1 A	—	—	918-4638	194.20	—	—	918-4658	179.50

4 1/2 Digit Panel Meters





- 4 1/2 Digit (1999 counts) readout
- True RMS reading (AC only)
- BCD output with strobe line
- Automatic zero and polarity indication
- 120 VAC, 50-400 Hz or 5 VDC power input operation
- Jumper selectable offset
- Jumper selectable decimal point
- Fits standard 1.682" × 3.622" panel cutout
- All models complete with panel mounting clips, input/output edge connector and manual

Sensitivity: 10 μV for 200 mV unit; 1 nA for 20 μA unit. **Resolution:** One part in 20,000. **Response Time:** 1 second DC; 3 seconds AC. **Display:** 4 1/2 digits (1999 counts), .56" high LED, 7 segment, automatic polarity (– & +). **Out of Range:** All digits blink '0' with '1' digit off. **Warm Up Time:** Less than 15 minutes at reference conditions. **Temperature Range: Operating:** 0° to +55°C. **Storage:** –40°C to +60°C. **Dimensions: Instrument:** 3.90" × 1.93" × 4.27". **Panel Cutout:** 3.622" × 1.680". **Weight:** Approx. 1 lb.

DC Volts

Power Input				120 VAC		5 VDC	
Display Color				Red		Red	
Range	Overload Protection	Maximum Indication	Input Resistance	Stock No.	EACH	Stock No.	EACH
200 mV	250 V All Ranges	± 199.9900 mV	100 MΩ	918-4860	219.65	918-4880	219.65
2V	250 V All Ranges	± 1.9999 V	100 MΩ	918-4861	219.65	918-4881	219.65
20 V	250 V All Ranges	± 19.9990 V	10 MΩ	918-4862	219.65	918-4882	219.65
200 V	250 V All Ranges	± 199.9900 V	10 MΩ	918-4863	219.65	918-4883	219.65

AC Volts

200 mV	250 V RMS All Ranges	± 199.9900 mV	10 MΩ All Ranges	918-4935	298.40	918-4945	293.00
2 V	250 V RMS All Ranges	± 1.9999 V	10 MΩ All Ranges	918-4936	298.40	918-4946	293.00
20 V	250 V RMS All Ranges	± 19.9990 V	10 MΩ All Ranges	918-4937	298.40	918-4947	293.00
200 V	250 V RMS All Ranges	± 199.9900 V	10 MΩ All Ranges	918-4938	298.40	918-4948	293.00

DC Current

Range	Voltage Drop, FS	Maximum Indication	Maximum Input Current	Stock No.	EACH	Stock No.	EACH
20 μA	200 mV All Ranges	± 19.9990 μA	5 mA	918-4864	219.50	918-4884	219.65
200 μA	200 mV All Ranges	± 199.9900 μA	15 mA	918-4865	219.50	918-4885	219.65
2 mA	200 mV All Ranges	± 1.9999 mA	20 mA	918-4866	219.50	918-4886	219.65
20 mA	200 mV All Ranges	± 19.9990 mA	100 mA	918-4867	219.50	918-4887	219.65
200 mA	200 mV All Ranges	± 199.9900 mA	500 mA	918-4868	219.50	918-4888	219.65

AC Current

20 μA	200 mV All Ranges	± 19.9990 μA	5 mA	918-4839	298.40	918-4949	293.00
200 μA	200 mV All Ranges	± 199.9900 μA	15 mA	918-4840	298.40	918-4950	293.00
2 mA	200 mV All Ranges	± 1.9999 mA	20 mA	918-4841	298.40	918-4951	293.00
20 mA	200 mV All Ranges	± 19.9990 mA	100 mA	918-4842	298.40	918-4952	293.00
200 mA	200 mV All Ranges	± 199.9900 mA	500 mA	918-4843	298.40	918-4953	293.00

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Optional Mounting Hardware

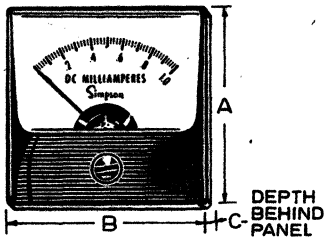
918-2990. 22990. Extra Edge Connector ..... EACH 7.20

918-2991. 22991. 'U' Type Mounting Bracket ..... EACH 6.35

918-2992. 22992. IEC/DIN Cutout Adapter (1.770" × 3.622") ..... EACH 6.35

918-2993. 22993. Domestic Adapter (1.680" × 3.920") ..... EACH 6.35

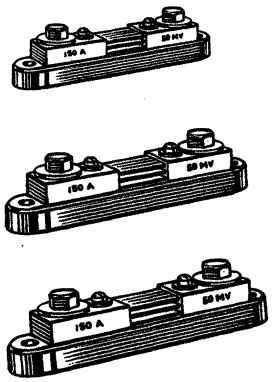
Wide-Vue Panel Meters



Meter Dimensions

Mfr.'s Type	A		B		C	
	Inch	mm	Inch	mm	Inch	mm
1227	2.47	62.73	2.17	55.11	1.06	26.92
1257	2.47	62.73	2.17	55.11	1.06	26.92
1327	3.25	82.55	2.73	69.34	1.08	27.43
1329	4.68	118.87	2.75	69.85	1.08	27.43
1357	3.25	82.55	2.73	69.34	1.08	27.43
1359	4.68	118.87	2.75	69.85	1.08	27.43

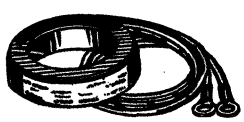
Portable Shunts For DC Ammeters



These shunts are adjusted for a 50 millivolt drop for use with panel ammeters where external shunts are required. Portable shunts have phenolic bases and supply up to 200 amperes. Accuracy, ± 1%. 5-foot leads (0.065 ohms) are included.

Stock No.	Mfr.'s Type	Amps	EACH		
			1-9	10-24	25-Up
918-6705	06705	15	31.99	31.07	29.00
918-6707	06707	25	31.99	31.07	29.00
918-6709	06709	50	31.99	31.07	29.00
918-6713	06713	100	31.99	31.07	29.00
918-6715	06715	200	31.99	31.07	29.00

Donut Current Transformers



For use with AC Ammeters. Insert one turn primary type for use with swithboard and panel ammeters where external transformers are required. Rated at 2 VA input. All have 5 VA output. All have 2′ leads.

Stock No.	Mfr.'s Type	Amps	EACH		
			1-9	10-24	25-Up
918-1294	01293	50	22.40	21.51	20.66
918-1295	01306	75	22.40	21.51	20.66
918-1297	01297	100	22.40	21.51	20.66
918-1296	01298	150	22.40	21.51	20.66
918-1298	01299	200	22.40	21.51	20.66
918-1299	01300	300	22.40	21.51	20.66

AC Voltmeters

Iron-vane type movement.

Range	Model 1257—2½"				Model 1357—3½"				Model 1359—4½"			
	Stock No.	EACH			Stock No.	EACH			Stock No.	EACH		
		1-9	10-24	25-Up		1-9	10-24	25-Up		1-9	10-24	25-Up
0-5	—	—	—	—	918-3777	49.63	48.21	45.00	918-3877	54.93	53.36	49.80
0-10	918-2978	47.50	46.14	43.07	918-3878	54.93	53.36	49.80	918-3978	54.93	53.36	49.80
0-15	918-2979	47.50	46.14	43.07	918-3879	54.93	53.36	49.80	918-3979	54.93	53.36	49.80
0-25	918-2980	47.50	46.14	43.07	918-3880	54.93	53.36	49.80	918-3980	54.93	53.36	49.80
0-50	918-2981	47.50	46.14	43.07	918-3881	54.93	53.36	49.80	918-3981	54.93	53.36	49.80
0-100	918-2982	48.75	47.36	44.20	918-3882	54.93	53.36	49.80	918-3982	54.93	53.36	49.80
0-150	918-2983	49.63	48.21	45.00	918-3883	56.62	55.00	51.33	918-3983	56.62	55.00	51.33
0-300	918-2984	49.63	48.21	45.00	918-3884	56.62	55.00	51.33	918-3984	56.62	55.00	51.33

AC Ammeters

Iron-vane type movement

Range	Model 1257—2½"				Model 1357—3½"				Model 1359—4½"			
	Stock No.	EACH			Stock No.	EACH			Stock No.	EACH		
		1-9	10-24	25-Up		1-9	10-24	25-Up		1-9	10-24	25-Up
0-1	918-2902	45.00	43.71	40.80	918-3702	49.04	47.64	44.47	918-3802	49.04	47.64	44.47
0-3	918-2903	45.00	43.71	40.80	918-3703	49.04	47.64	44.47	918-3803	49.04	47.64	44.47
0-5	918-2904	45.00	43.71	40.80	918-3704	49.04	47.64	44.47	918-3804	49.04	47.64	44.47
0-10	918-2905	45.00	43.71	40.80	918-3705	49.04	47.64	44.47	918-3805	49.04	47.64	44.47
0-15	918-2906	45.00	43.71	40.80	918-3706	49.04	47.64	44.47	918-3806	49.04	47.64	44.47
0-25	918-2907	46.32	45.00	42.00	918-3707	51.10	49.64	46.33	918-3807	51.10	49.64	46.33
0-50	918-2909	46.32	45.00	42.00	918-3709	51.10	49.64	46.33	918-3809	51.10	49.64	46.33
0-100*	918-2911	45.00	43.71	40.80	918-3711	49.04	47.64	44.47	918-3811	49.04	47.64	44.47
0-300*	918-2914	45.00	43.71	40.80	918-3714	49.04	47.64	44.47	918-3814	49.04	47.64	44.47

*Require Donut Transformer Below

DC Voltmeters

Self-shielding meter movement.

Range	Model 1227—2½"				Model 1327—3½"				Model 1329—4½"			
	Stock No.	EACH			Stock No.	EACH			Stock No.	EACH		
		1-9	10-24	25-Up		1-9	10-24	25-Up		1-9	10-24	25-Up
0-5	918-2575	52.06	50.57	47.20	918-3275	53.68	52.14	48.67	918-3475	58.38	56.71	52.93
0-10	918-2577	52.06	50.57	47.20	918-3277	53.68	52.14	48.67	918-3477	58.38	56.71	52.93
0-15	918-2578	52.06	50.57	47.20	918-3278	53.68	52.14	48.67	918-3478	58.38	56.71	52.93
0-25	918-2579	52.06	50.57	47.20	918-3279	53.68	52.14	48.67	918-3479	58.38	56.71	52.93
0-50	918-2581	52.06	50.57	47.20	918-3281	53.68	52.14	48.67	918-3481	58.38	56.71	52.93
0-100	918-2582	52.06	50.57	47.20	918-3282	53.68	52.14	48.67	918-3482	58.38	56.71	52.93
0-150	918-2583	52.06	50.57	47.20	918-3283	56.62	55.00	51.33	918-3483	58.38	56.71	52.93
0-300	918-2586	52.06	50.57	47.20	918-3286	56.62	55.00	51.33	918-3486	58.38	56.71	52.93

DC Ammeters

Self-shielding meter movement.

Range	Model 1227—2½"				Model 1327—3½"				Model 1329—4½"			
	Stock No.	EACH			Stock No.	EACH			Stock No.	EACH		
		1-9	10-24	25-Up		1-9	10-24	25-Up		1-9	10-24	25-Up
0-1	918-2501	49.63	48.21	45.00	918-3201	52.06	50.57	47.20	918-3401	56.62	55.00	51.33
0-3	918-2503	49.63	48.21	45.00	918-3203	52.06	50.57	47.20	918-3403	56.62	55.00	51.33
0-5	918-2504	49.63	48.21	45.00	918-3204	52.06	50.57	47.20	918-3404	56.62	55.00	51.33
0-10	918-2505	49.63	48.21	45.00	918-3205	52.06	50.57	47.20	918-3405	56.62	55.00	51.33
0-15	918-2506	49.63	48.21	45.00	918-3206	52.06	50.57	47.20	918-3406	55.51	53.93	50.33
0-25	918-2507	49.63	48.21	45.00	918-3207	52.06	50.57	47.20	918-3407	56.62	55.00	51.33
0-30	918-2508	49.63	48.21	45.00	918-3208	52.06	50.57	47.20	918-3408	55.51	53.93	50.33
0-50	918-2509	49.63	48.21	45.00	918-3209	52.06	50.57	47.20	918-3409	56.62	55.00	51.33
0-100	918-2510	49.63	48.21	45.00	918-3210	52.06	50.57	47.20	918-3410	55.51	53.93	50.33

DC Milliammeters

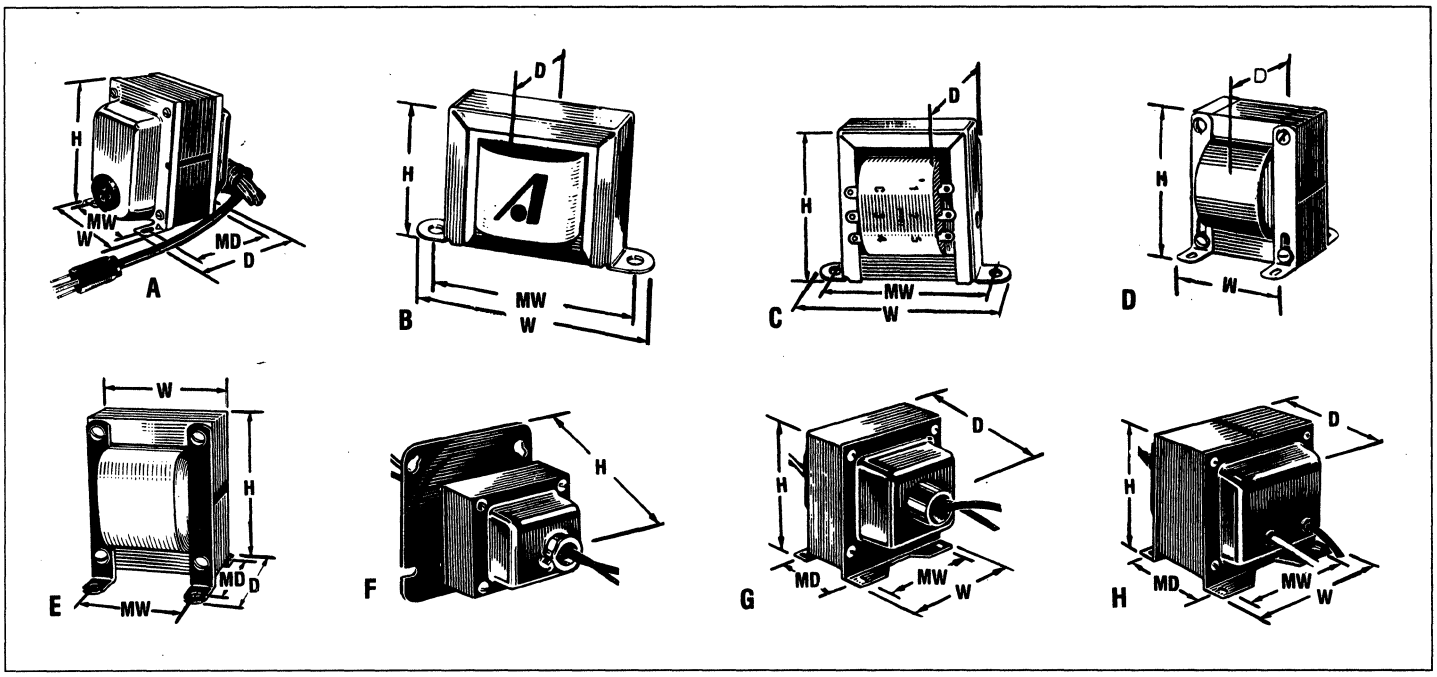
Self-shielding meter movement.

Range	Model 1227—2½"				Model 1327—3½"				Model 1329—4½"			
	Stock No.	EACH			Stock No.	EACH			Stock No.	EACH		
		1-9	10-24	25-Up		1-9	10-24	25-Up		1-9	10-24	25-Up
0-1	918-2550	49.12	47.71	44.53	918-3250	48.75	47.36	44.20	918-3450	53.68	52.14	48.67
0-5	918-2552	49.12	47.71	44.53	918-3252	48.75	47.36	44.20	918-3452	53.68	52.14	48.67
0-10	918-2553	49.12	47.71	44.53	918-3253	48.75	47.36	44.20	918-3453	53.68	52.14	48.67
0-25	918-2556	49.63	48.21	45.00	918-3256	52.06	50.57	47.20	918-3456	56.62	55.00	51.33
0-50	918-2557	49.63	48.21	45.00	918-3257	52.06	50.57	47.20	918-3457	56.62	55.00	51.33
0-100	918-2558	49.63	48.21	45.00	918-3258	52.06	50.57	47.20	918-3458	56.62	55.00	51.33

DC Microammeters

Self-shielding meter movement.

Range	Model 1227—2½"				Model 1327—3½"				Model 1329—4½"			
	Stock No.	EACH			Stock No.	EACH			Stock No.	EACH		
		1-9	10-24	25-Up		1-9	10-24	25-Up		1-9	10-24	25-Up
0-100	918-2530	56.62	55.00	51.33	918-3230	58.24	56.57	52.80	918-3430	64.85	63.00	58.80
0-500	—	—	—	—	918-3232	52.87	51.36	47.93	—	—	—	—
50-0-50	918-2536	57.06	55.43	51.73	918-3236	58.68	57.00	53.20	918-3436	64.85	63.00	58.80
100-0-100	918-2538	50.15	48.71	45.47	918-3238	53.97	52.43	48.93	918-3438	58.68	57.00	53.20
500-0-500	918-2540	49.63	48.21	45.00	918-3240	51.18	49.71	46.40	918-3440	54.12	52.57	49.07



Allied 230-to-115 Volt Step-Down Autotransformers

With 3-wire 6-ft. cord and plug, except † types. Female 3-wire outlet on case, except † types. Black enamel finish.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Outputs	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0092	6K68HF	B†	230	115	20	2 × 3 5/16 × 1 7/8	2 13/16	1.3	11.02	10.40	9.66
705-0093	6K69HF	B†	230	115	40	2 5/16 × 3 11/16 × 2 1/8	3 1/8 × 1 3/4	1.8	12.38	10.76	10.40
705-0187	6K167VCP	A	230	115	80	3 5/8 × 3 × 3 1/4	2 1/4 × 1 7/8	3.3	50.08	47.04	43.88
705-0188	6K168VCP	A	230	115	100	3 1/2 × 2 7/8 × 3 3/8	2 1/4 × 2 1/8	4.0	45.42	43.38	40.28
705-0189	6K169VCP	A	230	115	150	4 × 3 3/8 × 3 5/8	2 1/2 × 2 1/4	4.8	51.13	47.70	44.27
705-0190	6K170VCP	A	230	115	250	4 5/8 × 3 7/8 × 4 1/4	3 × 2 13/16	7.8	61.48	57.38	53.30
705-0196	6K171VCP	A	230	115	500	4 5/8 × 3 7/8 × 4 3/4	3 × 3 7/16	10.0	71.05	67.44	62.78
705-0191	6K172VCP	A	230	115	750	5 1/2 × 4 5/8 × 5	3 1/2 × 3 1/4	13.8	75.63	70.60	65.57
705-0192	6K173VCP	A	230	115	1000	5 1/2 × 4 5/8 × 5 1/4	3 1/2 × 3 1/2	14.8	87.43	82.63	76.74
705-0193	6K174VCP	A	230	115	1500	6 × 4 1/2 × 5 5/8	3 7/16 × 3 9/16	19.0	112.60	105.17	97.71
705-0194	6K175VCP	A	230	115	2000	6 × 4 1/2 × 6 3/8	3 7/16 × 4 3/8	25.0	122.70	115.66	106.52

Allied Control Transformers

Automation types for high-speed automatic equipment. Adapted to relays, pilot lamps, solenoids, small motors, etc. Also use in high current, low voltage power supplies. Secondaries have two identical windings for series or parallel operation. Primaries operate from either 115 or 230 V, 50-60 Hz AC.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Parallel	Series	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0101	6K77VFL	C	115/230	6V@2.0A	12V@1.00A	2 3/8 × 2 7/8 × 1 3/4	2 3/8	—	11.10	10.31	9.50
705-0102	6K78VFL	C	115/230	6V@4.0A	12V@1.00A	2 3/4 × 3 1/8 × 2	2 13/16	—	14.29	12.38	11.44
705-0103	6K79VFL	C	115/230	12V@4.0A	24V@2.00A	3 1/8 × 3 5/8 × 2 3/8	3 1/8	—	16.76	15.57	14.38
705-0104	6K80VBR	E	115/230	12V@8.0A	24V@4.00A	3 3/8 × 2 7/8 × 3 1/8	2 1/4 × 2 3/8	—	25.86	22.42	20.70
705-0144	6K119VBR	E	115/230	12V@16.0A	24V@8.00A	4 3/16 × 3 1/2 × 3 7/8	2 3/4 × 3	—	41.63	39.00	36.36
705-0200	6K183VFL	C	115/230	24V@0.5A	48V@0.25A	2 3/8 × 2 7/8 × 1 3/4	2 3/8	1.0	11.90	11.10	10.31
705-0210	6K184VFL	C	115/230	24V@1.0A	48V@0.50A	2 3/4 × 3 1/8 × 2	2 13/16	1.8	15.64	14.66	13.69
705-0220	6K185VFL	C	115/230	24V@2.0A	48V@1.00A	3 1/8 × 3 5/8 × 2 3/8	3 1/8	2.5	19.48	18.00	16.90
705-0230	6K186VBR	D	115/230	24V@4.0A	48V@2.00A	3 3/8 × 2 7/8 × 3	2 1/4 × 2 1/4	4.3	25.28	23.69	21.99
705-0240	6K187VBR	D	115/230	24V@8.0A	48V@4.00A	4 3/16 × 3 1/2 × 3 7/8	2 3/4 × 3	7.8	41.95	39.37	36.75

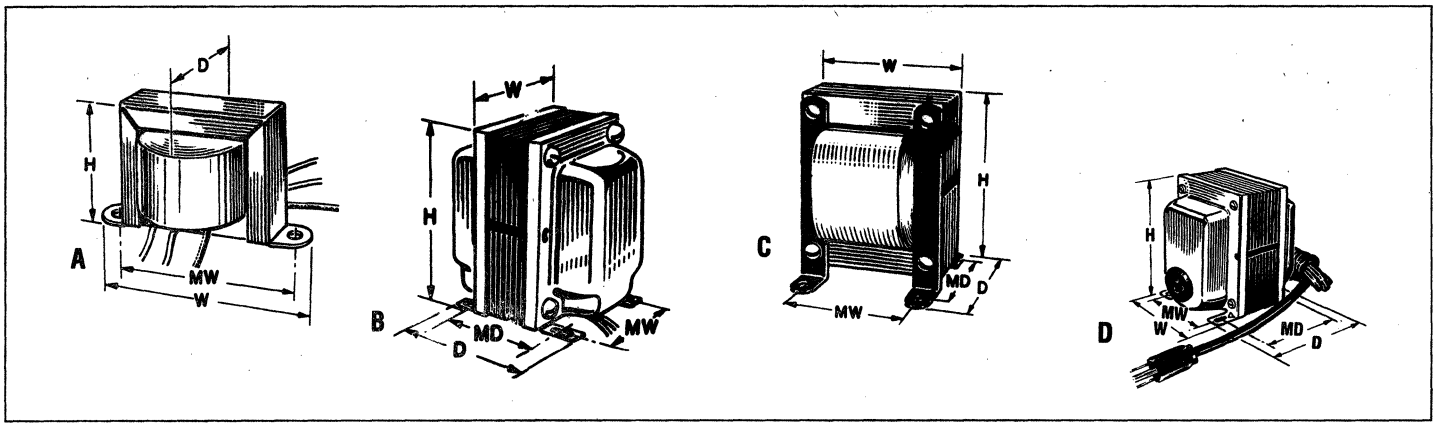
Allied Control Transformers

For 120 V or low voltage 24 V line. 50/60 Hz. 240-480 V primaries must be series connected for 480 V; parallel connected for 240 V.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Outputs	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	EACH 1-49	EACH 50-99	EACH 100-499
705-0172	6K147	F	120	24	50	4 × 4 3/16 × 4 3/16	*	28.11	26.11	24.09
705-0173	6K148	G	120	24	100	3 1/2 × 3 3/4 × 4 1/4	3 1/4 × 1 13/16	32.22	29.97	28.01
705-0174	6K149	G	120	24	150	3 1/2 × 3 3/4 × 5	3 1/4 × 2 9/16	38.01	36.59	34.14
705-0175	6K150	H	120	24	250	4 × 4 1/2 × 4 7/8	3 3/4 × 3 3/16	48.99	45.79	42.60
705-0180	6K155	F	480/240	24	50	4 × 4 3/16 × 4 3/16	*	31.97	30.86	28.78

*Mounts to standard conduit box.

Allied transformers are specially built to Allied Electronics' high standard for quality, stability and long-term performance. Laminated cores of silicon iron electrical grade steel. Insulation is non-corrosive Class A. Temperature rating 105°C continuous operation. Superior permeability at high inductances, with low coil loss. Coils of high quality film insulated copper magnet wire. PVC leads are fast stripping and provide protection from oil, ozone and abrasion. Cold rolled steel covers provide protection to coils. Finished in semi-gloss enamel for good appearance. Compare prices and specifications and you will find that Allied transformers are your best buy.



Allied Isolation Transformers

With new 3-wire 6 ft. cord, plug and receptacle, except * types.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Outputs	Size H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0138	6K112HF*	A	115	115	35	$2^{3}/_{8} \times 3^{11}/_{16} \times 2^{1}/_{4}$″	$3^{1}/_{8}$″	1.8	11.62	10.83	10.02
705-0165	6K140HF*	A	115/230	115	50	$2^{5}/_{16} \times 3^{11}/_{16} \times 2^{3}/_{8}$″	$3^{1}/_{8}$	2.0	16.84	15.72	14.59
705-0195	6K179VCP	D	115	115	50	$3^{5}/_{8} \times 3 \times 3^{3}/_{8}$″	$2^{1}/_{4} \times 1^{7}/_{8}$″	3.8	52.50	44.42	38.37
705-0197	6K180VCP	D	115	115	100	$4^{3}/_{8} \times 3^{5}/_{8} \times 4$″	$2^{3}/_{4} \times 2^{3}/_{4}$″	6.5	56.38	52.05	48.33
705-0198	6K181VCP	D	115	115	150	$3^{7}/_{8} \times 3^{1}/_{4} \times 4^{7}/_{16}$″	$2^{1}/_{2} \times 3^{1}/_{16}$″	7.3	61.15	57.09	53.01
705-0199	6K182VCP	D	115	115	250	$4^{5}/_{8} \times 3^{7}/_{8} \times 4^{5}/_{8}$″	$3 \times 3^{3}/_{8}$″	10.0	68.95	64.41	58.85

Allied Miniature Isolation Transformers

50-60 Hz.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	Watts	Size H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0250	6K188HF	A	115	115	0.6	$1^{1}/_{4} \times 2^{1}/_{8} \times 1^{1}/_{4}$″	$1^{3}/_{4}$″	0.3	11.67	11.09	10.52

Allied Multi-Tap Power Transformers (Fig. C)

For use in full-wave center-tapped or bridge-type circuits with standard rectifiers. Allows a variety of combinations using taps on windings, plus "aiding" or "bucking" action of extra winding. Permit numerous output voltages in addition to those below. Pri. 117V, 50-60 Hz.

Stock No.	Mfr.'s Type	Rect. Circuit	Range of AC Volts	Max. DC Output V†	Max. DC Output A*†	Max. DC Output V*	Size H × W × D	Mtg. Ctrs. MW × MD	EACH 1-49	EACH 50-99	EACH 100-499
705-0087	6K63VBR	CT Bridge	11.5-29.5 11.0-28.5	11.2 23.0	2.00 1.25	.8 30.0	$3^{1}/_{8} \times 2^{5}/_{8} \times 2^{7}/_{8}$″	$2 \times 2^{1}/_{8}$″	21.69	18.81	17.36
705-0088	6K64VBR	CT Bridge	12.0-29.6 12.0-29.6	11.1 24.3	4.00 2.00	14.7 33.0	$3^{3}/_{8} \times 2^{7}/_{8} \times 3$″	$2^{1}/_{4} \times 2^{1}/_{2}$	24.86	23.10	21.31
705-0089	6K65VBR	CT Bridge	11.5-29.0 11.5-29.0	12.0 24.0	8.00 4.00	14.5 32.4	$3^{13}/_{16} \times 3^{3}/_{16} \times 4^{1}/_{2}$″	$2^{1}/_{2} \times 3^{3}/_{8}$″	36.22	32.48	29.98
705-0091	6K67VBR	CT Bridge	12.0-29.0 12.0-29.0	11.4 23.7	15.00 8.00	14.8 32.5	$4^{5}/_{8} \times 3^{3}/_{4} \times 5$″	$3 \times 3^{3}/_{4}$″	75.31	67.20	62.39

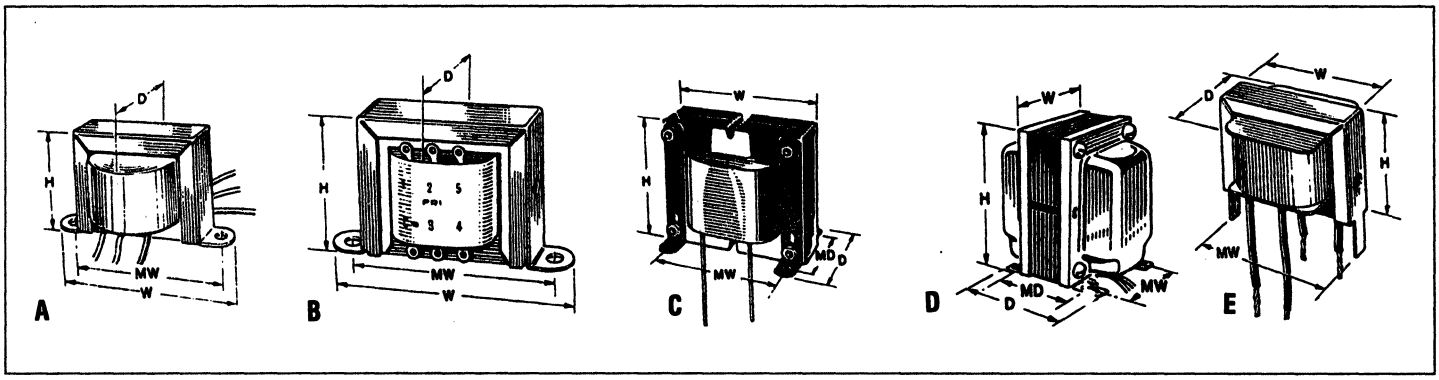
†Resistive or inductive load. *Capacitance load.

Allied Low-Voltage Rectifier Transformers

Primary, 115V, except † 110-120.

Stock No.	Mfr.'s Type	Fig.	Secondary Volts	Secondary Amps	Case Size H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0127	6K101HF*	A	10/20CT/40CT	.1A	$1^{11}/_{16} \times 2^{13}/_{16} \times 1^{5}/_{8}$″	$2^{3}/_{8}$″	0.7	12.10	11.85	11.45
705-0128	6K102HF*	A	10/20CT/40CT	.3A	$2^{3}/_{8} \times 3^{3}/_{4} \times 2^{1}/_{8}$″	$3^{1}/_{8}$″	1.5	12.86	12.00	11.14
705-0130	6K104VG*	B	10/20CT/40CT	1.0A	$3 \times 2^{1}/_{2} \times 3^{1}/_{8}$″	$2 \times 2^{1}/_{16}$″	3.2	23.00	21.47	20.41
705-0131	6K105VBR	C	0/17/18	3.0A	$3^{1}/_{8} \times 2^{9}/_{16} \times 2^{7}/_{8}$″	$2 \times 2^{3}/_{8}$″	3.2	18.74	17.49	16.24
705-0132	6K106VBR	C	0/17/18	6.0A	$3^{13}/_{16} \times 3^{3}/_{16} \times 3^{1}/_{2}$″	$2^{1}/_{2} \times 3^{3}/_{8}$″	5.5	26.82	24.91	22.98
705-0133	6K107VBR	C	0/6.5/13/19.5/26	3.0	$3^{1}/_{2} \times 2^{7}/_{8} \times 2^{3}/_{4}$″	$2^{1}/_{4} \times 2^{1}/_{8}$″	3.5	23.00	21.47	20.41
705-0134	6K108VBR	C	0/24/27/30/33/36	3.0	$3^{13}/_{16} \times 3^{1}/_{8} \times 3^{3}/_{16}$″	$2^{1}/_{2} \times 2^{5}/_{8}$″	5.6	28.49	26.59	24.69
705-0135	6K109VBR†	C	0/24/27/30/33/36	8.0	$4^{5}/_{8} \times 3^{13}/_{16} \times 4^{1}/_{8}$″	$3 \times 3^{1}/_{4}$″	10.8	52.99	51.23	43.91

*Tapped primary for lower voltages.



Allied transformers are specially built to Allied Ellectronics' high standard for quality, stability and long-term performance. Laminated cores of silicon iron electrical grade steel. Insulation is non-corrosive Class A. Temperature rating 105°C continuous operation. Superior permeability at high inductances, with low coil loss. Coils of high quality film insulated copper magnet wire. PVC leads are fast stripping and provide protection from oil, ozone and abrasion. Cold rolled steel covers provide protection to coils. Finished in semi-gloss enamel for good appearance. Compare prices and specifications and you will find that Allied transformers are your best buy.

Allied Interstage Audio Transformer

Maximum DC permissible in primary is 30 mA. Single plate to P-P grid. **Turns ratio:** 1:1.

Stock No.	Mfr.'s Type	Fig.	Impedance, Ohms		Maximum DC Amps	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH		
			Primary	Secondary					1-49	50-99	100-499
705-0862	6W68HF	A	10K	10K CT	30 mA	1 5/8 × 2 7/8 × 1 5/8	2 3/8	0.8	11.92	10.99	10.21

Allied Constant-Voltage 70.7V Line-To-Voice-Coil Transformers

Secondary impedance: 4, 8, 16 ohms except *4, 8 ohms only.

Stock No.	Mfr.'s Type	Fig.	Watt. Taps	Max. Watts	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH		
								1-49	50-99	100-499
705-0801	6W2HFL	B*	5, 2.5, 1.25, .625, .31	5	1 3/8 × 2 3/8 × 1 1/2	2	0.5	16.85	14.78	13.90
705-0802	6W4HFL	B	10, 5, 2.5, 1.25, .62	10	1 5/8 × 2 13/16 × 1 5/8	2 3/8	0.8	16.78	14.72	13.87
705-0804	6W6HFL	B	24, 12, 6, 3, 1.5, .75	24	2 3/8 × 3 11/16 × 2 1/4	3 1/8	2.3	24.63	22.74	21.12

Allied Standard Line-To-Voice-Coil Transformer

Stock No.	Mfr.'s Type	Fig.	Impedance, Ohms		Nominal Watts	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH		
			Primary	Secondary					1-49	50-99	100-499
705-0823	6W29HFL	B	500	3.2, 8	.5	1 3/8 × 2 3/8 × 1 1/2	2	1.3	7.67	7.08	6.51

Allied Standard Audio Output Transformers

For coupling single output tube to speaker.

Stock No.	Mfr.'s Type	Fig.	Primary Impedance	Secondary Impedance	Watts Audio	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH		
									1-49	50-99	100-499
705-0828	6W34HF	A	2000 @ 60 mA	4	5	1 3/8 × 2 3/8 × 1 3/8	2	0.8	10.01	9.24	8.68

Allied's Own Filter Chokes

Rated at 10 V, 60 Hz with max. DC in winding. All – 15%, + 50% tolerance. 1500 V rms insulation (except * which is a swinging choke @ 3000 rms).

Stock No.	Mfr.'s Type	Fig.	Henries	Amps	DC res in Ohms	Size—Inches H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH		
									1-49	50-99	100-499
705-0600	6X41HBR	C	.010	8.000	.15	3 1/4 × 3 3/4 × 3 1/16	3 1/8 × 2 1/2	5.3	24.84	21.02	18.15
705-1131	6X31HBR	C	.010	12.500	.11	3 1/2 × 4 1/8 × 3	3 7/16 × 2 3/8	6.0	29.33	27.36	25.41
705-0610	6X43PC	E	.003	1.000	.25	1 1/4 × 1 1/2 × 1	1 1/4 × 7/16	0.2	6.24	5.28	4.56
705-0620	6X51PC	E	.011	1.000	.75	1 1/4 × 1 1/2 × 1	1 1/4 × 7/16	0.2	6.92	5.86	5.06
705-1129	6X29HBR	C	.035	2.000	.75	2 3/8 × 2 5/8 × 2 1/2	2 3/16 × 2	0.8	13.29	12.27	11.39
705-1134	6X34HF	A	.320	.600	10.00	2 × 3 1/4 × 2 1/4	2 13/16	1.3	8.77	8.18	7.59
705-1135	6X35HF	A	.700	.290	30.00	1 11/16 × 2 13/16 × 1 1/2	2 3/8	3.5	5.80	5.42	5.02
705-1115	6X15HF	A	8.000	.085	260.00	2 × 3 1/4 × 2	2 13/16	1.5	17.48	16.14	14.98
705-1121	6X21VG	D	12.0/4.0*	100/200	145.00	3 × 2 5/8 × 2 11/16	2 × 1 3/4	2.8	29.88	27.58	25.62

Allied Transistor Output Transformers

Stock No.	Mfr.'s Type	Fig.	Impedance, Ohms		DC Res, Ohms		Watts	Size—Inches H × W × D	Mtg. Ctrs. Inches	EACH		
			Primary	Secondary	Pri.	Sec.				1-49	50-99	100-499
705-0531	6T28PC	D	500 CT	4, 8, 16	75.0	3.6	.15	21/32 × 13/16 × 5/8	25/32	10.11	9.47	8.83
705-0530	6T36HF	A	160	4, 8, 16	18.8	1.4	.30	1 3/16 × 1 5/8 × 3/4	1 3/8	12.51	11.53	10.01

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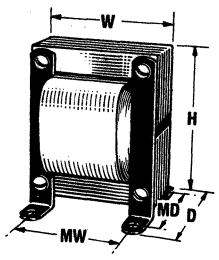

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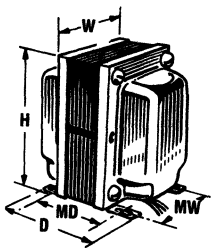

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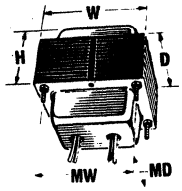

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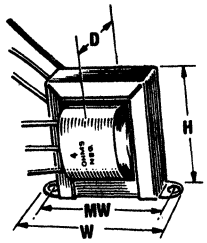

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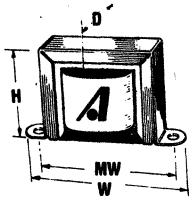


E

Allied's Own Power Transformers

For new equipment or replacement use. All types listed are shielded except those indicated by ‡. Have 8″ flexible color-coded leads for easy installation. Plate windings are center-tapped except *half-wave type. 6.3 volt windings are center-tapped except † not center-tapped. All have primaries for operation from 110-120 volt, 50 to 60 Hz AC, except for **60 Hz AC only.

Stock No.	Mfr.'s Type	Fig.	VCT	mA	5V (Amps)	6.3V (Amps)	Case Size H × W × D	Mfg. Size MW × MD	EACH 1-49	EACH 50-99	EACH 100-499
705-0034	6K27VF‡**	D	125*	15	—	0.6†	2 × 2 3/8 × 1 3/4″	2″	12.71	11.72	10.89
705-0001	6K1VF‡**	D	250	25	—	1.0†	2 3/8 × 2 7/8 × 1 7/8″	2 3/8″	16.43	15.16	14.08
705-0067	6K49VG	B	460	50	—	2.5†	3 3/16 × 2 5/8 × 2 11/16″	2 × 1 9/16″	18.66	17.22	15.99
705-0002	6K2HB	C	480	40	2	2.0	1 13/16 × 3 × 2 1/2″	2 1/2 × 2″	18.35	16.95	15.73
705-0113	6K88VG	B	500	40	—	2.0	2 3/4 × 2 1/4 × 2 3/4″	1 3/4 × 1 1/2″	17.19	16.04	14.90
705-0081	6K56VG	B	540	120	3	3.5	3 15/16 × 3 1/4 × 3 1/2	2 1/2 × 2 1/4″	31.74	29.21	26.41
705-0005	6K3VG	B	650	40	2	2.0	3 3/16 × 2 5/8 × 2 11/16″	2 × 1 11/16″	19.99	18.56	17.14
705-0013	6K7VG	B	750	150	3	5.0	3 15/16 × 3 1/4 × 4 3/8″	2 1/2 × 3 1/16″	45.90	38.84	33.50

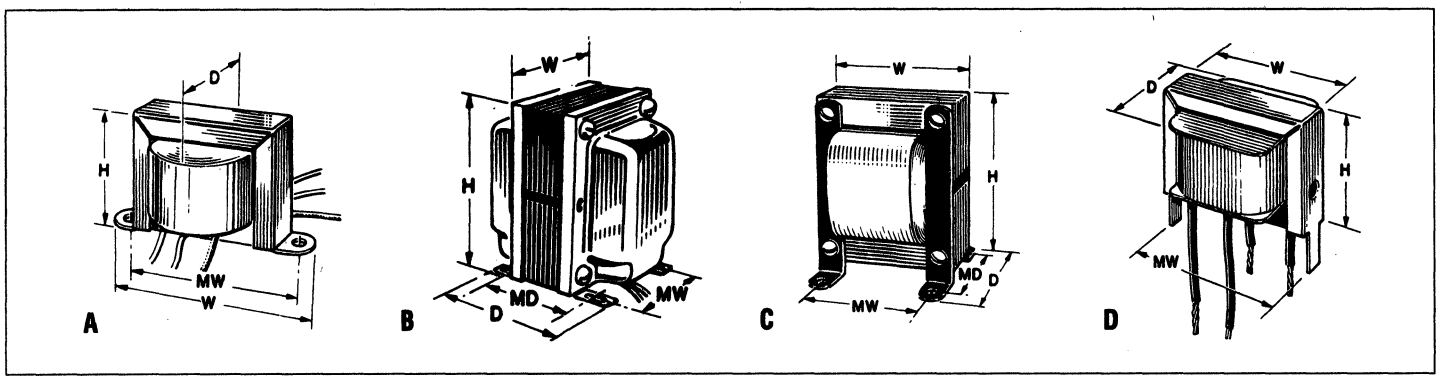
Allied's Low Power Transformers

1500 RMS.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output Volts	VA Outputs	Size H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0625	6K215HF	E	117V	12.0	0.150A	1 1/4 × 2 1/16 × 1 1/4″	1 3/4″	0.3	6.76	5.72	4.94
705-0630	6K235HF	E	117V	12.0	0.350A	1 3/8 × 2 3/8 × 1 1/2″	2″	0.4	7.10	6.01	5.19
705-0635	6K270HF	E	117V	12.0	0.700A	1 5/8 × 2 13/16 × 1 5/8″	2 3/8″	0.6	7.26	6.14	5.31
705-0640	6K212HF	E	117V	12.0	1.200A	2 × 3 1/4 × 1 3/4″	2 13/16″	0.9	9.02	7.63	6.59
705-0645	6K240HF	E	117V	12.0	4.000A	2 5/8 × 4 × 2 1/4″	3 9/16″	2.3	14.52	12.29	10.61
705-0650	6K260VBR	A	117V	12.0	6.000A	3 7/16 × 2 13/16 × 2 5/8″	2 1/4 × 2 1/8″	3.4	22.20	18.78	16.22
705-0655	6K220HF	E	115V	18.0 CT	2.000A	2 9/32 × 3 3/4 × 2 1/4″	3 1/8″	2.1	12.94	10.95	9.46
705-0660	6K210HF	E	117V	20.0 CT	1.000A	2 × 3 1/4 × 2 1/8″	2 13/16″	1.4	11.04	9.34	8.07
705-0665	6K285HF	E	117V	24.0 CT	0.085A	1 1/4 × 2 1/16 × 1 1/2″	1 3/4″	0.3	7.72	6.53	5.64
705-0670	6K202HF	E	117V	24.0 CT	0.200A	1 3/8 × 2 3/8 × 1 1/2″	2″	0.4	7.62	6.45	5.57
705-1200	6K258HF	E	117V	24.0 CT	0.400A	1 5/8 × 2 13/16 × 2 3/8″	1 5/8″	0.6	8.58	7.26	6.27
705-0675	6K207HF	E	117V	24.0 CT	0.700A	2 × 3 1/4 × 1 3/4″	2 13/16″	0.9	9.02	7.63	6.59
705-0680	6K222HF	E	115V	24.0 CT	2.000A	2 9/16 × 4 × 2 1/4″	3 9/16″	2.3	13.42	11.36	9.81
705-0685	6K204VBR	A	117V	24.0 CT	4.000A	3 13/16 × 3 1/8 × 2 13/16″	2 1/2 × 2 1/8″	4.0	21.76	18.41	15.90
705-0690	6K206VBR	A	117V	24.0 CT	6.000A	4 3/16 × 3 7/16 × 3″	2 3/4 × 2 1/4″	5.7	29.62	25.06	21.65
705-0695	6K208VBR	A	117V	24.0 CT	8.000A	4 3/16 × 3 7/16 × 3 1/2″	2 3/4 × 2 3/4″	7.3	36.10	30.55	26.38
705-2010	6K242VBR	A	117V	24.0 CT	12.000A	4 9/16 × 3 3/4 × 4 5/8″	3 × 3 1/4″	11.5	47.50	40.19	34.71
705-2015	6K263HF	E	117V	28.0 CT	0.300A	1 5/8 × 2 7/8 × 1 5/8″	2 3/8″	0.6	9.50	8.04	6.94
705-2020	6K268HF	E	117V	28.0 CT	0.800A	2 × 3 1/4 × 2 1/8″	2 13/16″	1.0	10.00	8.46	7.31
705-2025	6K261HF	E	117V	28.0 CT	1.000A	2 × 3 1/4 × 2 1/8″	2 13/16″	1.4	11.60	9.82	8.48
705-2030	6K262VBR	A	117V	28.0 CT	2.000A	3 1/8 × 2 1/2 × 2 1/2″	2 × 2 3/16″	2.9	16.28	13.78	11.90
705-2035	6K264VBR	A	117V	28.0 CT	4.000A	3 13/16 × 3 1/8 × 3 1/4″	2 1/2 × 2 1/2″	5.3	23.28	19.70	17.01
705-2040	6K270HF	E	117V	36.0 CT	0.0135A	1 3/8 × 2 3/8 × 1 1/2″	2″	0.4	8.88	7.51	6.49
705-2045	6K276HF	E	117V	36.0 CT	0.065A	1 1/4 × 2 1/8 × 1 3/8″	1 3/4″	0.3	9.58	8.11	7.00
705-2050	6K273HF	E	117V	36.0 CT	0.300A	1 5/8 × 2 7/8 × 1 5/8″	2 3/8″	0.6	9.24	7.82	6.75
705-2055	6K275HF	E	117V	36.0 CT	0.550A	2 × 3 1/4 × 1 7/8″	2 13/16″	1.0	10.76	9.10	7.86
705-2060	6K271HF	E	117V	36.0 CT	1.000A	2 3/8 × 3 3/4 × 2 3/8″	3 1/8″	2.0	13.48	11.41	9.85
705-2065	6K274VBR	A	117V	36.0 CT	4.000A	4 3/16 × 3 7/16 × 3 1/8″	2 3/4 × 2 3/8″	6.0	25.34	21.44	18.52

Transistor and Filament Transformers

Allied transformers are specially built to Allied Ellectronics' high standard for quality, stability and long-term performance. Laminated cores of silicon iron electrical grade steel. Insulation is non-corrosive Class A. Temperature rating 105°C continuous operation. Superior permeability at high inductances, with low coil loss. Coils of high quality film insulated copper magnet wire. PVC leads are fast stripping and provide protection from oil, ozone and abrasion. Cold rolled steel covers provide protection to coils. Finished in semi-gloss enamel for good appearance. Compare prices and specifications and you will find that Allied transformers are your best buy.



Allied Filament Transformers

Quality filament transformers provide reliable operation in a variety of applications. Primaries for 117 volts 50-60 Hz (except † which are 115V). Type with ** has tapped primary to produce lower voltages. Types with * have primary tap for 107-volt operation. Types with † have an electrostatic shield.

Stock No.	Mfr.'s Type	Fig.	Volts	Amps	Insul., rms V	Size H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0110	6K86HF	A	2.5 CT	3.0	1500	1 5/8 × 2 13/16 × 1 7/8″	2 3/8″	0.60	11.00	9.31	8.04
705-0049	6K39HF	A	5.0 CT	3.0	2500	2 × 3 1/4 × 2 1/8″	2 13/16″	1.30	11.08	9.38	8.10
705-0018	6K11HF	A	5.0 CT	6.0	2500	2 3/8 × 3 11/16 × 2 3/8″	3 1/8″	1.70	13.42	11.36	9.81
705-0145	6K120VBR	C	5.0 CT	15.0	2500	3 × 2 1/2 × 3″	2 × 2 1/4″	3.50	27.10	22.93	19.80
705-0086	6K62VBR	C	5.0 CT	21.0	2500	3 3/4 × 3 1/8 × 3 1/4″	2 1/2 × 2 1/4″	5.00	31.68	26.81	23.15
705-0042	6K32HF	A	6.3	0.6	1500	1 3/8 × 2 3/8 × 1 3/8″	2″		7.92	6.70	5.79
705-4010	6K363HF	A	6.3 CT	0.3	1500	1 1/4 × 2 1/8 × 1 3/8″	1 3/4″	0.30	7.88	6.67	5.76
705-4020	6K365HF	A	6.3 CT	0.6	1500	1 3/8 × 2 3/8 × 1 3/8″	2″	0.40	7.36	6.23	5.38
705-0016	6K9HF	A	6.3 CT	1.0	1500	1 5/8 × 2 13/16 × 1 3/4″	2 3/8″	0.60	7.60	6.43	5.55
705-0045	6K35HF	A	6.3 CT	1.2	2500	1 5/8 × 2 13/16 × 1 7/8″	2 3/8″	0.70	7.80	6.60	5.70
705-0017	6K10HF	A	6.3 CT	3.0	2500	2 × 3 1/4 × 2 3/8″	2 13/16″	1.25	10.72	9.07	7.83
705-0044	6K34VBR*	C	6.3 CT	10.0	2500	3 3/8 × 2 13/16 × 2 7/8″	2 1/4 × 2 1/8″	3.50	30.40	25.72	22.22
705-0099	6K75VBR†	C	10.0 CT	4.0	2500	3 3/8 × 2 13/16 × 2 3/4″	2 1/4 × 2 1/8″	3.25	23.50	19.88	17.17
705-0159	6K134VBR**	C	12-11-10 CT	11.0	3000	4 3/16 × 3 7/16 × 3 1/8″	2 3/4 × 2 1/2″	6.50	35.98	30.44	26.29
705-0290	6K192HF	A	12.6	1.0	1500	2 × 3 1/4 × 1 3/4″	2 13/16″	1.00	9.00	7.62	6.58
705-0121	6K94HF	A	12.6 CT	1.5	1500	2 × 3 1/4 × 2″	2 13/16″	1.00	9.60	8.12	7.02
705-0046	6K36HF	A	12.6 CT	2.0	1500	2 × 3 1/4 × 2 1/8″	2 13/16″	1.10	10.20	8.63	7.45
705-0136	6K110HF	A	12.6 CT	3.0	1500	2 1/4 × 3 11/16 × 2 1/4″	3 1/8″	1.75	13.10	11.08	9.57
705-4025	6K526VG	B	12.6 CT	6.0	1500	3 1/2 × 2 13/16 × 3 3/8″	2 1/4 × 2 1/8″	3.50	21.70	18.36	15.86
705-4030	5K324HF	A	24.0	1.0	2500	2 × 3 1/4 × 2 1/8″	2 13/16 × 2 13/16″	1.50	9.32	7.89	6.81
705-0139	6K113HF	A	24.0 CT	1.0	1500	2 × 3 1/8 × 2″	2 13/16″	1.50	9.72	8.22	7.10
705-0047	6K37HF	A	25.2	1.0	1500	2 × 3 1/4 × 2 1/8″	2 13/16″	1.50	10.46	8.85	7.64
705-4035	6K352HF	A	25.2 CT	1.0	1500	2 × 3 1/4 × 2 1/8″	2 13/16″	1.50	9.72	8.22	7.10
705-0123	6K96HF	A	25.2 CT	2.0	1500	2 5/8 × 4 × 2 3/8″	3 9/16″	2.20	12.88	10.90	9.41
705-4040	6K325HF	A	25.2 CT	3.0	1500	2 9/16 × 4 × 2 3/8″	3 9/16″	2.20	15.98	13.52	11.68
705-0065	6K48HF†	A	26.5 CT	0.6	3000	2 × 3 1/4 × 2 1/8″	2 13/16″	1.60	10.70	9.05	7.82
705-0114	6K89HF	A	26.8 CT	1.0	1500	2 × 3 1/4 × 2 1/8″	2 13/16″	1.60	10.22	8.65	7.47

Allied Transistor Output Transformers

Stock No.	Mfr.'s Type	Fig.	Impedance, Ohms Pri.	Impedance, Ohms Sec.	Res., Ohms Pri.	Res., Ohms Sec.	Watts	Size H × W × D	Mtg. Ctrs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0530	6T36HF	A	160	4, 8, 16	18.8	1.4	0.30	1 13/16 × 1 5/8 × 3/4″	1 3/8 ″	10.11	9.47	8.83
705-0531	6T28PC	D	500 CT	4, 8, 16	75.0	3.6	0.15	21/32 × 13/16 × 5/8″	25/32″	12.51	11.53	10.01

Allied Transistor Interstage Transformers

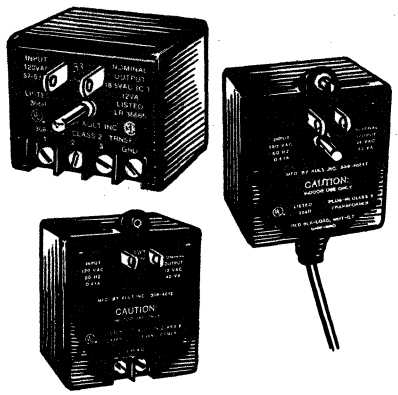
Stock No.	Mfr.'s Type	Fig.	Impedance, Ohms Pri.	Impedance, Ohms Sec.	Res., Ohms Pri.	Res., Ohms Sec.	Watts	Size H × W × D	Mtg. Ctrs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0511	6T11PC	D	500 CT	50 K	27	1330	0.15	21/32 × 13/16 × 5/8″	25/32″	14.92	13.97	12.57
705-0540	6T46PC	A	1500	500 CT	105	47	0.15	21/32 × 13/16 × 5/8″	25/32″	11.00	10.21	9.47
705-0545	6T48HF	A	500 CT	500 CT	40 DCR	55 DCR	0.30	13/16 × 1 5/8 × 3/4″	1 3/8 ″	10.85	9.21	8.59

Allied Transistor Power Transformers

For Bridge Rectifier. Identical dual plate supplies. Primary for 117 V.

Stock No.	Mfr.'s Type	Fig.	Primary Volts	Plate Supply AC V	Plate Supply DC mA	Size H × W × D	Mtg. Ctrs. MW × MD	Wt. Lbs.	EACH 1-49	EACH 50-99	EACH 100-499
705-0158	6K133VG	B	117	13 or 18	900	3 1/8 × 2 5/8 × 3″	2 × 2″	2.7	7.94	7.33	6.80

Wallmount Transformers



External AC to AC transformers are used in a multitude of applications, including:

- Modems
- Medical Products (UL 544)
- Telecommunications Products
- Security Systems
- LED Displays
- Home Computers
- Data Communications Products
- Microprocessors
- Battery Power Systems
- Low Voltage Lights
- Power Tools

Case Dimensions—Inches (mm)

Size No.	Width (W)	Length (L)	Height (H)
3	2.20 (55.9)	1.88 (47.8)	1.96 (49.8)
TR5	2.72 (69.0)	2.95 (74.9)	1.88 (47.8)
7	2.67 (67.8)	4.72 (119.9)	2.22 (56.4)
PS5	2.72 (69.0)	2.95 (74.9)	1.83 (46.4)

Ault's line of wall plug-in transformers are UL and CSA approved. Use of an external transformer reduces weight and size of the system being powered. Eliminate hazardous voltages at the product being powered thereby minimizing agency approval costs. Used in Data Communications, Telecommunications, Microprocessor Based Systems, Medical Applications and Security Systems among many other uses.

Stock No.	Mfr.'s Type	Special Features	Output		Case No.	Output Connection	EACH			
			VA	AC Voltage			1-9	10-24	25-49	50-99
298-0185	308-1107-000		10.0	7.0	3	Screw Terminals	**19.20**	**16.80**	**13.20**	**11.90**
298-3000	338-1107-000		10.0	7.0	3	7′ Cord, Unterminated	**19.20**	**16.80**	**13.20**	**11.90**
298-3005	308-1051-000		16.0	10.0	3	Screw Terminals	**23.20**	**20.30**	**15.95**	**12.80**
298-3010	338-1112-000		10.0	12.0	3	7′ Cord, Unterminated	**28.88**	**25.27**	**19.86**	**17.10**
298-0115	308-2012-000		20.0	12.0	3	Screw Terminals	**15.80**	**13.83**	**10.86**	**9.10**
298-0130	306-4012-000		40.0	12.0	TR5	Screw Terminals	**23.58**	**20.83**	**16.34**	**14.10**
298-0125	308-2014-000E		20.0	14.0	3	Screw Terminals	**15.80**	**13.83**	**10.86**	**9.10**
298-0210	306-4014-000E		40.0	14.0	TR5	Screw Terminals	**23.58**	**20.83**	**16.34**	**14.10**
298-0200	308-2016-000E		20.0	16.0	3	Screw Terminals	**15.80**	**13.83**	**10.86**	**9.10**
298-3015	306-4016-000E		40.0	16.0	TR5	Screw Terminals	**23.58**	**20.83**	**16.34**	**14.10**
298-3020	308-1065-010	1,2,T*	18.5	12.0	3	Screw Terminals	**27.80**	**24.33**	**19.11**	**17.00**
298-3025	338-1065-010	1,2,T*	18.5	12.0	3	7′ Cord, T	**36.16**	**31.64**	**24.86**	**20.10**
298-0205	308-2018-000E		20.0	18.0	3	Screw Terminals	**15.80**	**13.83**	**10.86**	**9.10**
298-0215	306-4018-000E		40.0	18.0	TR5	Screw Terminals	**23.58**	**20.83**	**16.34**	**14.10**
298-0220	308-1020-010	1,2,T*	9.6	24.0	3	Screw Terminals	**30.04**	**26.29**	**20.65**	**16.60**
298-0100	308-1124-000E		10.0	24.0	3	Screw Terminals	**19.20**	**16.80**	**13.20**	**11.90**
298-0125	308-2024-000E		20.0	24.0	3	Screw Terminals	**15.80**	**13.83**	**10.86**	**9.10**
298-0135	306-4024-000E		40.0	24.0	TR5	Screw Terminals	**23.58**	**20.83**	**16.34**	**14.10**

*Special Features: 1 - Ground; 2 - Resettable Fuse; T - Center Tap

Wallmount Battery Chargers

Advantages

Automatic Dual Voltage (cylical) Models:

- Rapidly recharge batteries without danger of overcharge
- For use when batteries are repeatedly being discharged and recharged
- Charger is not connected to battery during discharge allowing for remote product use
- Typically used for portable instrumentation

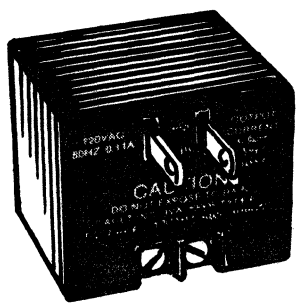
Fixed Voltage (Float) Models:

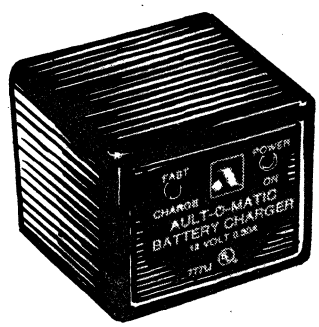
- Provide optimum battery life in standby applications
- Maintain fully charged battery at a constant voltage
- Used typically in the event of power failure or when charger is always connected to battery during discharge
- Some models can be used as a power supply and charger at the same time

Designed for use with Gel Cell and Sealed Lead Acid Batteries, these Battery Chargers operate as either Automatic Dual Voltage or Fixed Voltage Chargers. Dual voltage chargers are used where the batteries are constantly being discharged and recharged. Fixed voltage chargers are used in battery standby applications.

Features

- Lightweight wall plug-in and desk top styles
- Available in automatic dual voltage and fixed voltage models
- Available for 6, 12 and 24 volt Gel Cell and Sealed Lead Acid Batteries
- Built to UL and CSA standards
- Many are designed for medical use—UL 544 Recognized
- Thermal overload protected
- Available with input and/or output cord(s) and connector
- Available with 220 V/50 Hz input for European use
- One year warranty





Stock No.	Mfr.'s Type	Battery Voltage	Battery Type	Battery Capacity	Dual Voltage	Fixed Voltage	Case No.	Input Connection	Output Connection	EACH			
										1-9	10-24	25-49	50-99
298-4000	5VA-06060-00	6	Gel Cell	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	**70.52**	**61.71**	**48.48**	**39.10**
298-4005	5VA-06060-07	6	Lead Acid	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	**70.52**	**61.71**	**48.48**	**39.10**
298-4010	5VF-06060-00	6	All	2-10 AH		X	PS5	Wall Plug In	Screw Terminals	**49.72**	**43.51**	**34.18**	**25.10**
298-0150	5VA-12050-00	12	Gel Cell	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	**70.52**	**61.71**	**48.48**	**39.10**
298-4015	5VA-12050-07	12	Lead Acid	2-10 AH	X		PS5	Wall Plug In	Screw Terminals	**70.52**	**61.71**	**48.48**	**39.10**
298-0140	5VF-12050-00	12	All	2-10 AH		X	PS5	Wall Plug In	Screw Terminals	**49.72**	**43.51**	**34.18**	**25.10**
298-4020	7VA-12125-00	12*	Gel Cell	10-20 AH	X		7	Wall Plug In	Screw Terminals	**67.18**	**59.89**	**53.50**	**47.73**
298-4025	7VA-12125-07	12*	Lead Acid	10-20 AH	X		7	Wall Plug In	Screw Terminals	**67.18**	**59.89**	**53.50**	**47.73**

*Not UL Listed

Single Phase Models (Panel or Bench Mounting)

► Continuous Adjustable Output Voltages from AC Power Lines Without Wave Form Distortion or SCR Generated Noise.
► 50/60 Hz, Except *60 Hz and †60 Hz Only With Overvoltage Output
► Gold-Plated Commutator Surface

Single Phase Models—120 Volts Input (All units CSA Approved)

Stock No.	Mfr.'s Type‡	Fig.	Input Volts	Output			Dimensions		Wt. Lbs.	EACH	
				Volts	Amps	kVA	Size, Inches (A × B × C)	Size, Cm. (A × B × C)		1-9	10-24
927-3171	171†	A	120	0-120/132	1.75	0.23	2 13/16 × 3 5/32 × 1 7/8	7.14 × 8.02 × 4.76	3	38.00	35.50
927-3201	201†	A	120	0-120/132	2.00	0.26	2 13/16 × 3 5/32 × 1 7/8	7.14 × 8.02 × 4.76	2	39.50	35.85
927-3225	221†	A	120	0-120/132	2.25	0.30	2 13/16 × 3 5/32 × 2 1/8	7.14 × 8.02 × 5.40	2	41.00	38.00
927-3251	251†	A	120	0-120/132	2.50	0.33	2 13/16 × 3 5/32 × 2 5/16	7.14 × 8.02 × 5.87	2 1/2	43.00	39.10
927-3291	291†	A	120	0-120/132	3.00	0.40	2 13/16 × 3 5/32 × 2 5/16	7.14 × 8.02 × 5.87	2 1/2	45.00	42.73
927-5501	501	B	120	0-120/140	5.00	0.70	5 5/32 × 3 3/4 × 3 5/16	13.10 × 9.53 × 8.41	7 3/4	73.00	68.00
927-6010	1010	C	120	0-120/140	10.00	1.40	5 29/32 × 5 × 4 5/32	15.00 × 12.70 × 10.56	10 1/4	90.00	84.00
927-6011	1010CT	D	120	0-120/140	10.00	1.40	6 7/8 × 5 × 4 7/16	17.46 × 12.70 × 11.27	10 1/4	140.00	129.50
927-6125	1210CT*	D	120	0-120	12.00	1.40	6 7/8 × 5 × 4 7/16	17.46 × 12.70 × 11.27	10 1/4	138.00	127.50
927-6210	1210*	C	120	0-120	12.00	1.40	6 1/32 × 5 × 4 5/32	12.91 × 12.70 × 10.56	10 1/4	101.00	94.00
927-7501	1510	E	120	0-120/140	15.00	2.10	6 13/16 × 6 1/8 × 4 1/4	17.30 × 15.56 × 10.80	15 3/4	174.00	161.00
927-6160	2510C*	F**	120	0-120/140	25.00	3.50	8 1/4 × 7 5/8 × 4 3/8	20.96 × 19.37 × 11.11	22 1/4	273.00	252.00
927-8001	2510	E	120	0-120/140	25.00	3.50	8 1/4 × 7 5/8 × 4 1/8	20.96 × 19.37 × 10.48	22 1/4	252.00	233.00
927-8006	2510CT	F	120	0-120/140	25.00	3.50	10 1/16 × 7 5/8 × 4 3/8	25.56 × 19.37 × 11.11	22 1/4	311.00	288.98
927-6167	5010	B	120	0-140	50.00	7.00	14 1/8 × 14 7/8 × 7 1/4	35.88 × 37.78 × 18.42	57	579.00	535.00
927-6169	5010C	G	120	0-140	50.00	7.00	14 1/8 × 14 7/8 × 7 1/2	35.88 × 37.78 × 19.05	57	602.00	560.00
927-0600	6010	G	120	0-140	60.00	8.40	8 1/16 × 13 7/8 × 15 3/8	21.90 × 35.24 × 39.05	67	695.00	643.00
927-0610	6010C	G	120	0-140	60.00	8.40	8 1/16 × 13 7/8 × 15 3/8	21.90 × 35.24 × 39.05	67	724.00	670.00

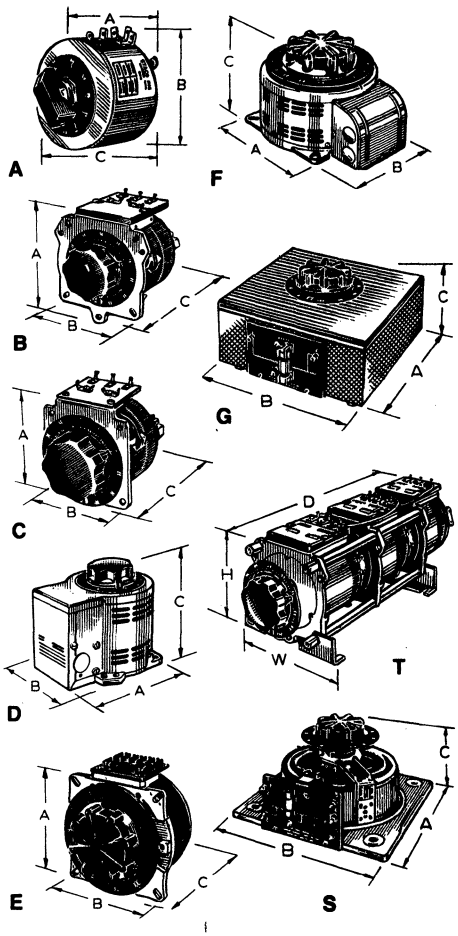
Single Phase Models—240 Volts Input

927-3252	252	A	240	0-240/264	0.80	0.21	2 13/16 × 2 13/16 × 2 1/8	7.14 × 7.14 × 5.39	2 1/2	60.00	56.00
927-6120	1020	C	240	0-240/280	3.50	0.98	5 29/32 × 5 × 4 5/32	15.00 × 12.70 × 10.56	10 1/4	120.00	111.00
927-6130	1220CT	D	240	0-240	5.00	1.20	6 7/8 × 5 × 4 7/16	17.46 × 12.70 × 11.27	10 1/4	157.00	145.00
927-6150	SQ1220*	C	240	0-240	5.00	1.20	5 3/16 × 4 1/4 × 4 5/32	13.18 × 10.80 × 10.56	10 1/4	118.00	107.27
927-7507	1520	E	240	0-240/280	9.50	2.70	6 13/16 × 6 1/8 × 4 5/8	17.30 × 15.56 × 11.75	19 1/4	174.00	161.00
927-8500	2520	E	240	0-240/280	10.00	2.80	8 1/4 × 7 5/8 × 4 3/8	20.96 × 19.37 × 11.11	32 1/4	252.00	233.00
927-6165	2520C*	F**	240	0-240/280	10.00	2.80	8 1/4 × 7 5/8 × 4 3/8	20.96 × 19.37 × 11.11	32 1/4	273.00	252.00
927-6171	5020	S	240/120	0-240/280	28.00	7.80	13 7/8 × 13 7/8 × 5	35.24 × 35.24 × 12.7	57	572.00	528.00
927-6170	5020C	G	240	0-240/280	28.00	7.80	15 3/8 × 14 1/8 × 7 1/8	39.05 × 35.88 × 18.10	57	602.00	556.00
927-0602	6020	S	240	0-280	35.00	9.80	8 1/16 × 13 7/8 × 15 3/8	21.90 × 35.24 × 39.05	63	716.00	662.00
927-0603	6020C	G	240	0-280	35.00	9.80	8 1/16 × 13 7/8 × 15 3/8	21.90 × 35.24 × 39.05	63	753.00	696.00

‡Type numbers without suffix are open style designed for back-of-panel mounting. **Types with suffix "C" have coil enclosed in a metal enclosure. Types with suffix "CT" have coil and terminals housed in metal enclosures, for panel/conduit mtg. *60 Hz and †60 Hz only with overvoltage output.

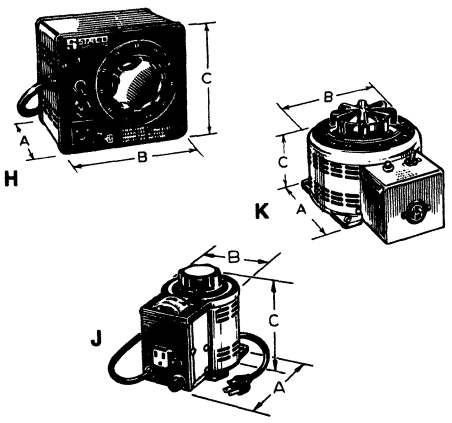
Three Phase Models—240 Volts Input

Stock No.	Mfr.'s Type	Fig.	Freq. Hz	Input Voltage	Output			Size (In.) H × W × D	Weight (Lbs)	EACH
					VAC	Amps	KVA			
927-9110	1010-3	T	60	240 VAC	0-240	10	4.16	6.125 × 5.000 × 14.594	36	354.00
927-9115	1510-3	T	60	240 VAC	0-240	15	6.22	7.063 × 6.125 × 14.563	69	636.00
927-9120	2510-3	T	60	240 VAC	0-240	25	10.40	8.625 × 7.625 × 14.625	72	911.00



Motor-Driven Models

For applications requiring remote or automatic voltage control, a driving motor can be added to all models of the 501 through 6010 series. Standard motor speeds available are 5, 15, 30 and 60 seconds of travel and are designated by the prefix: "5M, 15M, etc.". Example: 30M1510. Available by special order.



Portable Models

Prefix "3PN" indicates 3-prong cord, plug and receptacle; prefix "2PF" indicates 2-wire cord, plug and receptacle. "V" suffix indicates voltmeter. "A" suffix indicates ammeter. All models are housed in a rugged steel enclosure and supplied with input linecord and plug with matching receptacle, on-off switch, fuse, pilot light. Available for 120 Volt AC or 240 Volt AC input.

Cord and Plug Type—120 Volts Input

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output			Dimensions		Wt. Lbs.	EACH	
				Volts	Amps	kVA	Size, Inches (A × B × C)	Size, Cm. (A × B × C)		1-9	10-24
927-2172	3PN171	H	120	0-132	1.75	0.23	4 × 4 × 3 5/16	—	2	106.00	90.00
927-2302	3PN501	H	120	0-120/140	5.00	0.70	4 15/32 × 6 1/16 × 5 3/8	11.35 × 15.40 × 13.65	7 3/4	127.00	112.00
927-2303	3PN1010	J	120	0-120/140	10.00	1.40	7 5/8 × 5 × 4 7/16	19.37 × 12.70 × 11.27	10 1/4	140.00	122.00
927-2305	3PN1210	J	120	0-120	12.00	1.40	7 5/8 × 5 × 4 7/16	19.37 × 12.70 × 11.27	10 1/4	169.00	147.00
927-2339	3PN1510	K	120	0-120/140	15.00	2.10	9 × 6 3/16 × 4 1/2	22.86 × 15.72 × 11.43	18	257.00	230.70
927-2309	3PN2210	K	120	0-140	22.00	3.10	10 3/4 × 7 5/8 × 4 3/8	27.31 × 19.37 × 11.11	24 1/4	373.00	328.00
927-8502	3PN1010V	J	120	0-140	10.00	1.40	6 7/8 × 5 × 5 3/8	17.46 × 12.7 × 13.65	10 1/4	230.00	208.00
927-8504	3PN1010A	J	120	0-140	10.00	1.40	6 7/8 × 5 × 5 3/8	17.46 × 12.7 × 13.65	10 1/4	241.00	211.00
927-8506	3PN1510V	K	120	0-140	15.00	2.10	9 × 6 3/16 × 5 3/8	22.86 × 15.71 × 13.65	18	370.00	342.00

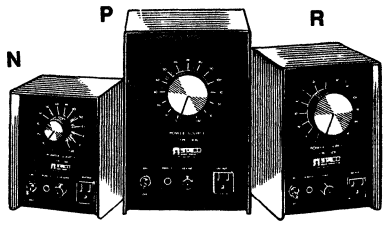
Cord and Plug Type—240 Volts Input

927-2304	3PN1020	J	240	0-280	3.50	0.98	7 5/8 × 5 × 4 7/16	19.37 × 12.7 × 11.27	10 1/4	167.00	145.00
927-2342	3PN1520	J	240	0-280	9.50	2.66	9 × 5 3/16 × 5 3/8	22.86 × 13.18 × 13.65	19 1/4	265.00	237.00
927-2330	3PN2520	K	240	0-280	10.00	2.80	10 3/4 × 7 5/8 × 4 3/8	27.31 × 19.37 × 11.11	24 1/4	374.00	335.00

Fully Enclosed Variable Voltage Controls

All holes have been eliminated to prevent entry of small items. The front panel is recessed to help minimize accidental shut-off or unintentional readjustment. Designed to minimize voltage variation from no-load current conditions, thus reducing the need to readjust the output voltage as the load current changes. Much higher currents, up to 10 times the specified rating, can be drawn for a short period of time for surge current applications. These controls can operate up to 2000 Hz with virtually no loss in output current.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Output			Dimensions		Wt. Lbs.	EACH	
				Volts	Amps	KVA	Size, Inches (H × W × D)	Size, Cm. (H × W × D)		1-9	10-24
927-4221	L221	N	120V 60 Hz	0-132	1.75	0.23	6 9/32 × 5 × 4 1/4	15.9 × 12.7 × 10.76	2	125.00	112.00
927-4501	L501	P	120V 50/60 Hz	0-140	4.50	0.63	7 23/32 × 5 3/8 × 5 7/8	19.5 × 13.6 × 14.92	5 1/4	163.00	149.00
927-4010	L1010	R	120V 50/60 Hz	0-140	10.00	1.40	9 13/32 × 6 1/2 × 6 1/4	23.8 × 16.5 × 15.87	10 1/4	190.00	168.00



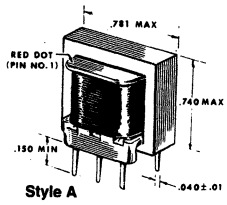
17

Isolation Transformers

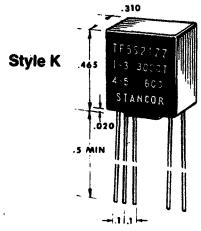
Straight Isolation (Three Conductor Line Cord and Receptacle)

115/115 volts, 50/60 Hz (may be operated from a 400 Hz source with no change in output ratings). Case and core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle for safety. **RMS Test Voltage:** 1500.

Stock No.	Mfr.'s Type	Input/Output Voltage	V-A Cap.	Style	Case Size (Inches)			Mounting Inches		Wt. Lbs.	EACH			
					H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-0325	GIS-100	115/115	100	C	3 1/2	2 13/16	3 9/16	2 1/4	2 7/16	4.5	50.80	44.87	39.71	37.14
928-0326	GIS-150	115/115	150	C	3 7/8	3 3/16	4 3/16	2 1/2	2 15/16	7.0	58.83	51.97	45.99	43.01
928-0327	GIS-250	115/115	250	C	4 11/16	3 1/4	4 3/8	3	3 3/16	9.3	74.49	62.09	54.95	51.39
928-0328	GIS-500	115/115	500	C	4 11/16	3 3/4	6	3	4 13/16	16.5	112.88	93.74	82.95	72.58
928-0329	GIS-1000	115/115	1000	C	5 1/2	4 9/16	8 1/8	3 1/2	6 1/2	31.5	218.02	181.77	160.86	150.44



Style A

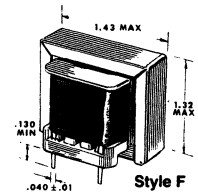


Style K

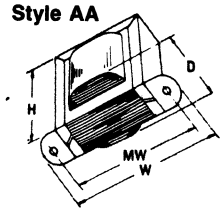
Step-Down Isolation (Three Conductor Line Cord and Receptacle)

230/115 volts, 50/60 Hz. Case, core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle. **RMS Test Voltage:** 1500.

928-0350	GISD-100	230/115	100	C	3 1/2	2 13/16	3 9/16	2 1/4	2 7/16	4.5	52.74	46.62	41.26	38.59
928-0351	GISD-150	230/115	150	C	3 7/8	3 3/16	4 3/16	2 1/2	2 15/16	7.0	57.05	49.84	44.10	41.25
928-0352	GISD-250	230/115	250	C	4 11/16	3 1/4	4 1/4	3	3 3/16	9.0	78.97	65.84	58.27	54.50
928-0353	GISD-500	230/115	500	C	4 11/16	3 3/4	6	3	4 13/16	16.0	119.16	99.37	87.94	82.25
928-0354	GISD-1000	230/115	1000	C	5 1/2	4 9/16	8 1/8	3 1/2	6 1/2	31.0	216.89	180.80	160.00	149.64



Style F

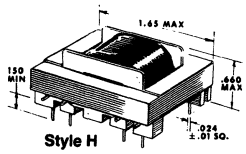


Style AA

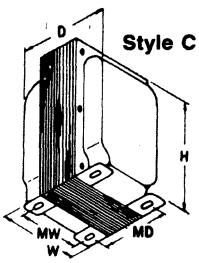
Straight Isolation (Electrostatic Shields Grounded to Core)

Primaries 50/60 Hz. Secondary female receptacle except for P-8622, P-6411, P-6412 and P-6413 lead termination. **RMS Test Voltage:** 1500. #Has switch. §Secondary is two separate 115 volt windings. †Has electrostatic shield on separate leadwire (not grounded).

Stock No.	Mfr.'s Type	Input Voltage	Output Voltage	V-A Cap.	Style	Case Size (Inches)			Mounting Inches		Wt. Lbs.	EACH			
						H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-3035	P-6413	115	115	.6	AA	1 1/4	2 1/8	1 1/4	1 3/4	—	0.25	11.73	10.16	9.00	8.49
928-3033	P-6411	115	115	15	AA	2	3 1/4	1 7/8	2 13/16	—	1.00	11.92	10.32	9.14	8.62
928-3034	P-6412	115	115	35	AA	2 3/8	3 3/4	2	3 1/8	—	1.70	15.05	13.03	11.54	10.89
928-3032	P-6410	115	115	50	C	3 1/2	2 13/16	3 1/8	2 1/4	1 7/8	3.70	47.25	41.73	36.93	34.54
928-2070	P-6160	105/115/125#	115	100	C	4 11/16	3 3/4	3 3/4	3	2 9/16	7.00	89.92	79.43	70.29	65.74
928-4880	P-8622	115†	115/230§	150	C	3 7/8	3 1/8	4	2 1/2	2 3/4	6.20	42.72	37.24	33.39	31.23
928-2071	P-6161	105/115/125#	115	250	C	4 11/16	3 3/4	5 1/2	3	4 5/16	14.20	104.71	92.47	81.83	76.53



Style H

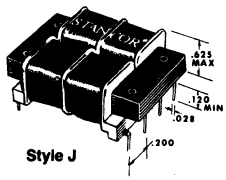


Style C

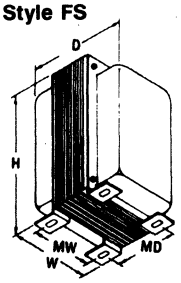
Step-Down Isolation (Electrostatic Shields Grounded to Core)

Primaries 50/60 Hz. Secondary female receptacles except P-6406. *Has primary terminals. #Has switch. †Has electrostatic shield on separate leadwire (not grounded). §Primary is two separate 115 volt windings. **Output Voltage:** 115. **RMS Test Voltage:** 1500.

Stock No.	Mfr.'s Type	Input Voltage	V-A Cap.	Style	Case Size (Inches)			Mounting Inches		Wt. Lbs.	EACH			
					H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-3037	P-6406	115/230†§	50	AA	2 3/8	3 3/4	2 5/16	3 1/8	—	1.8	19.61	16.97	15.03	14.19
928-3006	P-6385	210/230/250#	250	C	4 11/16	3 3/4	5 1/2	3	4 5/16	14.2	109.34	96.58	85.46	79.93
928-3007	P-6387	210/230/250#	500	FS	7 3/4	5 5/8	7 1/8	4 5/8	4 1/4	29.5	224.71	185.90	164.51	153.86



Style J



Style FS

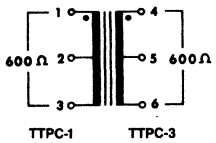
Isolation Testing Transformers

Electrostatic shields grounded to core. Primaries 50/60 Hz, line cord secondary three female receptacles. Input Voltage: 117. **RMS Test Voltage:** 1500.

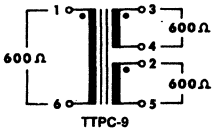
Stock No.	Mfr.'s Type	Output Voltage	V-A Cap.	Style	Case Size (Inches)			Mounting Inches		Wt. Lbs.	EACH			
					H	W	D	MW	MD		1-9	10-24	25-49	50-99
928-3036	P-6415	105/115/125	350	C	5 1/2	4 5/8	5 13/16	3 1/2	4 1/16	17.0	139.58	123.26	109.07	102.01

Telephone Coupling Transformers

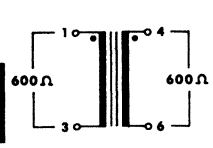
REPRESENTATIVE SCHEMATICS FOR TELEPHONE COUPLING TRANSFORMERS

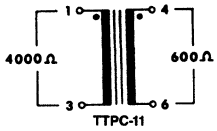


TTPC-1 TTPC-3



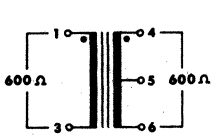
TTPC-9

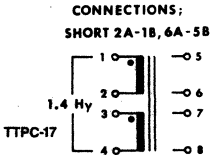




TTPC-11

NECESSARY EXTERNAL CONNECTIONS; SHORT 2A-1B, 6A-5B





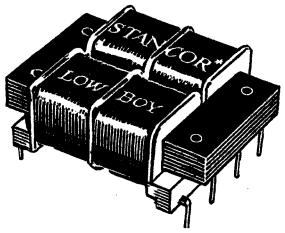
TTPC-17

Stancor's TTPC series transformers are designed to meet the high performance requirements of today's phone interconnect and instrumentation applications. Stancor has the broadest range of units for general use in impedance matching, circuit isolation, line balancing or bridging, and hybrid applications. TTPC transformers are ideal for use in voice and data interconnect networks such as modem terminal connection to telephone lines. Stancor's units will handle 1500 volts dielectric withstand and meet FCC Part 68 requirements. See below for the highest quality and broadest selection of styles.

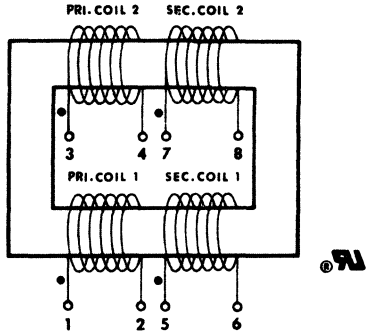
Stock No.	Mfr.'s Type	Impedance		DC Curr. mA	Insertion Losses dB	Style	Dimensions HxWxD	EACH			
		Primary	Secondary					1-9	10-24	25-49	50-100
928-9010	TTPC-1	600 C.T.	600 C.T.	0	1.4	A	.74 × .781 × .65	12.21	10.58	9.57	8.84
928-9012	TTPC-2	600	600	0	1.2	B†	.49 × .781 × .65	11.38	9.86	8.73	8.24
928-9014	TTPC-3	600 C.T.	600 C.T.	0	1.2	F	.49 × .781 × .65	11.38	9.86	8.73	8.24
928-9018	TTPC-5	4000	600	0	1.5	B†	.49 × .781 × .65	10.61	9.16	8.11	7.66
928-9020	TTPC-6	600	600 C.T.	90	1.8	A	.75 × .815 × .65	10.66	9.24	8.18	7.73
928-9022	TTPC-7	600	600	0	1.2	A	.74 × .781 × .65	9.60	8.31	7.36	6.94
928-9024	TTPC-8	600 C.T.	600 C.T.	0	1.2	A	.74 × .781 × .65	8.58	7.43	6.58	6.21
928-9026	TTPC-9	600	600/600	0	1.2	A	.859 × 1.04 × .958	12.93	11.20	9.91	9.36
928-9028	TTPC-10	900	600	0	1.2	A	.74 × .781 × .65	9.60	8.31	7.36	6.94
928-9030	TTPC-11	4000	600	0	1.2	A	.74 × .781 × .65	10.09	8.74	7.74	7.31
928-9032	TTPC-12	Holding Coil (Inductance 1.3 Hy)		—	—	F	1.32 × 1.43 × 1.25	12.73	11.02	9.75	9.21
928-9036	TTPC-14	600	600 C.T. Split	80	1.1	H	.66 × 1.65 × 1.37	20.21	17.85	15.80	14.77
928-9038	TTPC-15	600	600	80	1.1	H	.66 × 1.65 × 1.37	14.14	12.48	11.05	10.33
928-9040	TTPC-16	900	600	80	1.1	H	.66 × 1.65 × 1.37	20.02	17.68	15.64	14.63
928-9044	TTPC-18	600	600 C.T. or 150 Split	80	1.7	J	.625 × 1.27 × 1.65	18.10	15.99	14.15	13.23
928-9046	TTPC-19	600 C.T.	600 C.T.	80	1.9	J	.60 × 1.27 × 1.65	18.45	16.29	14.82	13.48
928-9048	PCT-24*	900 C.T.	600	3	2.0	K	.465 × .310 × .410	19.94	16.55	14.66	13.84
928-9050	PCT-27*	600	600 C.T./150 Split	3	2.0	K	.465 × .310 × .410	19.94	16.55	14.66	13.84
928-9054	PCT-78*	600	600	3	2.0	K	.465 × .310 × .410	19.94	16.55	14.66	13.84

*1000 volt dielectric strength. †Not Shown.

Low Boy™ Low Profile Transformers



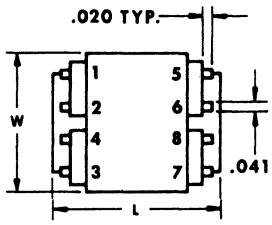
EXPLANATION OF LOW BOY INTERCONNECTIONS
Because of the toroidal effect, two *identical* coils are connected in series or parallel, but one of the coils must be connected in reverse in order to get correct polarity and voltage.

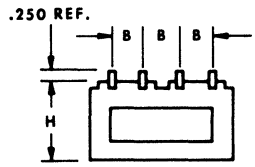


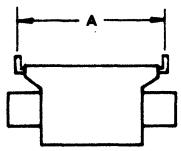
The Low-Boy Power Transformer is designed to surpass competitive market offerings in cost, size and versatility to the designer. Applicable to low clearance, stacked printed circuit board and solid state power designs, the Low-Boy will allow closer board stack spacing at lower power levels (down to 200mA at 10 volts). Semi-toroidal construction reduces radiated magnetic fields and results in balanced windings. Non-concentric winding provides isolation by design, eliminating the need for an electrostatic shield. Allow 3/4" card spacing for 2 and 3, VA units; 1" for 4, 5, and 6VA; 1 1/4" for 12VA units. Dual Primaries — 115/230V, 50/60/400 Hz. Allows standard hi Pot — 2000 volts. Precision spaced p.c. terminals.

U.L. Recognized Unit
(File Card E-68100)

Output Watts	Dimensions (Inches)				
	H	W	L	A	B
2, 3	0.625	1.562	1.875	1.600	.375
4, 5, 6	0.875	1.562	1.875	1.600	.375
12	1.062	2.000	2.500	2.000	.500

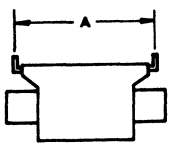


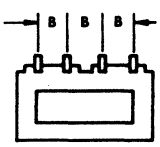


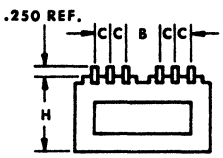


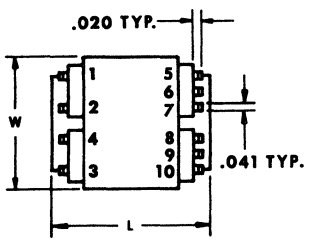
Stock No.	Mfr.'s Type	V.A. or Watts	Secondary		Wt. Oz.	EACH			
			Series	Parallel		1-9	10-24	25-49	50-99
928-5100	LB210	2	10V C.T. @ 200MA	5V @ 400MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5101	LB310	3	10V C.T. @ 300MA	5V @ 600MA	4.5	**12.14**	**10.08**	**8.93**	**8.42**
928-5102	LB215	2	15V C.T. @ 150MA	7.5V @ 300MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5103	LB240	2	40V C.T. @ 60MA	20V @ 120MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5104	LB256	2	56V C.T. @ 45MA	28V @ 90MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5105	LB288	2	88V C.T. @ 28MA	44V @ 56MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5106	LB2120	2	120V C.T. @ 20MA	60V @ 40MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5107	LB2230	2	230V C.T. @ 10MA	115V @ 20MA	4.5	**12.04**	**10.00**	**8.86**	**8.36**
928-5108	LB315	3	15V C.T. @ 225MA	7.5V @ 450MA	4.5	**12.14**	**10.08**	**8.93**	**8.42**
928-5109	LB410	4	10V C.T. @ 400MA	5V @ 800MA	5.5	**12.40**	**10.30**	**9.12**	**8.61**
928-5110	LB510	5	10V C.T. @ 500MA	5V @ 1A	5.5	**12.50**	**10.38**	**9.19**	**8.67**
928-5111	LB412	4	12V C.T. @ 333MA	6V @ 667MA	5.5	**12.40**	**10.30**	**9.12**	**8.61**
928-5112	LB512	5	12V C.T. @ 417MA	6V @ 833MA	5.5	**12.50**	**10.38**	**9.19**	**8.67**
928-5113	LB420	4	20V C.T. @ 200MA	10V @ 400MA	5.5	**12.40**	**10.30**	**9.12**	**8.61**
928-5114	LB520	5	20V C.T. @ 250MA	10V @ 500MA	5.5	**12.50**	**10.38**	**9.19**	**8.67**
928-5115	LB424	4	24V C.T. @ 167MA	12V @ 333MA	5.5	**12.40**	**10.30**	**9.12**	**8.61**
928-5116	LB524	5	24V C.T. @ 208MA	12V @ 417MA	5.5	**12.50**	**10.38**	**9.19**	**8.67**
928-5117	LB4120	4	120V C.T. @ 33MA	60V @ 66MA	5.5	**12.40**	**10.30**	**9.12**	**8.61**
928-5118	LB5120	5	120V C.T. @ 41.7MA	60V @ 83.3MA	5.5	**12.50**	**10.38**	**9.19**	**8.67**
928-5119	LB610	6	10V C.T. @ 600MA	5V @ 1.2A	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5120	LB1210	12	10V C.T. @ 1200MA	5V @ 2.4A	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5121	LB612	6	12.6V C.T. @ 450MA	6.3V @ 900MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5122	LB1212	12	12.6V C.T. @ 900MA	6.3V @ 1.8A	11.5	**13.00**	**10.88**	**9.63**	**9.09**
928-5123	LB616	6	16V C.T. @ 350MA	8V @ 700MA	5.5	**12.20**	**10.54**	**9.33**	**8.81**
928-5124	LB1216	12	16V C.T. @ 700MA	8V @ 1.4A	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5125	LB620	6	20V C.T. @ 300MA	10V @ 600MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5126	LB1220	12	20V C.T. @ 600MA	10V @ 1.2A	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5127	LB624	6	24V C.T. @ 250MA	12V @ 500MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5128	LB1224	12	24V C.T. @ 500MA	12V @ 1A	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5129	LB634	6	34V C.T. @ 170MA	17V @ 340MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5130	LB1234	12	34V C.T. @ 340MA	17V @ 680MA	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5131	LB640	6	40V C.T. @ 150MA	20V @ 300MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5132	LB1240	12	40V C.T. @ 300MA	20V @ 600MA	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5133	LB656	6	56V C.T. @ 100MA	28V @ 200MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5134	LB1256	12	56V C.T. @ 200MA	28V @ 400MA	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5135	LB688	6	88V C.T. @ 65MA	44V @ 130MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5136	LB1288	12	88V C.T. @ 130MA	44V @ 260MA	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5137	LB6120	6	120V C.T. @ 50MA	60V @ 100MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5138	LB12120	12	120V C.T. @ 100MA	60V @ 200MA	11.5	**13.10**	**10.88**	**9.63**	**9.09**
928-5139	LB6230	6	230V C.T. @ 25MA	115V @ 50MA	5.5	**12.70**	**10.54**	**9.33**	**8.81**
928-5140	LB12230	12	230V C.T. @ 50MA	115V @ 100MA	11.5	**13.10**	**10.88**	**9.63**	**9.09**

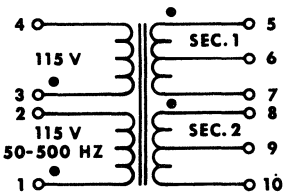
Microprocessor Power Transformers







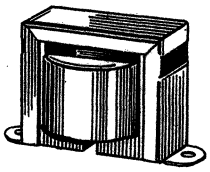


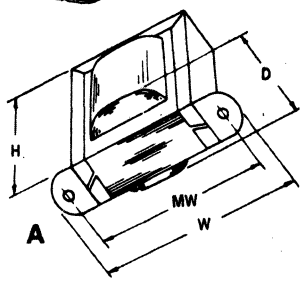


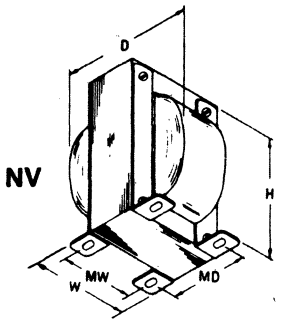
Developed especially for triple output regulated DC supplies that are used in microprocessor, logic and OP-amp circuit combinations. Outputs are listed in RMS values and will deliver popular ± 12 and ± 15 volts with 5V standby values included. U.L. Recognized Unit. (File Card E-68100).

Stock No.	Mfr.'s Type	V.A. or Watts	Secondary (RMS)		Wt. Oz.	Dual 115/230V Primary						EACH			
			Secondary #1 Series	Secondary #2 Series		H	W	L	A	B	C	1-9	10-24	25-49	50-99
928-1000	MLB-612	6	9.8V C.T. @ .141A	19.6V C.T. @ .065A	6.0	0.875	1.562	1.875	1.6	.375	.187	**14.93**	**12.41**	**11.01**	**10.42**
928-1001	MLB-615	6	9.8V C.T. @ .141A	24.4V C.T. @ .057A	6.0	0.875	1.562	1.875	1.6	.375	.187	**15.22**	**13.18**	**12.72**	**11.81**
928-1003	MLB-1215	12	10.0V C.T. @ .290A	25.4V C.T. @ .120A	12.0	1.062	2.000	2.500	2.0	.500	.250	**16.80**	**14.55**	**14.04**	**13.04**

Rectifier, Control and Filament Types





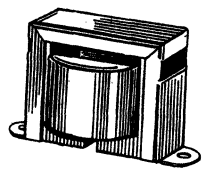


With single secondary: all primaries 50/60 Hz (may be operated from a 400 Hz source with no change in output ranges). Useful in all power and control applications such as relays, pilot lamps, small motors, pumps, speed changers and many other mechanical and electrical devices. Many units are center tapped for most efficient and economical rectification applications, enabling the designer broader selection and versatility. All types have lead wire terminations and 117 volt primary. Twice allowable RMS working voltage plus 1000 volts.

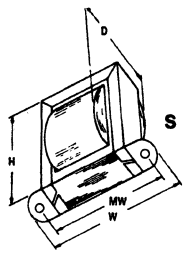
Stock No.	Mfr.'s Type	Style	Secondary RMS		Insulation Test RMS Volts*	Dimensions (Inches)					Wt. Lbs.	EACH			
			Volts	Amps		Case			Mounting			1-9	10-24	25-49	50-99
						H	W	D	MW	MD					
928-3027	P-6465	A	6.3 C.T.	0.600	1500	1 3/8	2 3/8	1 1/2	2	—	0.40	8.69	7.53	6.69	6.29
928-4040	P-8389	A	6.3	1.000	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	9.06	7.85	6.95	6.56
928-3090	P-8190	A	6.3	1.200	5000	2	3 1/4	1 7/8	2 13/16	—	1.00	14.84	12.85	11.38	10.74
928-3028	P-6466	A	6.3 C.T.	3.000	2500	2	3 1/4	2 1/8	2 13/16	—	1.40	13.06	11.31	10.02	9.46
928-2079	P-6309	NV	6.3 C.T.	20.000	2500	4 9/16	3 3/4	3 3/8	3	2 3/8	6.70	49.40	43.64	38.61	36.11
928-4752	P-8652	A	10.0 C.T.	1.000	1500	2	3 1/4	1 5/8	2 13/16	—	0.90	14.61	12.65	11.20	10.57
928-4045	P-8390	A	12.0	0.150	1500	1 1/4	2 1/8	1 1/4	1 3/4	—	0.25	8.64	7.49	6.63	6.26
928-4047	P-8391	A	12.0	0.350	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	9.10	7.89	6.99	6.59
928-4048	P-8392	A	12.0	0.700	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	9.29	8.03	7.11	6.71
928-4049	P-8393	A	12.0	1.200	1500	2	3 1/4	1 5/8	2 13/16	—	0.85	11.51	9.98	8.84	8.34
928-4757	P-8657	A	12.0	2.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.30	13.18	11.39	10.09	9.52
928-4034	P-8384	A	12.6 C.T.	1.000	1500	2	3 1/4	1 3/4	2 13/16	—	0.90	10.95	9.48	8.40	7.93
928-3040	P-8130	A	12.6 C.T.	2.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	12.42	10.78	9.54	9.01
928-4741	P-8641	A	12.6 C.T.	4.000	1500	2 5/8	4	2 3/8	3 9/16	—	2.30	21.29	18.43	16.32	15.40
928-4604	P-8604	A	20.0 C.T.	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	14.08	12.19	10.80	10.19
928-4050	P-8394	A	24.0 C.T.	0.085	1500	1 1/4	2 1/8	1 1/4	1 3/4	—	0.25	9.85	8.55	7.57	7.14
928-4052	P-8396	A	24.0 C.T.	0.400	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	10.78	9.50	8.41	7.94
928-4053	P-8397	A	24.0 C.T.	0.700	1500	2	3 1/4	1 3/4	2 13/16	—	0.85	11.53	10.00	8.86	8.36
928-4861	P-8661	A	24.0 C.T.	1.000	1500	2	3 1/4	2 1/16	2 13/16	—	1.40	11.82	10.22	9.05	8.54
928-4862	P-8662	A	24.0 C.T.	2.000	1500	2 5/8	4	2 3/8	3 9/16	—	2.30	17.10	14.80	13.11	12.37
928-4863	P-8663	NV	24.0 C.T.	4.000	1500	3 13/16	3 1/8	2 13/16	2 1/2	2 1/8	4.00	27.74	24.02	21.27	20.08
928-3031	P-6469	A	25.2	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	13.00	11.25	9.97	9.41
928-3080	P-8180	A	25.2 C.T.	1.000	1500	2	3 1/4	2 1/4	2 13/16	—	1.40	11.79	10.20	9.03	8.52
928-4038	P-8388	A	25.2 C.T.	2.800	1500	2 5/8	4	2 1/4	3 9/16	—	2.20	19.22	16.65	14.75	13.92
928-4101	P-8601	A	28.0 C.T.	0.175	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	11.96	10.36	9.17	8.66
928-4867	P-8667	A	28.0 C.T.	1.000	1500	2	3 1/4	2 1/8	2 13/16	—	1.40	14.84	12.85	11.38	10.74
928-4111	P-8611	A	36.0 C.T.	0.135	1500	1 3/8	2 3/8	1 3/8	2	—	0.35	11.28	9.76	8.64	8.16
928-4112	P-8612	A	36.0 C.T.	0.300	1500	1 5/8	2 7/8	1 5/8	2 3/8	—	0.60	11.82	10.22	9.05	8.54
928-4871	P-8671	A	36.0 C.T.	1.000	1500	2 3/8	3 3/4	2 1/4	3 1/8	—	2.00	17.19	14.90	13.19	12.45

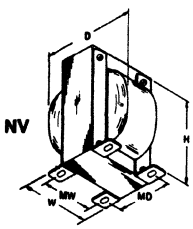
* Insulation Test voltage.

Control Transformers



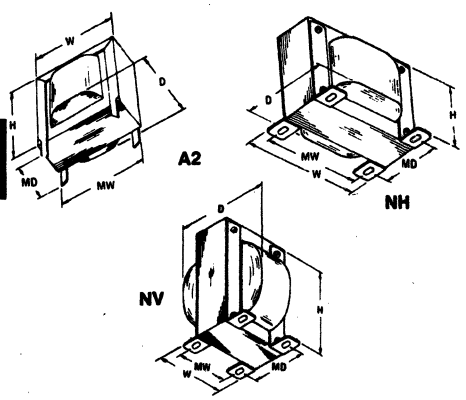
Primaries 115/230 Volts 50/60 Hz (may be operated from a 400 Hz source with no change in output ratings). Solder lug termination, dual secondary windings. U.L. Recognized. **Typical applications:** automatic assembly equipment, relays, speed changers, pumps, etc.





Stock No.	Mfr.'s Type	Style	V-A Cap.	Output From Two Secondary Windings*			Dimensions (Inches)					Wt. Lbs.	EACH			
				Individually	Parallel	Series	Case			Mounting			1-9	10-24	25-49	50-99
							H	W	D	MW	MD					
928-3000	P-6375	S	12	6V @ 1A	6V @ 2A	12V @ 1A	2 3/8	2 7/8	1 5/8	2 3/8	—	1.0	13.49	11.67	10.34	9.76
928-3001	P-6376	S	24	6V @ 1A	6V @ 4A	12V @ 2A	2 3/4	3 1/8	1 7/8	2 13/16	—	1.5	17.18	14.90	13.19	12.45
928-3002	P-6377	S	48	12V @ 2A	12V @ 4A	24V @ 2A	3 1/8	3 5/8	2 1/4	3 1/8	—	2.5	17.70	15.34	13.58	12.82
928-3003	P-6378	NV	96	12V @ 4A	12V @ 8A	24V @ 4A	3 7/16	2 13/16	2 7/8	2 1/4	2 1/4	4.2	30.99	26.83	23.76	22.43
928-3004	P-6379	NV	192	12V @ 8A	12V @ 16A	24V @ 8A	4 3/16	3 7/16	3 3/8	2 3/4	3	8.0	55.47	49.00	43.36	40.56
928-4615	P-8615	S	12	24V @ 0.25A	24V @ 0.5A	48V @ 0.25A	2 3/8	2 7/8	1 5/8	2 3/8	—	1.0	16.31	14.14	12.52	11.82
928-4616	P-8616	S	24	24V @ 0.5A	24V @ 1A	48V @ 0.5A	2 3/4	3 1/8	1 7/8	2 13/16	—	1.5	16.02	13.86	12.28	11.59
928-4617	P-8617	S	48	24V @ 1A	24V @ 2A	48V @ 1A	3 1/8	3 5/8	2 1/4	3 1/8	—	2.5	18.03	15.62	13.83	13.05
928-4618	P-8618	NV	96	24V @ 2A	24V @ 4A	48V @ 2A	3 7/16	2 13/16	2 15/16	2 1/4	2 1/4	4.2	31.38	27.17	24.06	22.71
928-4619	P-8619	NV	192	24V @ 4A	24V @ 8A	48V @ 4A	4 3/16	3 7/16	3 3/8	2 3/4	3	8.0	47.36	41.85	37.03	36.63

* By connecting primaries in series (for 230 volts) but using only 115 volts input, a series of half voltage output ratings becomes available at the full rated current from each secondary.



Filter Chokes

High current chokes. Inductance measured at 1 volt 60 Hz. **Insulation Test RMS volts:** TC-1 and TC-2, 1000; all others, 1500. Type C-2692 has self lead termination; all others have lead terminations.

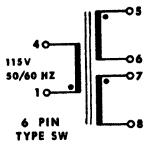
Stock No.	Mfr.'s Type	Style	Inductance Millihenries	DC Amps	DC Res. Ohms	Dimensions (Inches)					Wt. Lbs.	EACH			
						Case			Mounting			1-9	10-24	25-49	50-99
						H	W	D	MW	MD					
928-9005	TC-1	A2	3.0	1.0	0.250	1 1/4	1 1/2	1 1/8	1 3/16	7/16	0.3	7.53	6.51	5.77	5.44
928-9006	TC-2	A2	11.0	1.0	0.750	1 1/4	1 1/2	1 1/8	1 3/16	7/16	0.3	8.21	7.11	6.30	5.94
928-0075	C-2690	NV	300 or 75	1.0/2.0	3.0/0.75	3 7/16	2 13/16	3	2 1/4	2 5/8	5.0	28.69	24.84	22.00	20.76
928-0070	C-2685	NH	35	2.0	0.750	2 5/16	2 5/8	2 1/8[1]	2 3/16	2	1.9	18.59	16.12	14.27	13.47
928-0076	C-2691	NV	80 or 20	2.5/5.0	0.60/0.150	3 13/16	3 1/8	3 1/2	2 1/2	3	7.0	35.41	30.68	27.17	25.64
928-0071	C-2686	NH	25	4.0	0.425	2 7/8	3 3/8	2 5/8	2 13/16	2 1/8	3.4	26.45	22.93	20.30	19.16
928-0072	C-2687	NH	10	8.0	0.150	3 3/16	3 3/4	3	3 1/8	2 1/2	5.3	32.04	27.73	24.55	23.18
928-0073	C-2688	NH	10	12.5	0.110	3 1/2	4 1/8	3 1/8[2]	3 7/16	2 3/8	5.9	38.79	33.59	29.74	28.07

[1] = Mounting foot depth — 2 11/16" O.A. [2] = Mounting foot depth — 3 3/16" O.A.

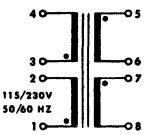
Products Not Cataloged Are Available—Call 1-800-433-5700 for Price and Delivery

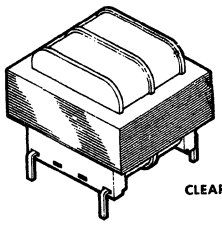
Side Winder

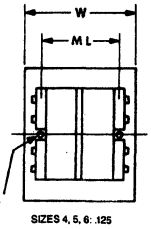
Side Winder applications include electronic game systems, computer peripherals, medical electronics, and switching power supplies. Split bobbin winding and low capacitive coupling design eliminates electrostatic shielding requirement and expense. High isolation, 2,500 V rms. Hi-Pot testing. PC pins, precision spaced, insert directly into PC boards. Class B insulation, 130°C.

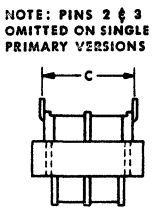


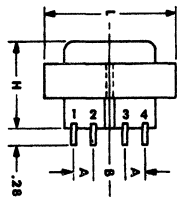
Size	Dimensions — Inches								Wt. Lbs.
	VA	H	W	L	ML	A	B	C	
2	1.1	15/16	1 1/8	1 3/8	—	.250	.250	1.200	.17
3	2.5	1 3/16	1 1/8	1 3/8	—	.250	.250	1.200	.25
4	6.0	1 5/16	1 5/16	1 5/8	1 1/16	.250	.350	1.280	.44
5	12.0	1 7/16	1 9/16	1 7/8	1 1/4	.300	.400	1.410	.70
6	20.0	1 7/16	1 7/8	2 1/4	1 1/2	.300	.400	1.600	.80

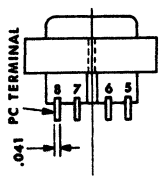


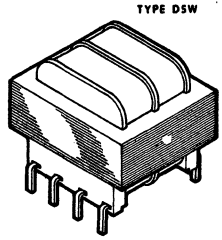












"Side Winder" Single 115 V, 6 Pin

Note: First digit after "SW"' in Mfr.'s Type indicates Size Code listed above.

Stock No.	Mfr.'s Type	Secondary RMS Rating			EACH	
		Individual	Series	Parallel	1-9	10-24
928-0100	SW-210	5V @ 0.11A	10V C.T. @ 0.11A	5V @ 0.22A	**8.88**	**7.53**
928-0101	SW-310	5V @ 0.25A	10V C.T. @ 0.25A	5V @ 0.5A	**9.13**	**7.63**
928-0102	SW-410	5V @ 0.6A	10V C.T. @ 0.6A	5V @ 1.2A	**9.72**	**8.05**
928-0103	SW-510	5V @ 1.2A	10V C.T. @ 1.2A	5V @ 2.4A	**10.26**	**8.43**
928-0104	SW-610	5V @ 2A	10V C.T. @ 2A	5V @ 4A	**12.13**	**10.04**
928-0105	SW-212	6.3V @ 0.09A	12.6V C.T. @ 0.09A	6.3V @ 0.18A	**8.88**	**7.53**
928-0106	SW-312	6.3V @ 0.2A	12.6V C.T. @ 0.2A	6.3V @ 04V	**9.13**	**7.63**
928-0107	SW-412	6.3V @ 0.5A	12.6V C.T. @ 0.5A	6.3V @ 1.0A	**9.72**	**8.05**
928-0108	SW-512	6.3V @ 1.0A	12.6V C.T. @ 1.0A	6.3V @ 2.0A	**10.26**	**8.43**
928-0109	SW-612	6.3V @ 1.6A	12.6V C.T. @ 1.6A	6.3V @ 3.2A	**12.13**	**10.04**
928-0110	SW-216	8V @ 0.07A	16V C.T. @ 0.07A	8V @ 0.14A	**8.88**	**7.53**
928-0111	SW-316	8V @ .15A	16V C.T. @ .15A	8V @ 0.3A	**9.13**	**7.63**
928-0112	SW-416	8V @ .4A	16V C.T. @ .4A	8V @ 0.8A	**9.72**	**8.05**
928-0113	SW-516	8V @ .8A	16V C.T. @ .8A	8V @ 1.6A	**10.26**	**8.43**
928-0114	SW-616	8V @ 1.25A	16V C.T. @ 1.25A	8V @ 2.5A	**12.13**	**10.04**
928-0115	SW-220	10V @ 0.055A	20V C.T. @ 0.055A	10V @ 0.11A	**8.88**	**7.53**
928-0116	SW-320	10V @ 0.12A	20V C.T. @ 0.12A	10V @ 0.24A	**9.13**	**7.63**
928-0117	SW-420	10V @ 0.3A	20V C.T. @ 0.3A	10V @ 0.6A	**9.72**	**8.05**
928-0118	SW-520	10V @ 0.6A	20V C.T. @ 0.6A	10V @ 1.2A	**10.26**	**8.43**
928-0119	SW-620	10V @ 1A	20V C.T. @ 1A	10V @ 2A	**12.13**	**10.04**
928-0120	SW-224	12V @ 0.045A	24V C.T. @ 0.045A	12V @ 0.09A	**8.88**	**7.53**
928-0121	SW-324	12V @ 0.1A	24V C.T. @ 0.1A	12V @ 0.24A	**9.13**	**7.63**
928-0122	SW-424	12V @ 0.25A	24V C.T. @ 0.25A	12V @ 0.5A	**9.72**	**8.05**
928-0123	SW-524	12V @ 0.5A	24V C.T. @ 0.5A	12V @ 1.0A	**10.26**	**8.43**
928-0124	SW-624	12V @ 0.8A	24V C.T. @ 0.8A	12V @ 1.6A	**12.13**	**10.04**
928-0125	SW-228	14V @ 0.04A	28V C.T. @ 0.04A	14V @ 0.08A	**8.88**	**7.53**
928-0126	SW-328	14V @ 0.085A	28V C.T. @ 0.085A	14V @ 0.17A	**9.13**	**7.63**
928-0127	SW-428	14V @ 0.2A	28V C.T. @ 0.2A	14V @ 0.4A	**9.72**	**8.05**
928-0128	SW-528	14V @ 0.42A	28V C.T. @ 0.42A	14V @ 0.84A	**10.26**	**8.43**
928-0129	SW-628	14V @ 0.7A	28V C.T. @ 0.7A	14V @ 1.4A	**12.13**	**10.04**
928-0130	SW-232	16V @ 0.035A	32V C.T. @ .035A	16V @ 0.07A	**8.88**	**7.53**
928-0131	SW-332	16V @ 0.075A	32V C.T. @ 0.075A	16V @ 0.15A	**9.13**	**7.63**
928-0132	SW-432	16V @ 0.188A	32V C.T. @ 0.188A	16V @ 0.376A	**9.72**	**8.05**
928-0133	SW-532	16V @ 0.375A	32V C.T. @ 0.375A	16V @ 0.750A	**10.26**	**8.43**
928-0134	SW-632	16V @ 0.625A	32V C.T. @ 0.625A	16V @ 1.25A	**12.13**	**10.04**
928-0135	SW-236	18V @ 0.03A	36V C.T. @ 0.03A	18V @ 0.06A	**8.88**	**7.53**
928-0136	SW-336	18V @ 0.065A	36V C.T. @ 0.065A	18V @ 0.13A	**9.13**	**7.63**
928-0137	SW-436	18V @ 0.17A	36V C.T. @ 0.17A	18V @ 0.34A	**9.72**	**8.05**
928-0138	SW-536	18V @ 0.35A	36V C.T. @ 0.35A	18V @ 0.7A	**9.77**	**7.98**
928-0139	SW-636	18V @ 0.55A	36V C.T. @ 0.55A	18V @ 1.1A	**12.13**	**10.04**
928-0140	SW-248	24V @ 0.023A	48V C.T. @ 0.023A	24V @ 0.046A	**8.88**	**7.53**
928-0141	SW-348	24V @ 0.05A	48V C.T. @ 0.05A	24V @ 0.1A	**9.13**	**7.63**
928-0142	SW-448	24V @ 0.125A	48V C.T. @ 0.125A	24V @ 0.25A	**9.72**	**8.05**
928-0143	SW-548	24V @ 0.25A	48V C.T. @ 0.25A	24V @ 0.5A	**10.26**	**8.43**
928-0144	SW-648	24V @ 0.4A	48V C.T. @ 0.4A	24V @ 0.8A	**12.13**	**10.04**
928-0145	SW-256	28V @ 0.02A	56V C.T. @ 0.02A	28V @ 0.04A	**8.88**	**7.53**
928-0146	SW-356	28V @ 0.045A	56V C.T. @ 0.045A	28V @ 0.09A	**9.13**	**7.63**
928-0147	SW-456	28V @ 0.11A	56V C.T. @ 0.11A	28V @ 0.22A	**9.72**	**8.05**
928-0148	SW-556	28V @ 0.22A	56V C.T. @ 0.22A	28V @ 0.44A	**10.26**	**8.43**
928-0149	SW-656	28V @ 0.35A	56V C.T. @ 0.35A	28V @ 0.7A	**12.13**	**10.04**
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* 6 PIN, Input to 1 and 4.

"Side Winder" Dual 115/230 V, 8 Pin

Note: First digit after 'DSW' in Mfr.'s Type indicates Size Code listed above.

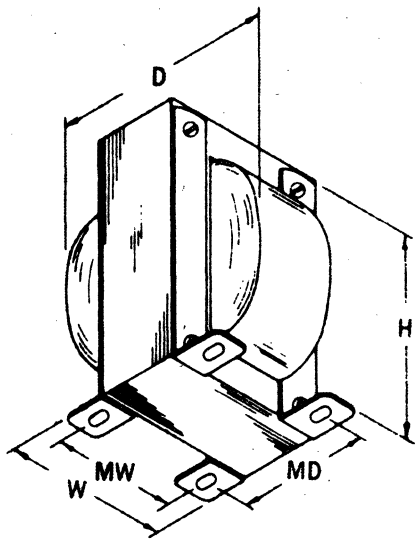
Stock No.	Mfr.'s Type	Secondary RMS Rating			EACH	
		Individual	Series	Parallel	1-9	10-24
928-0200	DSW-210	5V @ 0.11A	10V C.T. @ 0.11A	5V @ 0.22A	**8.51**	**7.08**
928-0201	DSW-310	5V @ 0.25A	10V C.T. @ 0.25A	5V @ 0.5A	**9.79**	**8.29**
928-0202	DSW-410	5V @ 0.6A	10V C.T. @ 0.6A	5V @ 1.2A	**10.47**	**8.69**
928-0203	DSW-510	5V @ 1.2A	10V C.T. @ 1.2A	5V @ 2.4A	**11.22**	**9.34**
928-0204	DSW-610	5V @ 2A	10V C.T. @ 2A	5V @ 4A	**13.56**	**11.23**
928-0205	DSW-212	6.3V @ 0.09A	12.6V C.T. @ 0.09A	6.3V @ 0.18A	**9.49**	**8.08**
928-0206	DSW-312	6.3V @ 0.2A	12.6V C.T. @ 0.2A	6.3V @ 04V	**9.79**	**8.29**
928-0207	DSW-412	6.3V @ 0.5A	12.6V C.T. @ 0.5A	6.3V @ 1.0A	**10.47**	**8.69**
928-0208	DSW-512	6.3V @ 1.0A	12.6V C.T. @ 1.0A	6.3V @ 2.0A	**11.22**	**9.34**
928-0209	DSW-612	6.3V @ 1.6A	12.6V C.T. @ 1.6A	6.3V @ 3.2A	**13.56**	**11.23**
928-0210	DSW-216	8V @ 0.07A	16V C.T. @ 0.07A	8V @ 0.14A	**9.49**	**8.08**
928-0211	DSW-316	8V @ .15A	16V C.T. @ .15A	8V @ 0.3A	**9.79**	**8.29**
928-0212	DSW-416	8V @ .4A	16V C.T. @ .4A	8V @ 0.8A	**10.47**	**8.69**
928-0213	DSW-516	8V @ .8A	16V C.T. @ .8A	8V @ 1.6A	**11.22**	**9.34**
928-0214	DSW-616	8V @ 1.25A	16V C.T. @ 1.25A	8V @ 2.5A	**13.56**	**11.23**
928-0215	DSW-220	10V @ 0.055A	20V C.T. @ 0.055A	10V @ 0.11A	**9.49**	**8.05**
928-0216	DSW-320	10V @ 0.12A	20V C.T. @ 0.12A	10V @ 0.24A	**9.79**	**8.29**
928-0217	DSW-420	10V @ 0.3A	20V C.T. @ 0.3A	10V @ 0.6A	**10.47**	**8.69**
928-0218	DSW-520	10V @ 0.6A	20V C.T. @ 0.6A	10V @ 1.2A	**11.22**	**9.34**
928-0219	DSW-620	10V @ 1A	20V C.T. @ 1A	10V @ 2A	**13.56**	**11.23**
928-0220	DSW-224	12V @ 0.045A	24V C.T. @ 0.035A	12V @ 0.09A	**9.49**	**8.07**
928-0221	DSW-324	12V @ 0.1A	24V C.T. @ 0.1A	12V @ 0.2A	**9.79**	**8.29**
928-0222	DSW-424	12V @ 0.25A	24V C.T. @ 0.24A	12V @ 0.5A	**10.47**	**8.69**
928-0223	DSW-524	12V @ 0.5A	24V C.T. @ 0.5A	12V @ 1.0A	**11.22**	**9.34**
928-0224	DSW-624	12V @ 0.8A	24V C.T. @ 0.8A	12V @ 1.6A	**12.97**	**10.69**
928-0225	DSW-228	14V @ 0.04A	28V C.T. @ 0.04A	14V @ 0.08A	**9.49**	**8.05**
928-0226	DSW-328	14V @ 0.085A	28V C.T. @ 0.085A	14V @ 0.17A	**9.79**	**8.29**
928-0227	DSW-428	14V @ 0.2A	28V C.T. @ 0.2A	14V @ 0.4A	**10.47**	**8.69**
928-0228	DSW-528	14V @ 0.42A	28V C.T. @ 0.42A	14V @ 0.84A	**11.22**	**9.34**
928-0229	DSW-628	14V @ 0.7A	28V C.T. @ 0.7A	14V @ 1.4A	**13.56**	**11.23**
928-0230	DSW-232	16V @ 0.035A	32V C.T. @ 0.035A	16V @ 0.07A	**9.49**	**8.05**
928-0231	DSW-332	16V @ 0.075A	32V C.T. @ 0.075A	16V @ 0.15A	**9.79**	**8.29**
928-0232	DSW-432	16V @ 0.188A	32V C.T. @ 0.188A	16V @ 0.376A	**10.47**	**8.69**
928-0233	DSW-532	16V @ 0.375A	32V C.T. @ 0.375A	16V @ 0.750A	**11.22**	**9.34**
928-0234	DSW-632	16V @ 0.625A	32V C.T. @ 0.625A	16V @ 1.25A	**13.56**	**11.23**
928-0235	DSW-236	18V @ 0.03A	36V C.T. @ 0.03A	18V @ 0.06A	**9.49**	**8.05**
928-0236	DSW-336	18V @ 0.065A	36V C.T. @ 0.065A	18V @ 0.13A	**9.79**	**8.29**
928-0237	DSW-436	18V @ 0.17A	36V C.T. @ 0.17A	18V @ 0.34A	**10.47**	**8.69**
928-0238	DSW-536	18V @ 0.35A	36V C.T. @ 0.35A	18V @ 0.7A	**11.22**	**9.34**
928-0239	DSW-636	18V @ 0.55A	36V C.T. @ 0.55A	18V @ 1.1A	**13.56**	**11.23**
928-0240	DSW-248	24V @ 0.023A	48V C.T. @ 0.023A	24V @ 0.046A	**9.49**	**8.05**
928-0241	DSW-348	24V @ 0.04A	48V C.T. @ 0.05A	24V @ 0.1A	**9.79**	**8.29**
928-0242	DSW-448	24V @ 0.125A	48V C.T. @ 0.125A	24V @ 0.25A	**10.47**	**8.69**
928-0243	DSW-548	24V @ 0.25A	48V C.T. @ 0.25A	24V @ 0.5A	**11.22**	**9.34**
928-0244	DSW-648	24V @ 0.4A	48V C.T. @ 0.4A	24V @ 0.8A	**13.56**	**11.23**
928-0245	DSW-256	28V @ 0.02A	56V C.T. @ 0.02A	28V @ 0.4A	**9.49**	**8.05**
928-0246	DSW-356	28V @ 0.045A	56V C.T. @ 0.045A	28V @ 0.09A	**9.79**	**8.29**
928-0247	DSW-456	28V @ 0.11A	56V C.T. @ 0.11A	28V @ 0.22A	**10.47**	**8.69**
928-0248	DSW-556	28V @ 0.22A	56V C.T. @ 0.22A	28V @ 0.44A	**11.22**	**9.34**
928-0249	DSW-656	28V @ 0.35A	56V C.T. @ 0.35A	28V @ 0.7A	**13.56**	**11.23**
928-0250	DSW-2120	60V @ 0.01A	120V C.T. @ 0.01A	60V @ 0.02A	**9.49**	**8.05**
928-0251	DSW-3120	60V @ 0.02A	120V C.T. @ 0.02A	60V @ 0.04A	**9.79**	**8.29**
928-0252	DSW-4120	60V @ 0.05A	120V C.T. @ 0.05A	60V @ 0.1A	**10.47**	**8.69**
928-0253	DSW-5120	60V @ 0.1A	120V C.T. @ 0.1A	60V @ 0.2A	**11.22**	**9.34**
928-0254	DSW-6120	60V @ 0.16A	120V C.T. @ 0.16A	60V @ 0.32A	**13.56**	**11.23**

Universal Rectifier Transformers (Style NV)

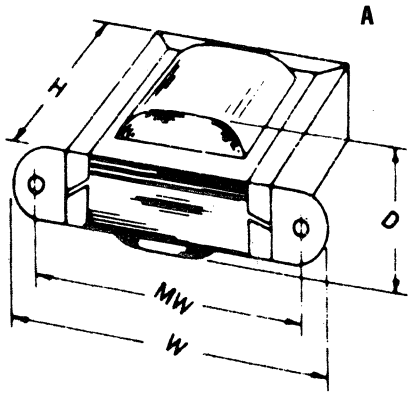
Primaries 117 volts 50/60 Hz. Solder lug termination.

Stock No.	Mfr.'s Type	Rectifier Circuit	Range of Applied AC Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. DC Volts	Output Resistive or Inductive Load Max. DC Amps	Output Capacitive Load* Max. DC Volts	Output Capacitive Load* Max. DC Amps	Case Inches H	Case Inches W	Case Inches D	Mounting Inches MW	Mounting Inches MD	Wt. Lbs.	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
928-8001	RT-201	C.T. Bridge	11.7 to 29.4 11.1 to 28.5	11.2 23.0	2.00 1.25	13.8[1] 30.0[2]	2.00 1.25	3 1/8	2 1/2	2 3/8	2	2 1/8	2.5	31.96	28.26	25.01	23.39
928-8002	RT-202	C.T. Bridge	12.0 to 29.8 12.0 to 29.8	11.1 24.3	4.00 2.00	14.7[3] 33.0[1]	4.00 2.00	37/16	2 13/16	2 3/4	2 1/4	2 3/8	3.8	42.39	37.47	33.16	31.01
928-8003	RT-204	C.T. Bridge	11.7 to 29.2 11.6 to 29.2	12.0 24.0	8.00 4.00	14.5[4] 32.4[3]	8.00 4.00	3 13/16	3 1/8	3 7/8	2 1/2	2 7/8	6.1	51.82	45.79	40.52	37.89
928-8005	RT-206	C.T. Bridge	12.0 to 29.7 12.0 to 29.7	11.5 24.0	12.00 6.00	14.4[5] 32.0[6]	12.00 6.00	43/16	3 7/16	4	2 3/4	3 1/4	9.1	69.72	61.58	54.49	50.97
928-8006	RT-208	C.T. Bridge	12.1 to 29.2 12.1 to 29.2	11.4 23.7	15.00 8.00	14.8[7] 32.5[4]	15.00 8.00	49/16	3 3/4	5	2 15/16	3 3/4	12.6	89.41	78.97	69.89	65.36
928-8000	RT-2012	C.T. Bridge	12.2 to 29.0 12.2 to 29.0	11.4 23.5	22.50 12.00	14.3[8] 33.0[5]	22.50 12.00	55/16	4 3/8	5 7/8	3 1/2	4 1/4	20.5	155.38	137.23	121.43	113.37
928-8008	RT-401	C.T. Bridge	24.0 to 59.0 24.0 to 59.0	25.0 52.5	2.00 1.00	34.0[11] 73.5[9]	2.00 1.00	37/16	2 13/16	3 11/16	2 1/4	2 1/2	4.1	38.91	34.39	30.43	28.46
928-8009	RT-402	C.T. Bridge	23.0 to 58.0 23.0 to 58.0	25.0 51.5	4.00 2.00	33.5[6] 72.5[9]	4.00 2.00	3 13/16	3 1/8	4 1/2	2 1/2	3 1/16	6.9	51.66	45.63	40.38	37.77
928-8015	RT-408	C.T. Bridge	25.0 to 54.1 25.0 to 54.1	23.4 46.3	12.00 8.00	32.0[4] 66.8[4]	12.00 8.00	55/16	4 3/8	6 3/4	3 1/2	5 1/4	26.5	145.36	128.36	113.59	106.23

*MFD Filter Capacitor: 1-100, 2-500, 3-2000, 4-4000, 5-6000, 7-7500, 8-12000, 9-1500, 10-600, 11-2500.

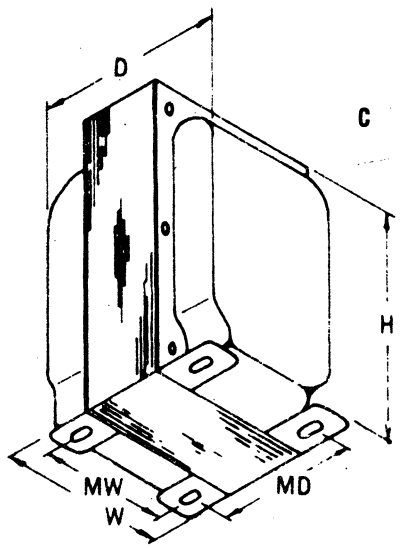


Auto Transformers



Step-Down Auto-Transformers. 230/115 volts, 50/60 Hz. May be operated from a 400 Hz source with no change in output rating. Case and core internally connected to third conductor of NEMA standard cord and receptacle for safety. **RMS Test Voltage:** 1500.

Stock No.	Mfr.'s Type	VA Cap.	Voltage Input/Output	Style	Case Dimensions H	Case Dimensions W	Case Dimensions D	Mounting (Inches) MW	Mounting (Inches) MD	Wt. Lbs.	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
928-0300	GSD-75	75	230/115	C	3 7/8	3 3/16	2 3/4	2 1/2	1 1/2	3.0	47.53	41.98	37.15	34.74
928-0301	GSD-100	100	230/115	C	3 7/8	3 3/16	3	2 1/2	1 3/4	3.7	49.86	44.05	38.98	36.46
928-0302	GSD-150	150	230/115	C	3 7/8	3 3/16	3 1/4	2 1/2	2	4.4	54.88	48.18	42.64	39.88
928-0303	GSD-250	250	230/115	C	3 7/8	3 3/16	3 5/8	2 1/2	2 3/8	5.8	67.11	55.95	49.51	46.31
928-0304	GSD-300	300	230/115	C	3 7/8	3 3/16	3 5/8	2 1/2	2 3/8	5.8	68.61	57.19	50.60	47.33
928-0305	GSD-350	350	230/115	C	3 7/8	3 3/16	4 5/16	2 1/2	3	7.3	71.97	60.00	53.10	49.66
928-0306	GSD-500	500	230/115	C	4 5/8	3 13/16	4 7/16	3	3 3/8	10.6	77.07	64.23	56.84	53.16
928-0307	GSD-750	750	230/115	C	4 5/8	3 13/16	5 3/16	3	4 1/8	14.4	95.38	79.53	70.37	65.82
928-0308	GSD-1000	1000	230/115	C	4 5/8	3 13/16	6	3	5	17.0	123.77	103.20	91.32	85.41
928-0309	GSD-1500	1500	230/115	C	5 1/2	4 5/8	6	3 1/2	4 3/8	20.0	181.49	151.33	133.91	125.24

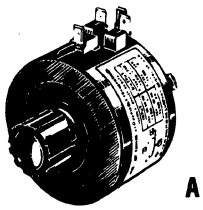


Step-Down Auto-Transformers. Primaries 230 volts 50/60 Hz, line cord and plug (may be operated from a 400 Hz source with no change in output ratings). Secondaries 115 volts, standard female receptacle except for P-8620 which has leadwires. **RMS Test Voltage:** 1500.

Stock No.	Mfr.'s Type	VA Cap.	Voltage Input/Output	Style	Case Dimensions H	Case Dimensions W	Case Dimensions D	Mounting (Inches) MW	Mounting (Inches) MD	Wt. Lbs.	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
928-2075	P-6287	40	230/115	C	3 1/2	2 5/8	2 1/2	2	1 1/2	2.2	41.59	36.75	32.52	31.80
928-4872	P-8620	50	230/115	A	2 5/16	3 11/16	1 7/8	3 1/8	—	1.5	12.94	11.23	9.95	9.39
928-4873	P-8630	85	230/115	C	3 1/2	2 5/8	2 3/4	2	1 3/4	2.5	42.26	37.34	33.04	30.90
928-4874	P-8631	125	230/115	C	3 1/2	2 5/8	3	2	2	3.0	42.76	37.79	33.44	31.28
928-4875	P-8632	200	230/115	C	3 7/8	3 1/8	3 3/4	2 1/2	2	4.2	50.16	44.32	39.22	36.68
928-4876	P-8634	400	230/115	C	3 7/8	3 1/8	4 3/4	2 1/2	3	7.0	58.17	51.38	45.47	42.53

Step-Up Auto-Transformers. Primaries 115 volts 50/60 Hz, line cord and plug (may be operated from a 400 Hz source with no change in output ratings). Secondaries, 230 volts, standard female receptacles. **RMS Test Voltage:** 1500.

Stock No.	Mfr.'s Type	VA Cap.	Voltage Input/Output	Style	Case Dimensions H	Case Dimensions W	Case Dimensions D	Mounting (Inches) MW	Mounting (Inches) MD	Wt. Lbs.	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
928-4700	P-8637	85	115/230	C	3 1/2	2 5/8	2 3/4	2	1 3/4	2.5	41.75	36.88	32.64	30.52
928-4720	P-8638	125	115/230	C	3 1/2	2 5/8	3	2	2	3.0	43.49	38.44	34.02	31.82
928-4877	P-8639	300	115/230	C	3 7/8	3 1/8	3 7/8	2 1/2	2 3/8	5.2	53.77	47.47	42.02	39.30
928-4878	P-8640	500	115/230	C	4 9/16	3 3/4	4 3/4	3	3 5/16	10.3	73.26	64.72	57.27	53.57
928-4879	P-8689	1000	115/230	C	5 3/8	4 1/2	5 1/2	3 1/2	4 1/2	17.4	96.20	84.97	75.19	70.32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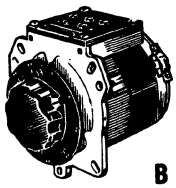
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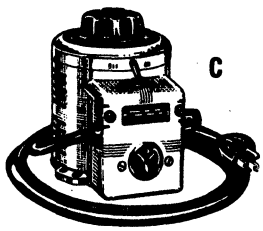
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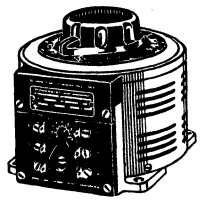
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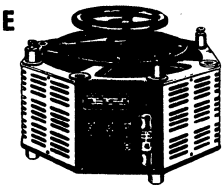
E

A POWERSTAT Variable Transformer is a continuously adjustable voltage autotransformer having a movable brush-tap riding on a commutator. Rotation of the brush-tap by either manual or motor-driven means delivers any output voltage in the range of zero to or above line voltage. Most POWERSTAT Variable Transformers feature POWERKOTE coils for longer life, increased ratings, greater overload capacities and better resistance to fungus, salt spray and other contaminating atmospheres. The commutator of the new POWERKOTE coil is embedded in a high temperature material which holds the windings in place, even under severe overloads. As a result, POWERSTAT Variable Transformers with POWERKOTE coils provide higher output ratings per pound and per dollar than ordinary variable transformers. This series of variable transformers offers excellent regulation and high efficiency with negligible waveform distortion and a precious metal-plated commutator. Their rugged mechanical construction will give you long life with low maintenance. Output voltage is continuously adjustable from zero to maximum (proportionately over their full range) within a fraction of a volt.

Stock No.	Mfr.'s Type	Fig.	Input Volts	Hz	Output			Knobs Rotation	Terminals				Wt. Lb.	EACH
									Knob on Radiator End		Knob on Base End			
					Volts	Amps	kVA		Input	Output	Input	Output		
645-0110	L10C*	A	120	50/60	0-120	2.25	3.25	CW	1-2	1-3	Not Available		2½	**150.00**
645-0011	10C	A	120	50/60	0-120	2.25	3.25	CCW	1-2	2-3	Not Available		2½	**42.00**
645-0012	12	A	240	50/60	0-240	.70	.90	CW	1-2	1-3	Not Available		2½	**60.00**
								CCW	1-2	2-3				
645-0021	21	B	120	50/60	0-120	5.00	.70	CW	1-4	3-4	1-4	1-3	6	**73.00**
								CCW	1-4	1-3	1-4	3-4		
					0-140	5.00	—	CW	4-5	3-4	1-2	1-3		
								CCW	1-2	1-3	4-5	3-4		
645-0022	22	A	240	50/60	0-240	2.25	3.25	CW	1-4	3-4	1-4	1-3	6	**99.00**
								CCW	1-4	1-3	1-4	3-4		
					0-280	2.25	—	CW	4-5	3-4	1-2	1-3		
								CCW	1-2	1-3	4-5	3-4		
645-0116	116CU	B	120	50/60	0-120	10.00	13.00	CW	1-4	1-3	1-4	3-4	12	**90.00**
								CCW	1-4	3-4	1-4	1-3		
					0-140	10.00	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0115	3PN116C	C	120	50/60	0-120	10.00	13.00	CW	1-4	1-3	1-4	3-4	12	**140.00**
								CCW	1-4	3-4	1-4	1-3		
					0-140	10.00	—	CW	1-2†	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0117	117CU	D	120	60	0-120	12.00	15.00	CW	1-4	1-3	1-4	3-4	12	**101.00**
								CCW	1-4	3-4	1-4	1-3		
645-0118	3PN117C	C	120	60	0-120	12.00	15.00	CW	1-4†	1-3	1-4	3-4	12	**168.00**
								CCW	1-4	3-4	1-4	1-3		
645-0125	126	D	120	50/60	0-120	15.00	20.00	CW	1-4	1-3	1-4	3-4	18	**193.00**
		B						CCW	1-4	3-4	1-4	1-3		
645-0216	126U	D	120	50/60	0-140	15.00	—	CW	1-2	1-3	4-5	3-4	18	**174.00**
		B						CCW	4-5	3-4	1-2	1-3		
645-0127	3PN126	C	120	50/60	0-120	15.00	20.00	CW	1-4	1-3	1-4	3-4	18	**257.00**
								CCW	1-4	3-4	1-4	1-3		
					0-140	15.00	—	CW	1-2†	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0225	226	D	240	50/60	0-240	7.50	2.40	CW	1-4	1-3	1-4	3-4	18	**200.00**
645-0226	226U	B	240	50/60	0-240	7.50	2.40	CCW	1-4	3-4	1-4	1-3	18	**208.00**
					0-280	7.50	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0227	3PN226	C	240	50/60	0-240	7.50	10.00	CW	1-4	1-3	1-4	3-4	18	**265.00**
								CCW	1-4	3-4	1-4	1-3		
					0-280	7.50	—	CW	1-2†	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0135	136B	D	120	50/60	0-120	22.00	28.00	CW	1-4	1-3	1-4	3-4	26	**273.00**
645-0136	136BU	B	120	50/60	0-120	22.00	28.00	CCW	1-4	3-4	1-4	1-3	26	**252.00**
					0-140	22.00	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0137	3PN136B	C	120	50/60	0-120	22.00	28.00	CW	1-4	1-3	1-4	3-4	26	**373.00**
								CCW	1-4	3-4	1-4	1-3		
					0-140	22.00	—	CW	1-2†	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0146	146	D	120	50/60	0-120	30.00	35.00	CW	1-4	1-3	1-4	3-4	38	**447.00**
								CCW	1-4	3-4	1-4	1-3		
					0-140	30.00	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0216	216CU	B	240	50/60	0-240	3.50	5.00	CW	1-4	1-3	1-4	3-4	12	**144.00**
								CCW	1-4	3-4	1-4	1-3		
					0-280	3.50	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0215	3PN216C	C	240	50/60	0-240	3.50	5.00	CW	1-4	1-3	1-4	3-4	12	**200.40**
								CCW	1-4	3-4	1-4	1-3		
					0-280	3.50	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0236	236BU	B	240	50/60	0-240	10.00	13.00	CW	1-4	1-3	1-4	3-4	26	**252.00**
								CCW	1-4	3-4	1-4	1-3		
					0-280	10.00	—	CW	1-2	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0237	3PN236B	C	240	50/60	0-240	10.00	13.00	CW	1-4	1-3	1-4	3-4	26	**374.00**
								CCW	1-4	3-4	1-4	1-3		
					0-280	10.00	—	CW	1-2†	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-0246	246	D	240	50/60	0-240	15.00	35.00	CW	1-4	1-3	1-4	3-4	38	**447.00**
								CCW	1-4	3-4	1-4	1-3		
					0-280	15.00	—	CW	1-2†	1-3	4-5	3-4		
								CCW	4-5	3-4	1-2	1-3		
645-1156	1156D	E	120	50/60	0-120	50.00	.55	CW	1-4	1-3	Not Available		82	**602.00**
					0-140	50.00	—	CCW	1-2	1-3				
645-1256	1256D	E	240	50/60	0-240	28.00	28.00	CW	1-4	1-3	Not Available		82	**602.00**
					0-280	28.00	—	CCW	1-4	1-3				

Circumference—44.96″. Cord—6′. *Enclosed Unit (not shown). †Unit wired this way when shipped; other models including ganged and motorized are available. Call your local Allied facility for details and prices.

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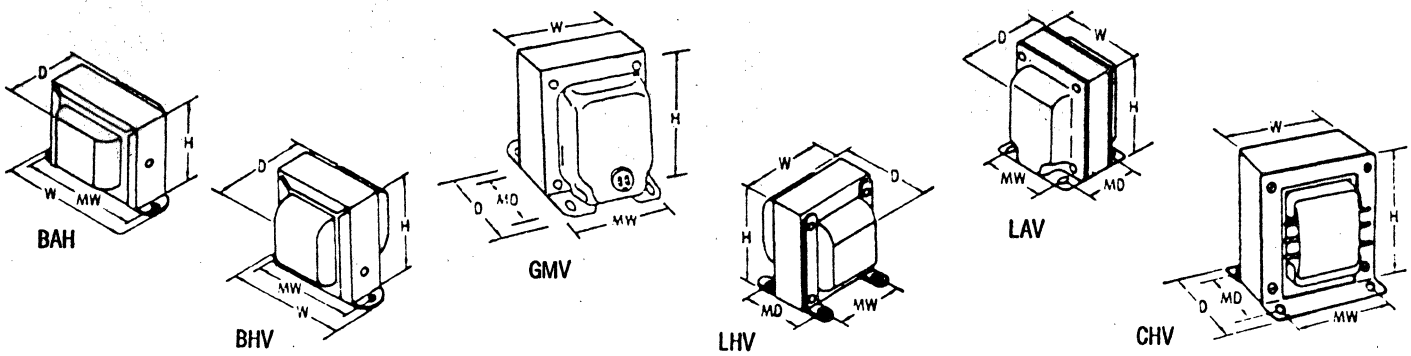
Termination Leads Color Coded



Stock No.	Mfr.'s Type	Secondary Volts	Secondary Amps	Primary Volts	Insul. Test RMS	Fig.	Size (Inches) H × W × D	Mounting MW × MD	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
704-5000	23V424	28.0 CT	2.000	117	1500	LAV	3 1/8 × 2 1/2 × 2 1/2	2 × 2 3/16	20.44	16.97	15.03	14.21
704-5005	23V425	28.0 CT	4.000	117	1500	LAV	3 13/16 × 3 1/8 × 3 1/4	2 1/2 × 2 1/2	29.17	24.20	21.43	20.26
704-5010	23V384	36.0 CT	0.065	117	1500	BAH	1 1/4 × 2 1/8 × 1 3/8	1 3/4 × —	11.80	9.79	8.67	8.20
704-5015	23V385	36.0 CT	0.135	117	1500	BAH	1 3/8 × 2 3/8 × 1 1/2	2 × —	11.04	9.16	8.11	7.67
704-9865	23V386	36.0 CT	0.300	117	1500	BAH	1 5/8 × 2 13/16 × 1 5/8	2 3/8 × —	11.51	9.56	8.46	8.00
704-5020	23V387	36.0 CT	0.500	117	1500	BAH	2 × 3 1/4 × 1 7/8	2 13/16 × —	13.57	11.27	9.98	9.43
704-9870	23V427	36.0 CT	1.000	117	1500	BAH	2 3/8 × 3 3/4 × 2 3/8	3 1/8 × —	16.80	13.94	12.35	11.67
704-5025	23V428	36.0 CT	2.000	117	1500	LAV	3 7/16 × 2 13/16 × 2 3/4	2 1/4 × 2 1/8	22.59	18.75	16.60	15.70
704-5030	23V429	36.0 CT	4.000	117	1500	LAV	4 3/16 × 3 7/16 × 3 1/8	2 3/4 × 2 3/8	31.60	26.23	23.23	21.96
704-5035	23V430	36.0 CT	6.000	117	1500	LAV	4 9/16 × 3 3/4 × 3 5/8	3 × 2 5/8	48.17	39.98	35.41	33.48
704-5040	21F187	48.0 CT	1.000	117*	2500	BAH	2 5/8 × 4 × 2 3/8	3 9/16 × —	24.97	20.72	18.35	17.35

*Secondary Voltage varied by means of primary taps.

Control Transformers

Primaries 115/230 volts 50/60 Hz. Solder lug termination with dual secondary windings. Insulation test volts RMS @ 1500V.

Stock No.	Mfr.'s Type	Secondary Each Winding	Output of Two Secondaries In Parallel	Output of Two Secondaries In Series	Style	Size (Inches) H × W × D	Mounting MW × MD	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
704-9880	23V50	6.0V @ 1.00A	6.0V @ 2.0A	12V @ 1.00A	BHV	2 3/8 × 2 7/8 × 1 3/4	2 3/8 × —	13.21	10.96	9.71	9.18
704-9885	23V51	6.0V @ 2.00A	6.0V @ 4.0A	12V @ 2.00A	BHV	2 3/4 × 3 1/8 × 2	2 13/16 × —	16.90	14.03	12.42	11.74
704-9890	23V52	12.0V @ 2.00A	12.0V @ 4.0A	24V @ 2.00A	BHV	3 1/8 × 3 5/8 × 2 3/8	3 1/8 × —	17.32	14.37	12.73	12.04
704-9895	23V53	12.0V @ 4.00A	12.0V @ 8.0A	24V @ 4.00A	CHV	3 7/16 × 2 7/8 × 3 1/8	2 1/4 × 2 3/8	30.77	25.54	22.62	21.39
704-5045	23V54	12.0V @ 8.00A	12.0V @ 16.0A	24V @ 8.00A	LHV	4 3/16 × 3 1/2 × 3 1/2	2 3/4 × 3	53.95	44.78	39.66	37.50
704-5050	23V388	24.0V @ 0.25A	24.0V @ 0.5A	48V @ 0.25A	BHV	2 3/8 × 2 7/8 × 1 3/4	2 3/8 × —	16.04	13.31	11.79	11.15
704-5055	23V389	24.0V @ 0.50A	24.0V @ 1.0A	48V @ 0.50A	BHV	2 3/4 × 3 1/8 × 2 11/16	2 13/16 × —	15.64	12.98	11.49	10.87
704-5060	23V390	24.0V @ 1.00A	24.0V @ 2.0A	48V @ 1.00A	BHV	3 1/8 × 3 5/8 × 2 3/8	3 1/8 × —	17.83	14.80	13.10	12.39
704-5065	23V391	24.0V @ 2.00A	24.0V @ 4.0A	48V @ 2.00A	LHV	3 7/16 × 2 7/8 × 2 15/16	2 1/4 × 2 1/4	30.73	25.50	22.58	21.35
704-5070	23V392	24.0V @ 4.00A	24.0V @ 8.0A	48V @ 4.00A	LHV	4 3/16 x 3 1/2 x 3 3/4	2 3/4 x 3	47.00	39.01	34.55	32.67

Primaries 117V 50/60 Hz — Triple Secondaries @ 12V (One Center Tapped) — With Leads

Stock No.	Mfr.'s Type	Secondary Each Winding	Output of Three Secondaries In Parallel	Output of Three Secondaries In Series	Type	Size (Inches) H × W × D	Mounting MW × MD	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
704-5075	23V236	12.0V @ 0.10A	12.0V @ 0.30A	36.0V @ 0.10A	BAV	1 3/4 × 2 × 1 1/2	1 23/32 × —	14.54	12.07	10.69	10.11
704-5080	23V238	12.0V @ 0.25A	12.0V @ 0.75A	36.0V @ 0.25A	BAV	2 3/8 × 2 7/8 × 2	2 3/8 × —	16.97	14.08	12.47	11.79
704-5085	23V239	12.0V @ 0.50A	12.0V @ 1.50A	36.0V @ 0.50A	BAV	2 3/8 × 2 7/8 × 2 1/4	2 3/8 × —	17.74	14.73	13.04	12.33

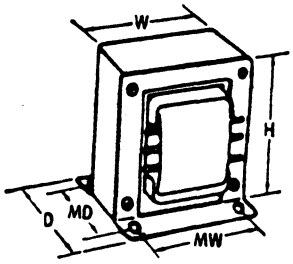
Step Down Autoformers: 50/60 Hz Primary (Three Conductor Line/Receptacle except 23V393 with leads)

Stock No.	Mfr.'s Type	Input Volts	Output Volts	VA Cap.	Insul. Test RMS	Style	Size (Inches) H × W × D	Mounting MW × MD	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
704-5090	23V393	230	115	50	1500	BAH	2 3/8 × 3 3/4 × 2	3 1/8 × —	11.76	9.76	8.64	8.17
704-5095	23V338	230	115	85	1500	GMV	3 1/8 × 2 1/2 × 2 3/4	2 × 1 3/4	29.85	24.77	21.94	20.74
704-5100	23V291	230	115	150	1500	GMV	3 7/8 × 3 3/16 × 3 1/4	2 1/2 × 2	53.48	44.39	39.31	37.17
704-5105	23V292	230	115	250	1500	GMV	4 5/8 × 3 13/16 × 3 3/4	3 × 2 5/8	64.09	53.20	47.11	44.54
704-5110	23V340	230	115	400	1500	GMV	3 7/8 × 3 1/8 × 4 1/2	2 1/2 × 3 1/16	55.83	46.34	41.08	38.80
704-5115	23V289	230	115	500	1500	GMV	4 5/8 × 3 13/16 × 4 1/4	3 × 3 1/8	73.61	61.10	54.11	51.16
704-5120	23V510	230	115	750	1500	GMV	4 5/8 × 3 13/16 × 5 3/16	3 × 4 1/8	90.63	75.22	66.61	62.99
704-5125	23V294	230	115	1000	1500	GMV	5 1/2 × 4 5/8 × 5 3/8	3 1/2 × 3 3/4	116.45	100.73	89.20	84.27
704-5130	23V296	230	115	1500	1500	GMV	5 1/2 × 4 5/8 × 5 7/8	3 1/2 x 4 1/4	173.57	144.07	127.58	120.63

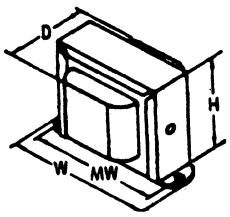
Step-Up Auto-Transformers: 50/60 Hz Primary. (Three Conductor Line/Receptacle Except 23V398 With Line Cord/Line Cord)

704-5135	23V398	115	230	125	1500	GMV	3 1/8 × 2 1/2 × 3	2 × 2	42.72	35.46	31.40	29.69
704-5140	23V399	115	230	300	1500	GMV	3 7/8 × 3 3/16 × 3 11/16	2 1/2 × 2 3/8	52.26	43.38	38.41	36.32
704-5145	23V400	115	230	500	1500	GMV	4 9/16 × 3 3/4 × 4 3/4	3 × 3 5/16	70.33	58.38	51.70	48.88

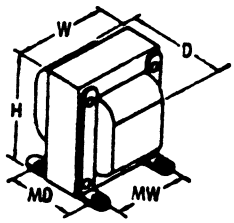
Termination — Leads, Color Coded



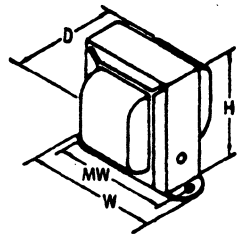
CAV



BAH



LAV



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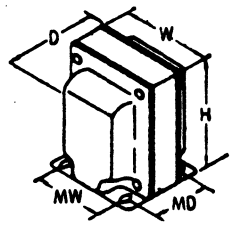

GGV

Stock No.	Mfr.'s Type	Secondary		Primary Volts	Insulated Test RMS	Fig.	Size (Inches)			MW	MD	EACH			
		Volts	Amps				H	W	D			1-9	10-24	25-49	50-99
704-6000	21F13	5.0CT	10.000	117	2500	CAV	3 1/8	2 1/2	3	2	2 3/8	33.30	27.64	24.47	23.14
704-2005	26F73	6.3CT	0.300	117	1500	BAH	1 1/4	2 1/8	1 3/8	1 3/4	—	9.33	7.75	6.86	6.49
704-2007	21F162	6.3CT	0.600	117	1500	BAH	1 3/8	2 3/8	1 3/8	2	—	9.04	7.51	6.65	6.28
704-2009	21F143	6.3CT	1.000	117	1500	BAH	1 5/8	2 7/8	1 5/8	2 3/8	—	8.90	7.39	6.54	6.19
704-2012	26F60	6.3	1.200	117	7000	BAH	2	3 1/4	2 1/4	2 13/16	—	14.47	12.01	10.64	10.06
704-2011	21F09	6.3CT	1.200	117	2500	BAH	1 5/8	2 7/8	1 5/8	2 3/8	—	9.36	7.77	6.88	6.50
704-2013	21F10	6.3CT	3.000	117	2500	BAH	2	3 1/4	2 1/8	2 13/16	—	12.71	10.55	9.34	8.83
704-6005	21F203	6.3CT	4.000	117	1500	BAH	2 3/8	3 3/4	2 1/4	3 1/8	—	17.36	14.41	12.76	12.07
704-6010	21F204	6.3CT	5.000	117	1500	BAH	2 3/8	3 3/4	2 1/4	3 1/8	—	17.59	14.60	12.93	12.22
704-2022	21F25	6.3CT	20.000	107/117	2500	LAV	4 9/16	3 13/16	3 3/8	3	2 3/8	42.25	35.06	31.05	29.36
704-6015	21F45	7.5CT	4.000	117	2500	LAV	3 1/8	2 9/16	2 1/4	2	2 1/8	27.46	22.79	20.18	19.08
704-6020	21F205	10.0CT	1.000	117	1500	BAH	2	3 1/4	1 5/8	2 13/16	—	14.38	11.94	10.57	9.99
704-6025	21F206	10.0CT	2.000	117	1500	BAH	2	3 1/4	2	2 13/16	—	14.55	12.07	10.69	10.11
704-6030	21F207	10.0CT	4.000	117	1500	BAH	2 5/8	4	2 1/4	3 9/16	—	20.04	16.63	14.73	13.93
704-6035	21F208	10.0CT	6.000	117	1500	LAV	3 1/8	2 1/2	2 3/4	2	2 5/16	23.56	19.56	17.32	16.37
704-6040	21F209	10.0CT	8.000	117	1500	LAV	3 7/16	2 13/16	3 1/8	2 1/4	2 1/2	27.16	22.54	19.96	18.87
704-9810	23V252	12.0	0.150	117	1500	BAH	1 1/4	2 1/16	1 1/4	1 3/4	—	8.43	6.99	6.19	5.86
704-9815	23V253	12.0	0.350	117	1500	BAH	1 3/8	2 3/8	1 1/2	2	—	8.98	7.45	6.60	6.24
704-9820	23V254	12.0	0.700	117	1500	BAH	1 5/8	2 13/16	1 5/8	2 3/8	—	9.12	7.57	6.70	6.34
704-9825	23V255	12.0	1.200	117	1500	BAH	2	3 1/4	1 3/4	2 13/16	—	11.25	9.34	8.27	7.82
704-9830	23V415	12.0	2.000	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	12.89	10.70	9.47	8.96
704-6047	23V416	12.0	4.000	117	1500	BAH	2 5/8	4	2 1/4	3 9/16	—	17.97	15.46	13.70	13.04
704-6045	23V417	12.0	6.000	117	1500	LAV	3 7/16	2 13/16	2 5/8	2 1/4	2 1/8	25.10	20.76	18.39	17.38
704-6050	23V418	12.0	8.000	117	1500	LAV	3 13/16	3 1/8	2 3/4	2 1/2	2 1/8	26.66	22.12	19.59	18.53
704-2028	26F72	12.6CT	1.000	117	1500	BAH	2	3 1/4	1 3/4	2 13/16	—	10.78	8.95	7.92	7.49
704-2029	21F149	12.6CT	1.500	117	1500	BAH	2	3 1/4	2	2 13/16	—	11.39	9.46	8.38	7.92
704-2030	26F67	12.6CT	2.000	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	12.15	10.09	8.93	8.45
704-2033	21F150	12.6CT	3.000	117	1500	BAH	2 1/4	3 11/16	2 1/4	3 1/8	—	16.04	13.31	11.79	11.15
704-2034	21F193	12.6CT	4.000	117	1500	BAH	2 5/8	4	2 3/8	3 9/16	—	20.56	17.07	15.11	14.29
704-6055	21F194	12.6CT	6.000	117	1500	GGV	3 1/2	2 13/16	3 3/8	2 1/4	2 1/8	24.96	21.59	19.12	18.06
704-6060	21F196	12.6CT	10.000	117	1500	GGV	4 1/4	3 7/16	3 7/8	2 3/4	2 11/16	48.38	40.16	35.56	33.62
704-6065	23V470	14.0CT	1.000	115	1500	BAH	1 15/16	3 1/4	1 3/4	2 13/16	—	12.44	10.32	9.14	8.64
704-6070	23V526	14.0CT	4.000	115	1500	LAV	3	2 1/2	2 5/8	2	2 1/4	20.87	17.32	15.34	14.51
704-6075	23V545	18.0CT	2.000	115	1500	BAH	2 9/32	3 3/4	2 1/4	3 1/8	—	16.13	13.39	11.86	11.21
704-6080	23V511	20.0CT	0.050	115/230	2500	BAH	1 5/16	2 1/8	1 1/4	1 3/4	—	12.06	10.01	8.86	8.38
704-9835	23V383	20.0CT	1.000	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	13.83	11.48	10.16	9.61
704-2036	26F68	24.0	1.000	117	2500	BAH	2	3 1/4	2 1/8	2 13/16	—	11.12	9.25	8.23	7.78
704-9840	23V256	24.0CT	0.085	117	1500	BAH	1 1/4	2 1/16	1 1/2	1 3/4	—	9.62	7.98	7.07	6.68
704-9845	23V257	24.0CT	0.200	117	1500	BAH	1 3/8	2 3/8	1 1/2	2	—	9.50	7.88	6.98	6.60
704-9850	23V258	24.0CT	0.400	117	1500	BAH	1 5/8	2 13/16	1 5/8	2 3/8	—	10.85	9.01	7.97	7.54
704-9855	23V259	24.0CT	0.700	117	1500	BAH	2	3 1/4	1 3/4	2 13/16	—	11.30	9.38	8.31	7.85
704-6805	23V404	24.0CT	0.700	230	1500	BAH	2	3 1/4	1 3/4	2 13/16	—	14.90	12.37	10.95	10.36
704-2035	21F84	24.0CT	1.000	115	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	11.51	9.56	8.46	8.00
704-2037	21F181	24.0CT	1.000	115/230	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	13.43	11.15	9.87	9.34
704-9860	23V478	24.0CT	2.000	115	1500	BAH	2 5/8	4	2 1/4	3 9/16	—	16.80	13.95	12.35	11.68
704-6090	23V419	24.0CT	4.000	117	1500	LAV	3 13/16	3 1/8	2 13/16	2 1/2	2 1/8	27.25	22.62	20.03	18.94
704-6095	23V420	24.0CT	6.000	117	1500	LAV	4 3/16	3 7/16	3	2 3/4	2 1/4	36.93	30.65	27.15	25.67
704-9421	23V421	24.0CT	8.000	117	1500	LAV	4 3/16	3 7/16	3 1/2	2 3/4	2 3/4	44.39	36.84	32.62	30.85
704-6100	23V422	24.0CT	12.000	117	1500	LAV	4 9/16	3 3/4	4 5/8	3	3 1/4	55.83	46.34	41.04	38.81
704-2039	21F51	25.2	1.000	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	12.04	10.00	8.85	8.37
704-2040	21F142	25.2CT	1.000	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	11.51	9.56	8.46	8.00
704-2041	21F83	25.2CT	2.000	115	1500	BAH	2 5/8	4	2 1/4	3 9/16	—	15.33	12.72	11.27	10.65
704-6105	21F180	25.2CT	2.000	115/230	1500	BAH	2 5/8	4	2 1/4	3 9/16	—	18.21	15.11	13.38	12.65
704-2042	21F114	25.2CT	3.000	117	1500	BAH	2 5/8	4	2 1/4	3 9/16	—	18.87	15.66	13.87	13.12
704-6110	21F197	25.2CT	5.000	117	1500	BAH	4 1/4	3 7/16	3 7/8	2 3/4	2 11/16	48.97	42.36	37.51	35.44
704-2044	21F27	26.5CT	0.600	117	3000	BAH	2	3 1/4	2 1/8	2 13/16	—	12.91	10.72	9.49	8.97
704-2045	21F82	26.8CT	1.000	115	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	11.92	9.91	8.82	8.34
704-6115	23V381	28.0CT	0.300	117	1500	BAH	1 5/8	2 7/8	1 5/8	2 3/8	—	11.71	9.72	8.61	8.14
704-6120	23V382	28.0CT	0.800	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	12.46	10.46	9.27	8.76
704-6125	23V423	28.0CT	1.000	117	1500	BAH	2	3 1/4	2 1/8	2 13/16	—	14.54	12.07	10.69	10.11

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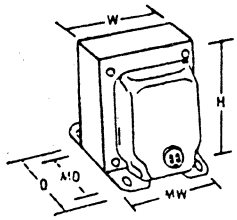
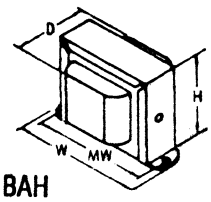
Line Adjusting Transformers



GMV



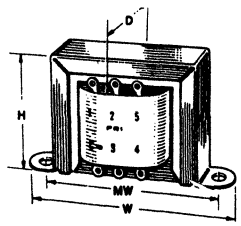
BAH

Straight Isolation: 50/60 Hz Primary (Three Conductor Line and Receptacle)

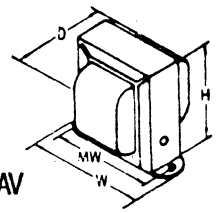
Stock No.	Mfr.'s Type	Input Volts	Output Volts	VA Cap.	Insul. Test RMS	Style	Size (Inches) H × W × D	MW × MD	EACH 1-9	10-24	25-49	50-99
704-9080	23V364	115	115	100.0	1500	GMV	$3\frac{1}{2} \times 2\frac{13}{16} \times 3\frac{9}{16}$	$2\frac{1}{4} \times 2\frac{7}{16}$	**49.12**	**40.77**	**36.11**	**34.14**
704-2365	23V365	115	115	150.0	1500	GMV	$3\frac{7}{8} \times 3\frac{3}{16} \times 4\frac{3}{16}$	$2\frac{1}{2} \times 2\frac{15}{16}$	**54.14**	**44.94**	**39.80**	**37.63**
704-2366	23V366	115	115	250.0	1500	GMV	$4\frac{11}{16} \times 3\frac{3}{4} \times 4\frac{3}{8}$	$3 \times 3\frac{3}{16}$	**69.62**	**57.78**	**51.17**	**48.38**
704-2367	23V367	115	115	500.0	1500	GMV	$4\frac{11}{16} \times 3\frac{3}{4} \times 6$	$3 \times 4\frac{13}{16}$	**104.21**	**86.50**	**76.60**	**74.43**
704-2368	23V368	115	115	1000.0	1500	GMV	$5\frac{1}{2} \times 4\frac{9}{16} \times 8\frac{1}{8}$	$3\frac{1}{2} \times 6\frac{1}{2}$	**206.80**	**171.64**	**152.00**	**143.72**
Isolation and Step-Down Isolation Transformers												
704-9075	23V376	115	115	0.6	1500	BAH★	$1\frac{1}{4} \times 2\frac{1}{8} \times 1\frac{1}{4}$	$1\frac{3}{4}$	**11.69**	**9.70**	**8.59**	**8.12**
704-9085	23V374	115	115	15.0	1500	BAH★	$2 \times 3\frac{1}{4} \times 1\frac{7}{8}$	$2\frac{13}{16}$	**11.82**	**9.81**	**8.69**	**8.22**
704-9917	23V17	115	115	35.0	1500	BAH★	$2\frac{3}{8} \times 3\frac{3}{4} \times 2\frac{1}{8}$	$3\frac{1}{4}$	**14.66**	**12.17**	**10.98**	**10.19**
704-9090	23V80	115/230	115	35.0	1500	BAH★	$2\frac{3}{8} \times 3\frac{3}{4} \times 2\frac{1}{8}$	$3\frac{1}{8}$	**19.14**	**15.89**	**14.07**	**13.30**
704-9095	23V551	115/230	115	50.0	1500	BAH★	$2\frac{3}{8} \times 3\frac{3}{4} \times 2\frac{3}{8}$	$3\frac{1}{8}$	**19.28**	**16.00**	**14.17**	**13.40**

★Shielded leads for permanent installation. 23V80 and 23V551 primary have 2 separate 115V windings.

Audio Transformers



BHH

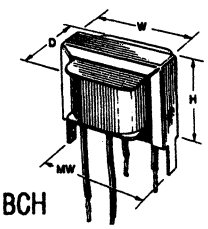


BAV

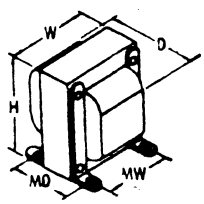
Output: Single Plate to Voice Coil and/or Line 25 Volt Line to Voice Coil (Speaker)

Stock No.	Mfr.'s Type	Impedance in Ohms Pri.	Audio Watts	Overall Turns Ratio	Pri. Ohms	Sec. Ohms	Freq. Reponse +3dB	RMS Test Volts	Style	Dimensions H × W × D	MW	EACH 1-9	10-24	25-49	50-99
704-9130	24S22	39/78/312.5/ 625/1250	12/8/4/2/1/0.5	8.8:1	70	1.80	100-6000	1500	BHV	$2\frac{3}{4} \times 3\frac{1}{4} \times 2\frac{1}{8}$	$2\frac{13}{16}$	**25.30**	**21.00**	**18.59**	**17.58**
704-9135	24S24	125/250/500/ 1000/2000	5/2.5/1.25/ 0.62/0.31	15.8:1	85	0.50	30-20000	500	BHH	$1\frac{3}{8} \times 2\frac{3}{8} \times 1\frac{1}{4}$	2	**20.13**	**16.71**	**14.80**	**13.99**
70.7 Volt Line to Voice Coil (Speaker)															
704-9140	24S167	100/125/200/333	50/40/25/15	4.6:1	23	1.80	40-20000	1500	BAV	$2\frac{3}{8} \times 2\frac{7}{8} \times 2$	$2\frac{3}{8}$	**23.51**	**19.52**	**17.28**	**16.34**
704-9145	24S166	166/250/500/1000	30/20/10/5	7.9:1	36	9.10	40-20000	1500	BAV	$2\frac{3}{8} \times 2\frac{7}{8} \times 1\frac{3}{4}$	$2\frac{3}{8}$	**23.21**	**19.26**	**17.06**	**16.13**
704-9150	24S72	312.5/625/1250/ 2500/5000/10000	16/8/4/2/1/.5	25.1:1	480	0.88	100-5000	1000	BHV	$2\frac{5}{8} \times 3\frac{1}{8} \times 2\frac{1}{4}$	$2\frac{13}{16}$	**26.78**	**22.22**	**19.68**	**18.61**
704-9155	24S74	1000/2000/4000/ 8000/16000	5/2.5/1.25/ 0.62/0.31	44.7:1	850	0.54	50-20000	1000	BHH	$1\frac{3}{8} \times 2\frac{3}{8} \times 1\frac{1}{4}$	2	**21.06**	**17.48**	**15.48**	**14.64**

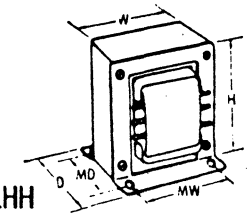
Filter Chokes



BCH



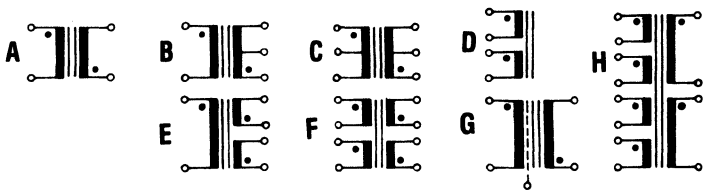
LAH



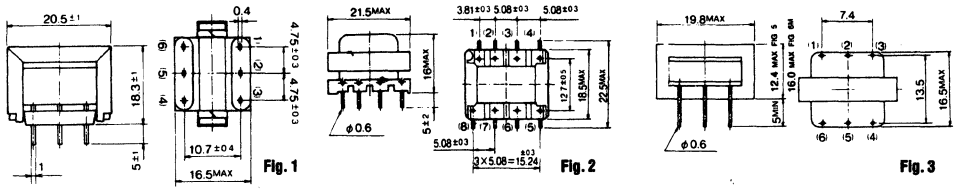
LHH

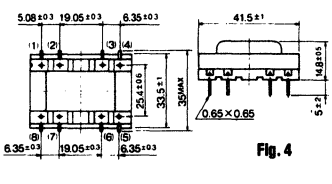
Swinging, Smoothing, and High Current Listed in Order of M.A.D.C.

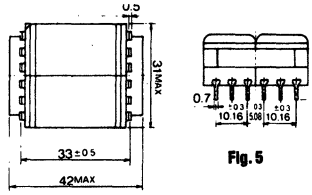
Stock No.	Mfr.'s Type	Inductance Henries	DCMA	DC Res. Ohms	RMS Test Volts	Term.	Style	Size (Inches) H × W × D	MW × MD	EACH 1-9	10-24	25-49	50-99
704-9100	26C41	1.5	.20	90.000	2500	LEADS	BAH	$1\frac{5}{8} \times 2\frac{7}{8} \times 1\frac{5}{8}$	$2\frac{3}{8}$	**9.73**	**8.08**	**7.15**	**6.77**
704-9105	TR-153	3.0 mH	1.00A	0.250	1000	LEADS	BCH-1	$1\frac{1}{4} \times 1\frac{1}{2} \times 1$	$1\frac{1}{4} \times \frac{7}{16}$	**7.18**	**5.96**	**5.27**	**4.99**
704-9110	TR-154	11.0 mH	1.00A	0.750	1000	LEADS	BCH-1	$1\frac{1}{4} \times 1\frac{1}{2} \times 1$	$1\frac{1}{4} \times \frac{7}{16}$	**7.89**	**6.55**	**5.80**	**5.48**
704-9115	20C00	35.0 mH	2.00A	0.750	1500	LEADS	LAH	$2\frac{1}{4} \times 2\frac{11}{16} \times 2\frac{1}{4}$	$2\frac{3}{16} \times 2$	**18.17**	**15.08**	**13.36**	**12.63**
704-9120	20C01	25.0 mH	4.00A	0.425	1500	LEADS	LHH	$3 \times 3\frac{3}{8} \times 2\frac{7}{8}$	$2\frac{13}{16} \times 2\frac{1}{8}$	**25.70**	**21.33**	**18.89**	**17.86**
704-9125	20C02	10.0 mH	8.00A	0.150	1500	LEADS	LAH	$3\frac{1}{4} \times 3\frac{3}{4} \times 3\frac{3}{16}$	$3\frac{1}{8} \times 2\frac{1}{2}$	**30.92**	**25.66**	**22.72**	**21.49**
704-9803	20C03	10.0 mH	12.50A	0.110	1500	LEADS	LAH	$3\frac{7}{16} \times 4\frac{1}{8} \times 3$	$3\frac{7}{16} \times 2\frac{3}{8}$	**38.06**	**31.59**	**27.97**	**26.45**

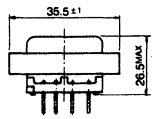


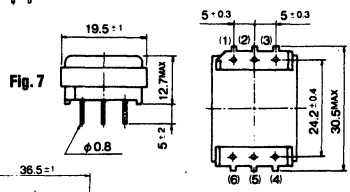
DIMENSIONS MM

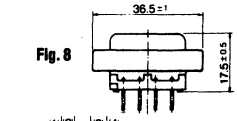


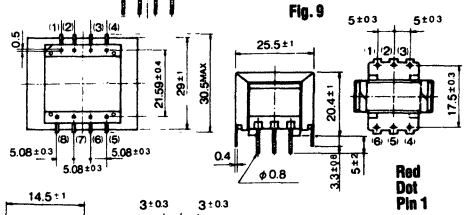


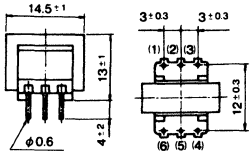


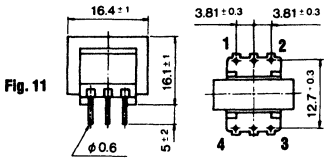








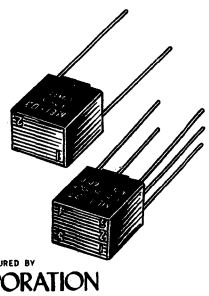




Stock No.	Mfr.'s Type	Impedance Primary	Impedance Secondary	Current DCMA	Insertion Losses/dB†	Fig.	Schematic	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
704-7000	TTC-110-T	600	600	0	0.8	1	A	**9.00**	**8.01**	**7.20**	**6.40**
704-7005	TTC-118-T	600	600	0	0.8	3	A	**8.33**	**7.41**	**6.66**	**5.92**
704-7010	TTC-122-T	600	600	80	0.9	4	A	**14.18**	**12.62**	**11.34**	**10.08**
704-7015	TTC-125-T	600	600	80	1.8	5	F	**17.20**	**15.31**	**13.76**	**12.23**
704-7020	TTC-126-2-T	600	600	90	0.8	6	A	**15.75**	**14.02**	**12.60**	**11.20**
704-7025	TTC-143-T	600	600	90	1.6	7	A	**11.93**	**10.62**	**9.54**	**8.48**
704-7030	TTC-131-T	600	600 <	90	1.8	8	G	**16.88**	**15.02**	**13.50**	**12.00**
704-7035	TTC-130-T	600	600	90	1.8	8	A	**13.50**	**12.02**	**10.80**	**9.60**
704-7040	TTC-142-T	600	600	90	1.8	7	A	**9.45**	**8.41**	**7.56**	**6.72**
704-7045	TTC-105-T	600	600	90	2.0	1	A	**6.98**	**6.21**	**5.58**	**4.96**
704-7050	TTC-109-T	600	600	90	2.0	2	A	**7.65**	**6.81**	**6.12**	**5.44**
704-7055	TTC-10-T	600	600/600	0	1.0	1	E	**9.23**	**8.21**	**7.38**	**6.56**
704-7060	TTC-101-T	600	600 CT*	0	0.8	9	E	**11.98**	**10.66**	**9.58**	**8.52**
704-7065	TTC-121-T	600	600 CT*	80	0.9	4	E	**14.51**	**12.91**	**11.61**	**10.32**
704-7070	TTC-143-2-T	600	600 CT*	90	1.6	7	E	**12.60**	**11.21**	**10.08**	**8.96**
704-7075	TTC-105-1-T	600	600 CT	90	2.0	1	B	**6.98**	**6.21**	**5.58**	**4.96**
704-7080	TTC-109-2-T	600	600 CT*	90	2.0	2	E	**7.50**	**6.68**	**6.00**	**5.33**
704-7085	TTC-109-1-T	600	600 CT	90	2.0	2	B	**7.65**	**6.81**	**6.12**	**5.44**
704-7090	TTC-112-T	600	900	0	0.9	1	A	**9.00**	**8.01**	**7.20**	**6.40**
704-7095	TTC-04-T	600	900	0	1.0	3	A	**8.33**	**7.41**	**6.66**	**5.92**
704-7100	TTC-09-T	600 CT	600 CT	0	0.8	1	C	**8.00**	**7.12**	**6.40**	**5.69**
704-7105	TTC-03-T	600 CT	600 CT	0	0.8	3	C	**8.78**	**7.81**	**7.02**	**6.24**
704-7110	TTC-108-T	600 CT	600 CT	0	1.2	1	C	**6.98**	**6.21**	**5.58**	**4.96**
704-7115	TTC-124-T	600 CT*	600 CT	80	1.3	5	H	**17.00**	**15.13**	**13.60**	**12.09**
704-7120	TTC-126-T	600 CT*	600 CT*	90	0.8	6	F	**15.98**	**14.22**	**12.78**	**11.36**
704-7125	TTC-123-T	900	600	80	0.9	4	A	**14.34**	**12.76**	**11.47**	**10.20**
704-7130	TTC-13-T	4000	600	0	0.8	1	A	**9.23**	**8.21**	**7.38**	**6.56**
704-7135	TTC-05-T	4000	600	0	1.0	3	A	**8.78**	**7.81**	**7.02**	**6.24**
704-7140	TTC-167-T	10000	10000	0	1.4	10	A	**8.55**	**7.61**	**6.84**	**6.08**
704-7145	TTC-119-T	Holding 1.3 HY		100	—	11	D	**12.00**	**10.68**	**9.60**	**8.53**
	TTC-119-T	Coil 2.0 HY									
704-7147	TTC-120-T	Holding 1.4 HY		120	—	4	D	**13.84**	**12.32**	**11.07**	**9.84**

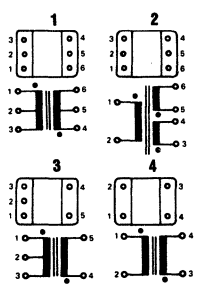
†I.L. is Typical Insertion Loss in dB measured at Rated Unbalanced MADC, OdBm & 100 Hz; CT* Winding can be connected as a Centertapped Winding or as two Isolated Windings; < Shielded; Meets FCC Part 68 for Telecommunication Applications

Miniature Encapsulated Transformers — MET Series



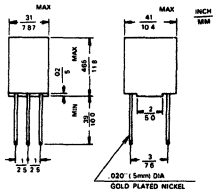
All MET Series transformers and MEI Series inductors are designed and constructed to meet the requirements of MIL-T-27. They feature a molded case construction with base mounting pad for easy inspection of solder joints; high strength gold plated nickel leads which meet a 2.0 1b on axis of pin terminal strength; and weight of less than 3.0 grams. These transformers offer exceptional performance characteristics for use in all high performance impedance matching circuits requiring miniature magnetic components; including input, interstage, isolation, and output circuit applications. **Specifications. Miniature size:** 0.310″ (7.87 mm), 0.410″ (10.4 mm), 0.465″ (11.8 mm); **Meets requirements of MIL-T-27; Dielectric Strength:** 500 VRMS; **Insulation Resistance:** 10K M Ohms; **Max. Operating Temperature:** 105°C; **Thermal Shock:** 5 cycles −55°C to 105°C; **Response:** ±2db, 300 Hz to 100kHz; **Max. distortion 10 to 25% at rated power impedance range:** 3.2 to 200K Ohms.

PRODUCTS MANUFACTURED BY
TAMURA CORPORATION
TAMURA QUALITY CIRCLES THE ELECTRON WORLD



MET SERIES SCHEMATIC AND CONNECTION DIAGRAMS

MECHANICAL DIMENSIONS



Stock No.	Mfr.'s Type	Matching Impedance Primary	Matching Impedance Secondary	Max. Unbal. Pri DCMA	D.C.R. Primary	D.C.R. Secondary	Max. Power Level MW @ 300 Hz	Turns Ratio Primary	Turns Ratio Secondary	Schematic	EACH 1-9	EACH 10-24	EACH 25-49	EACH 50-99
704-7150	MET-50-T	10K	125	0.0	1.1K	28	10	8.62	1.0	4	**27.23**	**22.33**	**20.70**	**17.80**
704-7155	MET-05-T	25K CT	1KCT	0.5	1600	95	30	5.00	1.0	1	**18.49**	**15.16**	**14.06**	**12.09**
704-7160	MET-37-T	500 CT	600	3.0	65	95	50	0.91	1.0	3	**14.43**	**11.83**	**10.97**	**9.43**
704-7165	MET-11-T	10K CT	2K CT	1.0	1000	300	40	2.23	1.0	1	**18.49**	**15.16**	**14.06**	**12.09**
704-7170	MET-09-T	10K CT	10K CT	1.0	1000	1300	40	1.00	1.0	1	**18.49**	**15.16**	**14.06**	**12.09**
704-7175	MET-17-T	10K CT	500CT	1.0	1000	80	40	4.47	1.0	1	**18.49**	**15.16**	**14.06**	**12.09**
704-7180	#MET-41-T	300 CT	600	7.0	41	98	50	0.71	1.0	3	**14.43**	**11.83**	**10.97**	**9.43**
704-7185	#MET-46-T	600	600	3.0	72	93	50	1.00	1.0	4	**16.26**	**13.33**	**12.36**	**10.63**
704-7190	MET-39-T	500	50	3.0	55	8	50	3.16	1.0	4	**14.43**	**11.83**	**10.97**	**9.43**
704-7195	#MET-32-T	600	600 CT/150 split	3.0	70	95	50	2.00	1.0/1.0	2	**15.85**	**13.00**	**12.05**	**10.36**
704-7200	#MET-31-T	600 CT	600 CT	3.0	70	95	50	1.00	1.0	1	**15.85**	**13.00**	**12.05**	**10.36**
704-7205	#MET-29-T	900 CT	600	3.0	80	95	50	1.22	1.0	3	**16.26**	**13.33**	**12.36**	**10.63**
704-7210	MET-24-T	1.5K CT	600	3.0	160	95	50	1.58	1.0	3	**15.04**	**12.33**	**11.43**	**9.83**
704-7215	MET-45-T	10K	10K CT/2.5K split	1.0	1.1K	1.3K	50	2.00	1.0/1.0	2	**18.49**	**15.16**	**14.06**	**12.09**
704-7220	METC-99-T	MU-Metal Shield for MET — EMI Slip on Shield									**2.85**	**2.34**	**2.17**	**1.86**

FCC Part 678 (Hipot 1.5KV or 1.0KV)

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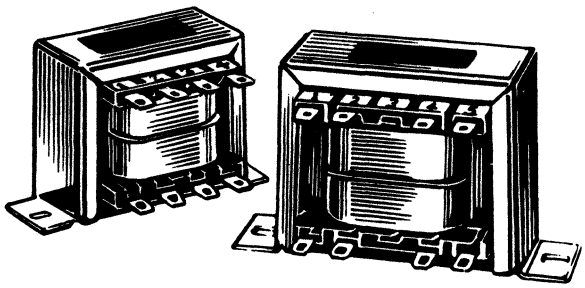
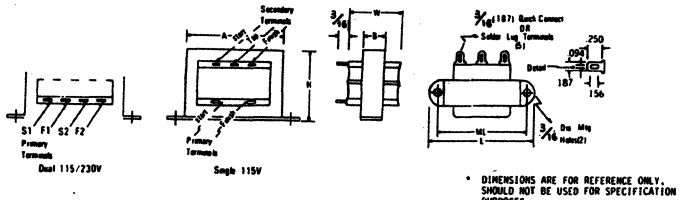
Condensed for Power Series





Specifications

The CFP Series include a grain oriented core for high saturation density, lower core loss, and less steel and copper use; split bobbin for non-concentric winding (lower capacitance, high isolation, better insulation) no cross-overs of primary and secondary leads; bobbin wound for reduced size. **Specifications. Primary Ratings:** Single 115V (to 120V) or dual 115/230V, 50/60 Hz. **2500V RMS Hipot:** Class S (130°C) rated. **Special Terminal:** solder or quick-connect.

Dimensions

VA Size	L(")	W(")	H(")	A(")	B(")	ML	Lbs.
6	2 3/8	1 5/16	1 3/8	1 11/16	11/16	2	0.44
12	2 13/16	1 1/2	1 5/8	1 15/16	31/32	2 3/8	0.70
30	3 1/4	1 23/32	1 15/16	2 5/16	1 1/16	2 13/16	1.10
56	3 11/16	1 27/32	2 1/4	2 11/16	1 1/16	3 1/8	1.70
100	4 1/32	2 1/4	2 9/16	3 1/16	1 5/16	3 9/16	2.75

Single 115V CFP (Condensed for Power)

Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings	EACH 1-9	10-24	25-49	50-99
704-9301	CFP-301	6	10V CT @ 0.6A	8.54	7.09	6.28	5.94
704-9401	CFP-401	12	10V CT @ 1.2A	9.54	7.92	7.01	6.63
704-9501	CFP-501	30	10V CT @ 3.0A	13.16	10.92	9.67	9.15
704-9601	CFP-601	56	10V CT @ 5.0A	17.02	14.12	12.51	11.83
704-9701	CFP-701	100	10V CT @ 10.0A	25.68	21.31	18.87	17.85
704-9303	CFP-303	6	12.6V CT @ 0.5A	8.54	7.09	6.28	5.94
704-9403	CFP-403	12	12.6V CT @ 1.0A	9.54	7.92	7.01	6.63
704-9503	CFP-503	30	12.6V CT @ 2.5A	13.16	10.92	9.67	9.15
704-9603	CFP-603	56	12.6V CT @ 4.0A	17.02	14.12	12.51	11.83
704-9703	CFP-703	100	12.6V CT @ 8.0A	25.68	21.31	18.87	17.85
704-9305	CFP-305	6	16V CT @ 0.4A	8.54	7.09	6.28	5.94
704-9405	CFP-405	12	16V CT @ 0.8A	9.54	7.92	7.01	6.63
704-9505	CFP-505	30	16V CT @ 2.0A	13.16	10.92	9.67	9.15
704-9605	CFP-605	56	16V CT @ 3.5A	17.02	14.12	12.51	11.83
704-9705	CFP-705	100	16V CT @ 6.25A	25.68	21.31	18.87	17.85
704-9307	CFP-307	6	20V CT @ 0.3A	8.54	7.09	6.28	5.94
704-9407	CFP-407	12	20V CT @ 0.6A	9.54	7.92	7.01	6.63
704-9507	CFP-507	30	20V CT @ 1.5A	13.16	10.92	9.67	9.15
704-9607	CFP-607	56	20V CT @ 2.8A	17.02	14.12	12.51	11.83
704-9707	CFP-707	100	20V CT @ 5.0A	25.68	21.31	18.87	17.85
704-9309	CFP-309	6	24V CT @ 0.25A	8.54	7.09	6.28	5.94
704-9409	CFP-409	12	24V CT @ 0.5A	9.54	7.92	7.01	6.63
704-9509	CFP-509	30	24V CT @ 1.25A	13.16	10.92	9.67	9.15
704-9609	CFP-609	56	24V CT @ 2.4A	17.02	14.12	12.51	11.83
704-9709	CFP-709	100	24V CT @ 4.0A	25.68	21.31	18.87	17.85
704-9311	CFP-311	6	28V CT @ 0.2A	8.54	7.09	6.28	5.94
704-9411	CFP-411	12	28V CT @ 0.42A	9.54	7.92	7.01	6.63
704-9511	CFP-511	30	28V CT @ 1.1A	13.16	10.92	9.67	9.15
704-9611	CFP-611	56	28V CT @ 2.0A	17.02	14.12	12.51	11.83
704-9711	CFP-711	100	28V CT @ 3.6A	25.68	21.31	18.87	17.85
704-9313	CFP-313	6	36V CT @ 0.17A	8.54	7.09	6.28	5.94
704-9413	CFP-413	12	36V CT @ 0.35A	9.54	7.92	7.01	6.63
704-9513	CFP-513	30	36V CT @ 0.85A	13.16	10.92	9.67	9.15
704-9613	CFP-613	56	36V CT @ 1.5A	17.02	14.12	12.51	11.83
704-9713	CFP-713	100	36V CT @ 2.8A	25.68	21.31	18.87	17.85
704-9315	CFP-315	6	48V CT @ 0.125A	8.54	7.09	6.28	5.94
704-9415	CFP-415	12	48V CT @ 0.25A	9.54	7.92	7.01	6.63
704-9515	CFP-515	30	48V CT @ 0.63A	13.16	10.92	9.67	9.15
704-9615	CFP-615	56	48V CT @ 1.2A	17.02	14.12	12.51	11.83
704-9715	CFP-715	100	48V CT @ 2.0A	25.68	21.31	18.87	17.85
704-9317	CFP-317	6	56V CT @ 0.11A	8.54	7.09	6.28	5.94
704-9417	CFP-417	12	56V CT @ 0.22A	9.54	7.92	7.01	6.63
704-9517	CFP-517	30	56V CT @ 0.54A	13.16	10.92	9.67	9.15
704-9617	CFP-617	56	56V CT @ 1.0A	17.02	14.12	12.51	11.83
704-9717	CFP-717	100	56V CT @ 1.8A	25.68	21.31	18.87	17.85
704-9319	CFP-319	6	120V CT @ 0.05A	8.54	7.09	6.28	5.94
704-9419	CFP-419	12	120V CT @ 0.1A	9.54	7.92	7.01	6.63
704-9519	CFP-519	30	120V CT @ 0.25A	13.16	10.92	9.67	9.15
704-9619	CFP-619	56	120V CT @ 0.5A	17.02	14.12	12.51	11.83
704-9719	CFP-719	100	120V CT @ 0.85A	25.68	21.31	18.87	17.85

Single 115V/230V Dual CFP

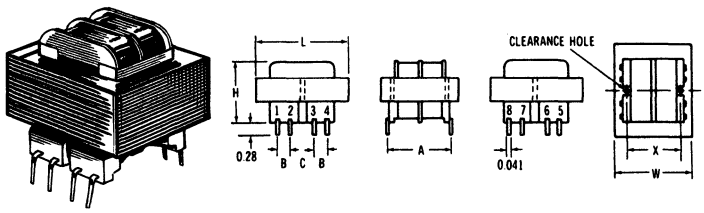
Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings	EACH 1-9	10-24	25-49	50-99
704-9300	CFP-300	6	10V CT @ 0.6A	9.50	7.88	6.98	6.60
704-9400	CFP-400	12	10V CT @ 1.2A	11.54	9.58	8.48	8.02
704-9500	CFP-500	30	10V CT @ 3.0A	14.95	12.41	10.99	10.39
704-9600	CFP-600	56	10V CT @ 5.0A	18.99	15.76	13.96	13.20
704-9700	CFP-700	100	10V CT @ 10.0A	26.80	22.24	19.70	18.63
704-9302	CFP-302	6	12.6V CT @ 0.5A	9.50	7.88	6.98	6.60
704-9402	CFP-402	12	12.6V CT @ 1.0A	11.54	9.58	8.48	8.02
704-9502	CFP-502	30	12.6V CT @ 2.5A	14.95	12.41	10.99	10.39
704-9602	CFP-602	56	12.6V CT @ 4.0A	18.99	15.76	13.96	13.20
704-9702	CFP-702	100	12.6V CT @ 8.0A	26.80	22.24	19.70	18.63
704-9304	CFP-304	6	16V CT @ 0.4A	9.50	7.88	6.98	6.60
704-9404	CFP-404	12	16V CT @ 0.8A	11.54	9.58	8.48	8.02
704-9504	CFP-504	30	16V CT @ 2.0A	14.95	12.41	10.99	10.39
704-9604	CFP-604	56	16V CT @ 3.5A	18.99	15.76	13.96	13.20
704-9704	CFP-704	100	16V CT @ 6.25A	26.80	22.24	19.70	18.63
704-9306	CFP-306	6	20V CT @ 0.3A	9.50	7.88	6.98	6.60
704-9406	CFP-406	12	20V CT @ 0.6A	11.54	9.58	8.48	8.02
704-9506	CFP-506	30	20V CT @ 1.5A	14.95	12.41	10.99	10.39
704-9606	CFP-606	56	20V CT @ 2.8A	18.99	15.76	13.96	13.20
704-9706	CFP-706	100	20V CT @ 5.0A	26.80	22.24	19.70	18.63
704-9308	CFP-308	6	24V CT @ 0.25A	9.50	7.88	6.98	6.60
704-9408	CFP-408	12	24V CT @ 0.5A	11.54	9.58	8.48	8.02
704-9508	CFP-508	30	24V CT @ 1.25A	14.95	12.41	10.99	10.39
704-9608	CFP-608	56	24V CT @ 2.4A	18.99	15.76	13.96	13.20
704-9708	CFP-708	100	24V CT @ 4.0A	26.80	22.24	19.70	18.63
704-9310	CFP-310	6	28V CT @ 0.2A	9.50	7.88	6.98	6.60
704-9410	CFP-410	12	28V CT @ 0.42A	11.54	9.58	8.48	8.02
704-9510	CFP-510	30	28V CT @ 1.1A	14.95	12.41	10.99	10.39
704-9610	CFP-610	56	28V CT @ 2.0A	18.99	15.76	13.96	13.20
704-9710	CFP-710	100	28V CT @ 3.6A	26.80	22.24	19.70	18.63
704-9312	CFP-312	6	36V CT @ 0.17A	9.50	7.88	6.98	6.60
704-9412	CFP-412	12	36V CT @ 0.35A	11.54	9.58	8.48	8.02
704-9512	CFP-512	30	36V CT @ 0.85A	14.95	12.41	10.99	10.39
704-9612	CFP-612	56	36V CT @ 1.5A	18.99	15.76	13.96	13.20
704-9712	CFP-712	100	36V CT @ 2.8A	26.80	22.24	19.70	18.63
704-9314	CFP-314	6	48V CT @ 0.125A	9.50	7.88	6.98	6.60
704-9414	CFP-414	12	48V CT @ 0.25A	11.54	9.58	8.48	8.02
704-9514	CFP-514	30	48V CT @ 0.63A	14.95	12.41	10.99	10.39
704-9614	CFP-614	56	48V CT @ 1.2A	18.99	15.76	13.96	13.20
704-9714	CFP-714	100	48V CT @ 2.0A	26.80	22.24	19.70	18.63
704-9316	CFP-316	6	56V CT @ 0.11A	9.50	7.88	6.98	6.60
704-9416	CFP-416	12	56V CT @ 0.22A	11.54	9.58	8.48	8.02
704-9516	CFP-516	30	56V CT @ 0.54A	14.95	12.41	10.99	10.39
704-9616	CFP-616	56	56V CT @ 1.0A	18.99	15.76	13.96	13.20
704-9716	CFP-716	100	56V CT @ 1.8A	26.80	22.24	19.70	18.63
704-9318	CFP-318	6	120V CT @ 0.05A	9.50	7.88	6.98	6.60
704-9418	CFP-418	12	120V CT @ 0.1A	11.54	9.58	8.48	8.02
704-9518	CFP-518	30	120V CT @ 0.25A	14.95	12.41	10.99	10.39
704-9618	CFP-618	56	120V CT @ 0.5A	18.99	15.76	13.96	13.20
704-9718	CFP-718	100	120V CT @ 0.85A	26.80	22.24	19.70	18.63

Mini-ISO-Mites

The Mini-ISO-Mites are low voltage, plug-in, power transformers. 8-pin dual 115/230V primaries and secondaries are wound non-concentrically meaning, side by side. This construction results in smaller units and eliminates the need for costly electro-static shielding. Highly isolated units with 2500 HIPOT standard and are built to MIL-T-27 specifications. All sizes are available with single, 115V primary.

VA Size	H	L	W	X	A	B	C	Wt.
1.1	0.9375	1.375	1.1250	—	1.200	.250	.250	0.17
2.4	1.1875	1.375	1.1250	—	1.200	.250	.250	0.25
6.0	1.3125	1.625	1.3125	1.0625	1.280	.250	.350	0.44
12.0	1.4375	1.875	1.5625	1.2500	1.410	.300	.400	0.70
20.0	1.5000	2.250	1.8750	1.5000	1.600	.300	.400	0.80
36.0	1.5625	2.525	2.1875	*	1.850	.400	.400	1.10

*36VA Size has 4 MIG Holes on 2 3/16 × 1 3/4 Centers



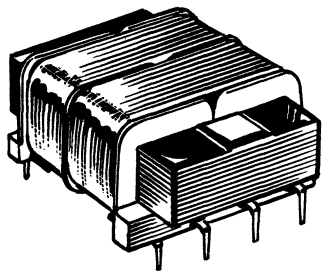
Stock No.	115V/230V PRI.	VA	Individual	Secondary RMS Ratings		EACH			
				Series	Parallel	1-9	10-24	25-49	50-99
704-0420	MIM 420	2.4	5V @ 0.25A	10V C.T. @ 0.25A	5V @ 0.50A	9.76	8.10	7.17	6.78
704-0520	MIM 520	6.0	5V @ 0.60A	10V C.T. @ 0.60A	5V @ 1.20A	10.00	8.30	7.35	6.95
704-0620	MIM 620	12.0	5V @ 1.20A	10V C.T. @ 1.20A	5V @ 2.40A	10.78	8.95	7.92	7.49
704-0721	MIM 721	20.0	5V @ 2.00A	10V C.T. @ 2.00A	5V @ 4.00A	12.95	10.75	9.52	9.00
704-0821	MIM 821	36.0	5V @ 3.60A	10V C.T. @ 3.60A	5V @ 7.20A	13.54	11.40	9.95	9.41
704-0422	MIM 422	2.4	6.3V @ 0.20A	12.6V C.T. @ 0.20A	6.3V @ 0.40A	9.76	8.10	7.17	6.78
704-0522	MIM 522	6.0	6.3V @ 0.50A	12.6V C.T. @ 0.50A	6.3V @ 1.00A	10.00	8.30	7.35	6.95
704-0622	MIM 622	12.0	6.3V @ 1.00A	12.6V C.T. @ 1.00A	6.3V @ 2.00A	10.78	8.95	7.92	7.49
704-0723	MIM 723	20.0	6.3V @ 1.60A	12.6V C.T. @ 1.60A	6.3V @ 3.20A	12.95	10.75	9.52	9.00
704-0823	MIM 823	36.0	6.3V @ 2.85A	12.6V C.T. @ 2.85A	6.3V @ 5.70A	13.54	11.40	9.95	9.41
704-0424	MIM 424	2.4	8V @ 0.15A	16V C.T. @ 0.15A	8V @ 0.30A	9.76	8.10	7.17	6.78
704-0524	MIM 524	6.0	8V @ 0.40A	16V C.T. @ 0.40A	8V @ 0.80A	10.00	8.30	7.35	6.95
704-0624	MIM 624	12.0	8V @ 0.80A	16V C.T. @ 0.80A	8V @ 1.60A	10.78	8.95	7.92	7.49
704-0725	MIM 725	20.0	8V @ 1.25A	16V C.T. @ 1.25A	8V @ 2.50A	12.95	10.75	9.52	9.00
704-0825	MIM 825	36.0	8V @ 2.25A	16V C.T. @ 2.25A	8V @ 4.50A	13.54	11.40	9.95	9.41
704-0426	MIM 426	2.4	10V @ 0.12A	20V C.T. @ 0.12A	10V @ 0.24A	9.76	8.10	7.17	6.78
704-0526	MIM 526	6.0	10V @ 0.30A	20V C.T. @ 0.30A	10V @ 0.60A	10.00	8.30	7.35	6.95
704-0626	MIM 626	12.0	10V @ 0.60A	20V C.T. @ 0.60A	10V @ 1.20A	10.78	8.95	7.92	7.49
704-0727	MIM 727	20.0	10V @ 1.00A	20V C.T. @ 1.00A	10V @ 2.00A	12.95	10.75	9.52	9.00
704-0827	MIM 827	36.0	10V @ 1.80A	20V C.T. @ 1.80A	10V @ 3.60A	13.54	11.40	9.95	9.41
704-0428	MIM 428	2.4	12V @ 0.10A	24V C.T. @ 0.10A	12V @ 0.20A	9.76	8.10	7.17	6.78
704-0528	MIM 528	6.0	12V @ 0.25A	24V C.T. @ 0.25A	12V @ 0.50A	10.00	8.30	7.35	6.95
704-0628	MIM 628	12.0	12V @ 0.50A	24V C.T. @ 0.50A	12V @ 1.00A	10.78	8.95	7.92	7.49
704-0729	MIM 729	20.0	12V @ 0.80A	24V C.T. @ 0.80A	12V @ 1.60A	12.95	10.75	9.52	9.00
704-0829	MIM 829	36.0	12V @ 1.50A	24V C.T. @ 1.50A	12V @ 3.00A	13.54	11.40	9.95	9.41

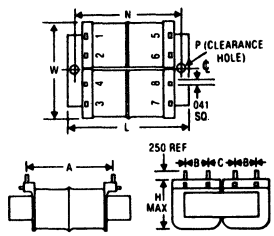
Stock No.	115V/230V PRI.	VA	Individual	Secondary RMS Ratings		EACH			
				Series	Parallel	1-9	10-24	25-49	50-99
704-0430	MIM 430	2.4	14V @ 0.085A	28V C.T. @ 0.085A	14V @ 0.17A	9.76	8.10	7.17	6.78
704-0530	MIM 530	6.0	14V @ 0.200A	28V C.T. @ 0.200A	14V @ 0.40A	10.00	8.30	7.35	6.95
704-0630	MIM 630	12.0	14V @ 0.420A	28V C.T. @ 0.420A	14V @ 0.84A	10.78	8.95	7.92	7.49
704-0731	MIM 731	20.0	14V @ 0.700A	28V C.T. @ 0.700A	14V @ 1.40A	12.95	10.75	9.52	9.00
704-0831	MIM 831	36.0	14V @ 1.300A	28V C.T. @ 1.300A	14V @ 2.60A	13.54	11.40	9.95	9.41
704-0432	MIM 432	2.4	18V @ 0.065A	36V C.T. @ 0.065A	18V @ 0.13A	9.76	8.10	7.17	6.78
704-0532	MIM 532	6.0	18V @ 0.170A	36V C.T. @ 0.170A	18V @ 0.34A	10.00	8.30	7.35	6.95
704-0632	MIM 632	12.0	18V @ 0.350A	36V C.T. @ 0.350A	18V @ 0.70A	10.78	8.95	7.92	7.49
704-0733	MIM 733	20.0	18V @ 0.550A	36V C.T. @ 0.550A	18V @ 1.10A	12.95	10.75	9.52	9.00
704-0833	MIM 833	36.0	18V @ 1.000A	36V C.T. @ 1.000A	18V @ 2.00A	13.54	11.40	9.95	9.41
704-0434	MIM 434	2.4	24V @ 0.050A	48V C.T. @ 0.050A	24V @ 0.10A	9.76	8.10	7.17	6.78
704-0534	MIM 534	6.0	24V @ 0.125A	48V C.T. @ 0.125A	24V @ 0.25A	10.00	8.30	7.35	6.95
704-0634	MIM 634	12.0	24V @ 0.025A	48V C.T. @ 0.250A	24V @ 0.50A	10.78	8.95	7.92	7.49
704-0735	MIM 735	20.0	24V @ 0.400A	48V C.T. @ 0.400A	24V @ 0.80A	12.95	10.75	9.52	9.00
704-0835	MIM 835	36.0	24V @ 0.750A	48V C.T. @ 0.750A	24V @ 1.50A	13.54	11.40	9.95	9.41
704-0436	MIM 436	2.4	28V @ 0.045A	56V C.T. @ 0.045A	28V @ 0.09A	9.76	8.10	7.17	6.78
704-0536	MIM 536	6.0	28V @ 0.110A	56V C.T. @ 0.110A	28V @ 0.22A	10.00	8.30	7.35	6.95
704-0636	MIM 636	12.0	28V @ 0.220A	56V C.T. @ 0.220A	28V @ 0.44A	10.78	8.95	7.92	7.49
704-0737	MIM 737	20.0	28V @ 0.350A	56V C.T. @ 0.350A	28V @ 0.70A	12.95	10.75	9.52	9.00
704-0837	MIM 837	36.0	28V @ 0.650A	56V C.T. @ 0.650A	28V @ 1.30A	13.54	11.40	9.95	9.41
704-0438	MIM 438	2.4	60V @ 0.020A	120V C.T. @ 0.020A	60V @ 0.04A	9.76	8.10	7.17	6.78
704-0538	MIM 538	6.0	60V @ 0.050A	120V C.T. @ 0.050A	60V @ 0.10A	10.00	8.30	7.35	6.95
704-0638	MIM 638	12.0	60V @ 0.100A	120V C.T. @ 0.100A	60V @ 0.20A	10.78	8.95	7.92	7.49
704-0739	MIM 739	20.0	60V @ 0.160A	120V C.T. @ 0.160A	60V @ 0.32A	12.95	10.75	9.52	9.00
704-0839	MIM 839	36.0	60V @ 0.300A	120V C.T. @ 0.300A	60V @ 0.60A	13.54	11.40	9.95	9.41

Flat Compact Series, Printed Circuit Power Transformer

Use where space is critical. For single or dual output DC supplies and isolated control circuits and reference supplies. Incorporates non-concentric windings which means the secondary is located next to the primary instead of being wound directly over it. Dual primaries for 115/230 VAC, 50/60Hz. 1500V (RMS) HIPOT. Hum-bucking (semitoroidal) construction diminishes radiated magnetic field and balanced windings.

VA Size	L	W	H	A	B	N	P	Oz.
2	1.875	1.562	0.650	1.60	.375	—	—	5
6	1.875	1.562	0.850	1.60	.375	—	—	7
12	2.500	2.000	1.065	2.00	.500	—	—	11
24	2.870	2.250	1.250	1.90	.600	2.41	Clearance Hole for #4 Screw	15
48	3.120	2.500	1.375	2.18	.600	2.62	Clearance Hole for #6 Screw	21





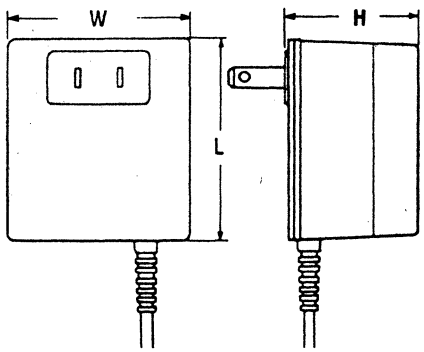
SIZE 24 & 48

Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings		EACH			
			Series	Parallel	1-9	10-24	25-49	50-99
704-0200	PFC200	2.4	10.0V C.T. @ 0.250A	5.0V @ 0.500A	10.92	9.07	8.03	7.59
704-0202	PFC202	6.0	10.0V C.T. @ 0.600A	5.0V @ 1.200A	11.83	9.82	8.70	8.22
704-0204	PFC204	12.0	10.0V C.T. @ 1.200A	5.0V @ 2.400A	12.55	10.41	9.22	8.72
704-0206	PFC206	24.0	10.0V C.T. @ 2.400A	5.0V @ 4.800A	15.54	12.89	11.42	10.80
704-0208	PFC208	48.0	10.0V C.T. @ 4.800A	5.0V @ 9.600A	18.31	15.20	13.46	12.72
704-0210	PFC210	2.4	12.6V C.T. @ 0.200A	6.3V @ 0.400A	10.92	9.07	8.03	7.59
704-0212	PFC212	6.0	12.6V C.T. @ 0.450A	6.3V @ 0.900A	11.83	9.82	8.70	8.22
704-0214	PFC214	12.0	12.6V C.T. @ 0.900A	6.3V @ 1.800A	12.55	10.41	9.22	8.72
704-0216	PFC216	24.0	12.6V C.T. @ 1.900A	6.3V @ 3.800A	15.54	12.89	11.42	10.80
704-0218	PFC218	48.0	12.6V C.T. @ 3.800A	6.3V @ 7.600A	18.31	15.20	13.46	12.72
704-0220	PFC220	2.4	16.0V C.T. @ 0.150A	8.0V @ 0.300A	10.92	9.07	8.03	7.59
704-0222	PFC222	6.0	16.0V C.T. @ 0.350A	8.0V @ 0.700A	11.83	9.82	8.40	8.22
704-0224	PFC224	12.0	16.0V C.T. @ 0.700A	8.0V @ 1.400A	12.55	10.41	9.22	8.72
704-0226	PFC226	24.0	16.0V C.T. @ 1.500A	8.0V @ 3.000A	15.54	12.89	11.42	10.80
704-0228	PFC228	48.0	16.0V C.T. @ 3.000A	8.0V @ 6.000A	18.31	15.20	13.46	12.72
704-0230	PFC230	2.4	20.0V C.T. @ 0.125A	10.0V @ 0.250A	10.92	9.07	8.03	7.59
704-0232	PFC232	6.0	20.0V C.T. @ 0.300A	10.0V @ 0.600A	11.83	9.82	8.70	8.22
704-0234	PFC234	12.0	20.0V C.T. @ 0.600A	10.0V @ 1.200A	12.55	10.41	9.22	8.72
704-0236	PFC236	24.0	20.0V C.T. @ 1.200A	10.0V @ 2.400A	15.54	12.89	11.42	10.80
704-0238	PFC238	48.0	20.0V C.T. @ 2.400A	10.0V @ 4.800A	18.31	15.20	13.46	12.72
704-0240	PFC240	2.4	24.0V C.T. @ 0.100A	12.0V @ 0.200A	10.92	9.07	8.03	7.59
704-0242	PFC242	6.0	24.0V C.T. @ 0.250A	12.0V @ 0.500A	11.83	9.82	8.70	8.22
704-0244	PFC244	12.0	24.0V C.T. @ 0.500A	12.0V @ 1.000A	12.55	10.41	9.22	8.72
704-0246	PFC246	24.0	24.0V C.T. @ 1.000A	12.0V @ 2.000A	15.54	12.89	11.42	10.80
704-0248	PFC248	48.0	24.0V C.T. @ 2.000A	12.0V @ 4.000A	18.31	15.20	13.46	12.72
704-0190	PFC190	2.4	30.0V C.T. @ 0.085A	15.0V @ 0.170A	10.92	9.09	8.03	7.59
704-0192	PFC192	6.0	30.0V C.T. @ 0.200A	15.0V @ 0.400A	11.83	9.82	8.70	8.22

Stock No.	Mfr.'s Type	VA Size	Secondary RMS Ratings		EACH			
			Series	Parallel	1-9	10-24	25-49	50-99
704-0294	PFC294	12.0	30.0V C.T. @ 0.400A	15.0V @ 0.800A	12.55	10.41	9.22	8.72
704-0296	PFC296	24.0	30.0V C.T. @ 0.800A	15.0V @ 1.600A	15.54	12.89	11.42	10.80
704-0298	PFC298	48.0	30.0V C.T. @ 1.600A	15.0V @ 3.200A	18.31	15.20	13.46	12.72
704-0250	PFC250	2.4	34.0V C.T. @ 0.075A	17.0V @ 0.150A	10.92	9.07	8.03	7.59
704-0252	PFC252	6.0	34.0V C.T. @ 0.170A	17.0V @ 0.340A	11.83	9.82	8.70	8.22
704-0254	PFC254	12.0	34.0V C.T. @ 0.340A	17.0V @ 0.680A	12.55	10.41	9.22	8.72
704-0256	PFC256	24.0	34.0V C.T. @ 0.700A	17.0V @ 1.400A	15.54	12.89	11.42	10.80
704-0258	PFC258	48.0	34.0V C.T. @ 1.400A	17.0V @ 2.800A	18.31	15.20	13.46	12.72
704-0260	PFC260	2.4	40.0V C.T. @ 0.060A	20.0V @ 0.120A	10.92	9.07	8.03	7.59
704-0262	PFC262	6.0	40.0V C.T @ 0.150A	20.0V @ 0.300A	11.83	9.82	8.70	8.22
704-0264	PFC264	12.0	40.0V C.T. @ 0.300A	20.0V @ 0.600A	12.55	10.41	9.22	8.72
704-0266	PFC266	24.0	40.0V C.T. @ 0.600A	20.0V @ 1.200A	15.54	12.89	11.42	10.80
704-0268	PFC268	48.0	40.0V C.T. @ 1.200A	20.0V @ 2.400A	18.31	15.20	13.46	12.72
704-0270	PFC270	2.4	56.0V C.T. @ 0.045A	28.0V @ 0.090A	10.92	9.07	8.03	7.59
704-0272	PFC272	6.0	56.0V C.T. @ 0.100A	28.0V @ 0.200A	11.83	9.82	8.70	8.22
704-0274	PFC274	12.0	56.0V C.T. @ 0.200A	28.0V @ 0.400A	12.55	10.41	9.22	8.72
704-0276	PFC276	24.0	56.0V C.T. @ 0.425A	28.0V @ 0.850A	15.54	12.89	11.42	10.80
704-0278	PFC278	48.0	56.0V C.T. @ 0.850A	28.0V @ 1.700A	18.31	15.20	13.46	12.72
704-0280	PFC280	2.4	88.0V C.T. @ 0.028A	44.0V @ 0.056A	10.92	9.07	8.03	7.59
704-0282	PFC282	6.0	88.0V C.T. @ 0.065A	44.0V @ 0.130A	11.83	9.82	8.70	8.22
704-0284	PFC284	12.0	88.0V C.T. @ 0.130A	44.0V @ 0.260A	12.55	10.41	9.22	8.72
704-0290	PFC290	2.4	120.0V C.T. @ 0.020A	60.0V @ 0.040A	10.92	9.07	8.03	7.59
704-0292	PFC292	6.0	120.0V C.T. @ 0.050A	60.0V @ 0.100A	11.83	9.82	8.70	8.22
704-0324	PFC324	12.0	120.0V C.T. @ 0.100A	60.0V @ 0.200A	12.55	10.41	9.22	8.72
704-0300	PFC300	2.4	230.0V C.T. @ 0.010A	115.0V @ 0.020A	10.92	9.07	8.03	7.59
704-0302	PFC302	6.0	230.0V C.T. @ 0.025A	115.0V @ 0.050A	11.83	9.82	8.70	8.22
704-0334	PFC334	12.0	230.0V C.T. @ 0.050A	115.0V @ 0.100A	12.55	10.41	9.22	8.90

AC-DC Regulated or Unregulated and AC-AC Models

Provide safer low power to any application while eliminating heat from sensitive circuitry. Allows for smaller product with less weight. Use for appliances, security systems, office equipment, etc. Six foot output cord compatible with Switchcraft® PC-722A or 722A.



PRODUCTS MANUFACTURED BY
TAMURA CORPORATION
TAMURA QUALITY CIRCLES THE ELECTRON WORLD

MODEL SERIES	L	W	H
212A, 216A	53	36	38
310A, 316A	60	45	42
416A, 420A	61	55	41
816A	81	59	52
820A, 825A	82	60	48

UI-CSA Unregulated Series — 120V 60Hz — Figure 1.

Stock No.	Mfr.'s Type	Rated Output		CSA	EACH			
		VDC	MADC		1-9	10-24	25-49	50-99
704-8000	811A4214-T	*	300	CSA	18.13	15.05	13.42	12.25
704-8005	216A4222-T	4.5	350	Comply	8.67	7.19	6.42	5.86
704-8010	318A2226-T	6.0	300	CSA	9.07	7.52	6.71	6.12
704-8015	318A4227-T	6.0	400	CSA	9.68	8.03	7.16	6.54
704-8020	416A2226-T	6.0	600	CSA	10.84	8.99	8.02	7.32
704-8025	820A4660-T	6.0	1200	Comply	20.92	17.36	15.48	14.13
704-8030	420A2128-T7	7.5	500	CSA	10.84	8.99	8.02	7.32
704-8035	416A4136-T	9.0	500	CSA	13.40	11.12	9.92	9.05
704-8040	820A4465-T	9.0	900	Comply	18.53	15.38	13.71	12.52
704-8045	521A4312-T	9.0	1200	CSA	24.46	20.30	18.10	16.52
704-8050	825A4620G-T	9.0	1200	N/A	19.90	16.52	14.73	13.44
704-8055	420A4246-T	10.0	500	CSA	11.05	9.17	8.18	7.47
704-8060	318A4146-T	12.0	200	CSA	10.44	8.66	7.73	7.05
704-8065	416A2141-T	12.0	300	CSA	10.44	8.66	7.73	7.05
704-8070	420A4141-T	12.0	500	CSA	11.45	9.50	8.47	7.73
704-8075	820A4470-T	12.0	700	Comply	18.53	15.38	13.71	12.52
704-8080	825A4425G-T	12.0	900	N/A	20.52	17.03	15.19	13.86
704-8085	521A4317-T	12.0	1000	CSA	27.42	22.75	20.29	18.52
704-8090	318A2045-T12	12.0	150	CSA	9.07	7.52	6.71	6.12
704-8095	420A2249-T	14.0	350	CSA	10.84	8.99	8.02	7.32
704-9000	420A4143-T	20.0	280	CSA	11.63	9.65	8.61	7.86
704-9005	318A4049-T	24.0	50	CSA	9.86	8.18	7.30	6.66

* = 5 Switched Output Voltages: 3.0-4.5-6.0-7.5-9.0VDC and Universal Output Plug

UL-CSA Regulated Series — 120V 60Hz — Figure 1

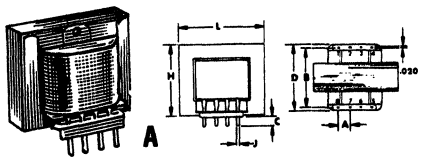
Stock No.	Mfr.'s Type	Rated Output			CSA	EACH		
		VDC	Reg.*	MADC		1-9	10-24	25-49
704-9010	816AR4201-T	5.0	0.2	600	Comply	26.23	21.76	19.41
704-9015	420AR4207-T	6.0	0.5	400	Comply	17.56	14.57	12.99
704-9020	816AR4103-T	9.0	0.2	400	Comply	25.25	20.96	18.69
704-9025	816AR4104-T	12.0	0.2	300	Comply	26.05	21.61	19.28

*Regulation = Typical Output DC Voltage Change at 108V or 132V Input Line Condition

UL-CSA AC-AC Series Class II Transformers — 120V 60 Hz

Stock No.	Mfr.'s Type	Rated Output		CSA	EACH			
		VAC	MA RMS		1-9	10-24	25-49	50-99
704-9030	420A0003-T	9.0	800	Comply	10.44	8.66	7.73	7.05
704-9035	420A0001-T	11.0	600	CSA	10.44	8.66	7.73	7.05
704-9040	310A0002-T	12.0	110	Comply	7.88	6.54	5.83	5.32
704-9045	816A0001-T	14.0	500	CSA	17.74	14.72	13.13	11.98
704-9050	818A0001-T	17.0 CT	500	CSA	14.02	11.63	10.37	9.47
704-9055	825A0002-T	18.0	880	N/A	19.33	16.04	14.30	13.05
704-9060	420A0005-T	24.0	450	Comply	10.44	8.66	7.73	7.05
704-9065	825A0003-T	24.0	660	N/A	19.33	16.04	14.30	13.05

Plug-In Types, Telephone Coupling, Filament and Control Transformers



Dual Primary/Dual Secondary, Low Voltage, Low Current Plug-In PC Types

These 115-230 volt transformers offer dual primaries that allow usage in foreign and domestic equipment.

Stock No.	Mfr.'s Type	Fig.	Output Watts	Secondary		Dimensions										EACH			
				Series Conn.	Parallel Conn.	H	W	D	L	A	B	C	J	MW	Wt. Oz.	1-9	10-24	25-49	50-Up
967-1333	F-333P	A	1 1/2	30Vct @ .050A	15V @ .100A	1 1/8	—	1 1/8	1 3/8	13/64	1	3/16	.041	—	4.0	10.91	8.37	7.41	7.04
967-1343	F-3143XP	C	4 1/2	30Vct @ .15A	15V @ .3A	1 3/8	2 3/8	1 1/4	1 5/8	1/4	17/64	3/16	.041	2	6.5	11.57	9.60	8.50	7.65

Single Primary/Dual Secondary, Low-Voltage, Low-Current Plug-In PC Types

Ideal for single or dual output DC supplies, isolated control circuits and reference supplies in transistorized control and instrumentation. 115 volts, 50-60 Hz primary, dual secondaries.

967-1132	F-132P	A	1 1/2	6Vct @ .188A	4V @ .376A	1 1/8	—	15/32	1 25/64	5/16	1	3/16	.041	—	3.5	13.20	10.96	9.70	8.73
967-1133	F-133P	A	1 1/2	30Vct @ .05A	15V @ .100A	1 1/8	—	15/32	1 25/64	5/16	1	3/16	.041	—	3.5	13.63	11.32	10.01	9.01
967-1143	F-143XP	B	4 1/2	30Vct @ .150A	15V @ .300A	1 25/64	2 3/8	1 1/4	1 45/64	13/32	13/32	3/16	.041	2	7.5	10.82	8.98	7.95	7.15

Telephone Coupling Transformers

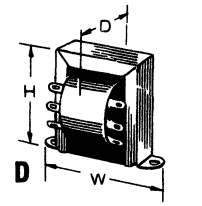
Frequency Response: 300-3500 Hz ± 0.5 dB. **Longitudinal Balance:** 45 dB min. **Return Loss:** 26 dB min. **Distortion:** 0.5% max. **Impedance Matching:** ± 10% over entire frequency range. **Power Level:** -45 dBM to + 7 dBM. *Two required for hybrid operation. **Split winding; one wide band, one narrow band.

Stock No.	Mfr.'s Type	Fig.	Application	Pri. Imp.	Sec. Imp.	Dimensions					Pin. Dim.		EACH			
						H	D	L	A	B	C	J	1-9	10-24	25-49	50-Up
967-5300	TY-300P	C	Hybrid*	600	600/600**	5/8	35/64	3/4	3/16	27/64	13/64	.041	12.12	10.06	8.90	8.01
967-5302	TY-302P	C	Hybrid*	600	600/600	3/4	15/16	1	13/64	25/32	13/64	.041	10.58	9.01	7.97	7.17
967-5304	TY-304P	C	Coupling	600 ct	600 ct	5/8	35/64	3/4	3/16	27/64	3/16	.041	9.08	7.54	6.67	6.00
967-5356	TY-350P	—	Holding Coil	2.0 HY @ 60MA, 1.3 HY @ 100MA DC, 180 ohms DCR	—	1 1/8	31/32	1 7/16	5/8	1	1/4	.041	10.32	8.56	7.58	6.82

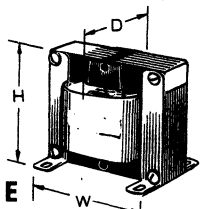
Single-Secondary Filament Transformers

Broad line of commercial grade transformers. All units designed and built to meet the exacting requirements of EIA for electrical tolerances, dielectric strength, temperature rise and construction. All insulated with class A materials. 105° C maximum operating temperature.

Stock No.	Mfr.'s Type	Fig.	Primary Volts	Secondary		Case Dimensions H × W × D	Mtg. Dim. (MW × MD) Inches	Wt. Lbs.	EACH			
				Volts	Amps				1-9	10-24	25-49	50-Up
967-1085	F-85U	E	115	5-7.5	20.0	4 1/2 × 3 3/4 × 4 1/2	3 × 3 1/2	12.00	85.48	70.95	62.79	56.51
967-1013	F-13X	G	115	6.3	.6	1 3/8 × 2 3/8 × 1 3/8	2	.37	8.17	6.78	6.00	5.40
967-1014	F-14X	G	115	6.3 ct	1.2	1 5/8 × 2 13/16 × 1 5/8	2 3/8	.70	11.07	9.19	8.13	7.32
967-1025	F-25X	G	115	12.6 ct	1.5	1 15/16 × 3 5/16 × 2	2 13/16	1.30	11.60	9.63	8.52	7.67
967-1044	F-44X	G	115	12.6 ct	2.0	1 15/16 × 3 5/16 × 2	2 13/16	1.25	14.10	11.71	10.36	9.32
967-1045	F-45X	G	115	24.0 ct	1.0	1 15/16 × 3 5/16 × 2	2 13/16	1.30	11.52	9.56	8.46	7.61
967-1345	F-345X	G	115/230	24.0 ct	1.0	1 15/16 × 3 5/16 × 2	2 13/16	1.30	13.68	11.36	10.05	9.05
967-1341	F-341X	G	115/230	25.2 ct	2.0	19/32 × 4 × 2 1/4	3 9/16	2.20	19.32	16.03	14.19	12.77
967-1057	F-57X	G	115	25.2 ct	1.0	1 15/16 × 3 5/16 × 2	2 13/16	1.50	12.12	10.06	8.91	8.02
967-1040	F-40X	G	115	26.8 ct	1.0	1 15/16 × 3 5/16 × 2	2 13/16	1.30	11.34	9.41	8.33	7.50
967-1354	F-354X	G	115/230	35.0 ct	1.5	2 19/32 × 4 × 2 1/4	3 9/16	2.20	19.31	16.03	14.19	12.77



D

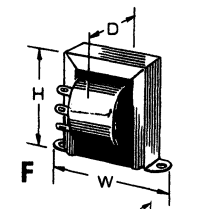


E

Control Transformers

Typical applications include: relays, pilot lamps, solenoids, small motors, speed changers, pumps, electronic tubes, heating elements, elevators, door openers, automatic musical instruments. 115-230 volts, 50-60 Hz AC.

Stock No.	Mfr's Type	Fig.	Secondary CT		Size (Inches)		Mtg. Dim.	Wt. Lbs.	EACH			
			Parallel	Series	H × W × D	Base Area			1-9	10-24	25-49	50-Up
967-1105	F105Z	D	6V@2A	12V@1A	—	2 7/8 × 1 3/4	2 3/8	1.000	13.93	11.56	10.23	9.21
967-1106	F106Z	D	6V@4A	12V@2A	—	3 1/8 × 2	2 13/16	1 1/2	17.82	14.79	13.09	11.28
967-1219	F219X	E	12V@4A	—	2 9/16 × 4 × 2 1/4	—	3 9/16	2.300	18.07	15.00	13.27	11.94
967-1109	F109U	E	12V@16A	24V@8A	—	3 3/4 × 3 1/2	3 × 2 3/4	8.000	56.80	47.14	41.72	37.55
967-1211	F211Z	D	24V@.5A	48V@.25A	—	2 13/16 × 1 1/2	2 3/8	.678	17.25	14.32	12.67	11.40
967-1212	F212Z	D	24V@1A	48V@.50A	—	3 1/8 × 2 1/4	2 13/16	1.050	16.63	13.81	12.22	11.00
967-1213	F213Z	D	24V@2A	48V@1A	—	3 5/8 × 2 3/8	3 1/8	1.550	19.41	16.11	14.26	12.83
967-1214	F214U	E	24V@4A	48V@2A	—	3 3/16 × 2 13/16	2 1/4 × 2 5/8	3.240	31.22	25.91	22.93	20.64
967-1215	F215U	E	24V@8A	48V@4A	—	3 3/4 × 3 7/16	2 3/4 × 3	8.000	49.15	40.79	36.10	32.49

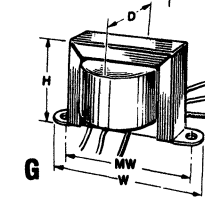


F

Miniaturized Control Transformers

Provide trouble-free performance in high speed automatic equipment. **Applications include:** small motors, speed changers, pumps, automatic musical instruments and many other mechanical and electric devices. All have 117 volts primary; 12, 24, 28 or 36 volt secondary. All types have lead wire terminations.

Stock No.	Mfr.'s Type	Fig.	Primary Volts	Secondary Volts	Dimensions H × W × D	Wt. Lbs.	EACH			
							1-9	10-24	25-49	50-Up
967-1113	F113X	H	115	12	1 3/8 × 2 3/8 × 1 3/8	.40	8.52	7.07	6.26	5.63
967-1116	F116X	H	115	24 ct	1 3/8 × 2 3/8 × 1 1/2	.45	10.08	8.37	7.41	6.67
967-1189	F189X	H	115	36 ct	2 5/16 × 3 11/16 × 1 15/16	1.00	13.57	11.26	9.97	8.97

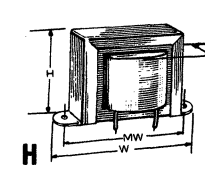


G

Low Current Control Transformers

May be series or parallel connected. Lead wire terminations. Color-coded (Two black leads for primary; brown and silver leads for 1st secondary; blue and red leads for 2nd secondary; green and yellow leads for 3rd secondary, with green/yellow center tap lead). 117V, 60 Hz primary, 12V secondaries.

Stock No.	Mfr.'s Type	Fig.	Secondary		Primary Volts	RMS Test Voltage	Connection or Leads	Case Dimensions			Mounting Dimensions	Mtg. Hole Size	Maximum Unit Wt. Lbs.	EACH			
			Volts	Amps				H	W	D				1-9	10-24	25-49	50-Up
967-1298	F-298Z	F	15 12 12 ct	.5 .5 .5	115	1500	Leads	2 1/4	3 3/4	1 7/8	3 1/8	3/16	1.25	17.87	15.09	13.53	12.93



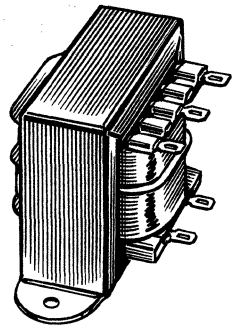
H

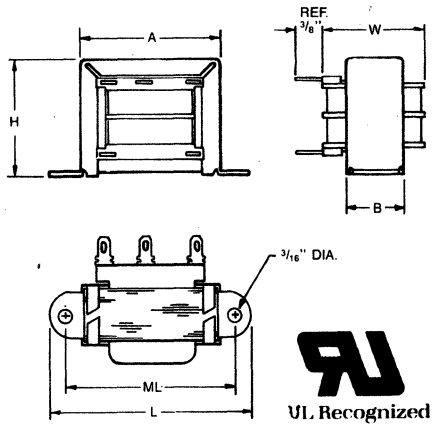
Single and Dual Primary Transformers

Quick Pack Series small power transformers offer a significant size and weight reduction for a given VA rating. Features quick-connect or solder terminals. Available in 6 sizes for a wide variety of applications. Bobbin wound for small size. Split bobbin non-concentric winding for a higher HiPot testing (2500V rather than 1500V); also eliminates need for electrostatic shielding. Class B insulation for maximum total temperature of 130°C continuous. Available as single 115V or dual 115/230V primary, rated 50/60Hz. UL Recognized.

Size	VA	L	W	H	A	B	ML	Lbs.
F3	2.4	2 1/16	1 1/16	1 3/16	1 5/8	9/16	1 3/4	0.25
F4 & FD4	6	2 3/8	1 1/4	1 3/8	1 11/16	1 11/16	2	0.44
F5 & FD5	12	2 13/16	1 3/8	1 5/8	1 15/16	13/16	2 3/8	0.70
F6 & FD6	30	3 1/4	1 11/16	1 15/16	2 5/16	1 1/16	2 13/16	1.10
F7 & FD7	56	3 11/16	1 13/16	2 1/4	2 11/16	1 1/16	3 1/8	1.70
F8 & FD8	100	4 1/32	2 1/4	2 9/16	3 1/16	1 5/16	3 9/16	2.75

Note: Terminals to be quick-connect (1.87) or solder lug terminals.
Dielectric Strength: 2500V.





UL Recognized

Our formal quality assurance system verifies that your specifications are consistently met or surpassed. We maintain accurate statistical process controls on our product and test all incoming components to MIL-STD-105D. Continued inspection of wire, core, insulation and other components, combined with our supplier quality assurance program, virtually eliminates imperfections.

Single Primary

Stock No.	Mfr.'s Type	VA	Output Rating	EACH 1-9	EACH 10-24
967-7003	F3-10	2.4	10VCT @ 0.25	7.48	6.21
967-7013	F4-10	6	10 VCT @ 0.6 A	8.08	6.71
967-7023	F5-10	12	10 VCT @ 1.2 A	8.46	7.02
967-7033	F6-10	30	10 VCT @ 3.0 A	11.17	9.27
967-7043	F7-10	56	10 VCT @ 5.0 A	16.57	13.75
967-7053	F8-10	100	10 VCT @ 10.0 A	27.16	22.54
967-7063	F3-12	2.4	12.6 VCT @ 0.2 A	7.48	6.21
967-7073	F4-12	6	12.6 VCT @ 0.5 A	8.08	6.71
967-7038	F5-12	12	12.6 VCT @ 1.0 A	8.46	7.02
967-7093	F6-12	30	12.6 VCT @ 2.5 A	11.17	9.27
967-7103	F7-12	56	12.6 VCT @ 4.0 A	16.57	13.75
967-7113	F8-12	100	12.6 VCT @ 8.0 A	27.16	22.54
967-7123	F3-16	2.4	16 VCT @ 0.15 A	7.48	6.21
967-7133	F4-16	6	16 VCT @ 0.4 A	8.08	6.71
967-7143	F5-16	12	16 VCT @ 8.0 A	8.46	7.02
967-7153	F6-16	30	16 VCT @ 2.0 A	11.17	9.27
967-7163	F7-16	56	16 VCT @ 3.5 A	16.57	13.75
967-7173	F8-16	100	16 VCT @ 6.25 A	27.16	22.54
967-7183	F3-20	2.4	20 VCT @ 0.12 A	7.48	6.21
967-7193	F4-20	6	20 VCT @ 0.3 A	8.08	6.71
967-7203	F5-20	12	20 VCT @ 0.6 A	8.46	7.02
967-7213	F6-20	30	20 VCT @ 1.5 A	11.17	9.27
967-7223	F7-20	56	20 VCT @ 2.8 A	16.57	13.75
967-7233	F8-20	100	20 VCT @ 5.0 A	27.16	22.54
967-7243	F3-24	2.4	24 VCT @ 0.1 A	7.48	6.21
967-7253	F4-24	6	24 VCT @ 0.25 A	8.08	6.71
967-7263	F5-24	12	24 VCT @ 0.5 A	8.46	7.02
967-7273	F6-24	30	24 VCT @ 1.25 A	11.17	9.27
967-7283	F7-24	56	24 VCT @ 2.4 A	16.57	13.75
967-7293	F8-24	100	24 VCT @ 4.0 A	27.16	22.54
967-7303	F3-28	2.4	28 VCT @ 0.085 A	7.48	6.21
967-7313	F4-28	6	28 VCT @ 0.2 A	8.08	6.71
967-7323	F5-28	12	28 VCT @ 0.42 A	8.46	7.02
967-7333	F6-28	30	28 VCT @ 1.1 A	11.17	9.27
967-7343	F7-28	56	28 VCT @ 2.0 A	16.57	13.75
967-7353	F8-28	100	28 VCT @ 3.6 A	27.16	22.54
967-7363	F3-36	2.4	36 VCT @ 0.065 A	7.48	6.21
967-7373	F4-36	6	36 VCT @ 0.17 A	8.08	6.71
967-7383	F5-36	12	36 VCT @ 0.35 A	8.46	7.02
967-7393	F6-36	30	36 VCT @ 0.85 A	11.17	9.27
967-7403	F7-36	56	36 VCT @ 1.5 A	16.57	13.75
967-7413	F8-36	100	36 VCT @ 2.8 A	27.16	22.54
967-7423	F3-48	2.4	48 VCT @ 0.05 A	7.48	6.21
967-7433	F4-48	6	48 VCT @ 0.125 A	8.08	6.71
967-7443	F5-48	12	48 VCT @ 0.25 A	8.46	7.02
967-7453	F6-48	30	48 VCT @ 0.63 A	11.17	9.27
967-7463	F7-48	56	48 VCT @ 1.2 A	16.57	13.75
967-7473	F8-48	100	48 VCT @ 2.0 A	27.16	22.54
967-7483	F3-56	2.4	56 VCT @ 0.045 A	7.48	6.21
967-7493	F4-56	6	56 VCT @ 0.11 A	8.08	6.71
967-7503	F5-56	12	56 VCT @ 0.22 A	8.46	7.02
967-7513	F6-56	30	56 VCT @ 0.54 A	11.17	9.27
967-7523	F7-56	56	56 VCT @ 1.0 A	16.57	13.75
967-7533	F8-56	100	56 VCT @ 1.8 A	27.16	22.54
967-7543	F3-120	2.4	120 VCT @ 0.02 A	7.48	6.21
967-7553	F4-120	6	120 VCT @ 0.05 A	8.08	6.71
967-7563	F5-120	12	120 VCT @ 0.1 A	8.46	7.02
967-7573	F6-120	30	120 VCT @ 0.25 A	11.17	9.27
967-7583	F7-120	56	120 VCT @ 0.5 A	16.57	13.75
967-7593	F8-120	100	120 VCT @ 0.85 A	27.16	22.54

Dual Primary

Stock No.	Mfr.'s Type	VA	Output Rating	EACH 1-9	EACH 10-24
967-7015	FD4-10	6	10 VCT @ 0.6 A	9.06	7.52
967-7025	FD5-10	12	10 VCT @ 1.2 A	11.10	9.21
967-7035	FD6-10	30	10 VCT @ 3.0 A	12.63	10.49
967-7045	FD7-10	56	10 VCT @ 5.0 A	20.34	16.88
967-7055	FD8-10	100	10 VCT @ 10.0 A	29.60	24.57
967-7075	FD4-12	6	12.6 VCT @ 0.5 A	9.06	7.52
967-7085	FD5-12	12	12.6 VCT @ 1.0 A	11.10	9.21
967-7095	FD6-12	30	12.6 VCT @ 2.5 A	12.63	10.49
967-7105	FD7-12	56	12.6 VCT @ 4.0 A	20.34	16.88
967-7115	FD8-12	100	12.6 VCT @ 8.0 A	29.60	24.57
967-7135	FD4-16	6	16 VCT @ 0.4 A	9.06	7.52
967-7145	FD5-16	12	16 VCT @ 0.8 A	11.10	9.21
967-7155	FD6-16	30	16 VCT @ 2.0 A	12.63	10.49
967-7165	FD7-16	56	16 VCT @ 3.5 A	20.34	16.88
967-7175	FD8-16	100	16 VCT @ 6.25 A	29.60	24.57
967-7195	FD4-20	6	20 VCT @ 0.3 A	9.06	7.52
967-7205	FD5-20	12	20 VCT @ 0.6 A	11.10	9.21
967-7215	FD6-20	30	20 VCT @ 1.5 A	12.63	10.49
967-7225	FD7-20	56	20 VCT @ 2.8 A	20.34	16.88
967-7235	FD8-20	100	20 VCT @ 5.0 A	29.60	24.57
967-7255	FD4-24	6	24 VCT @ 0.25 A	9.06	7.52
967-7265	FD5-24	12	24 VCT @ 0.5 A	11.10	9.21
967-7275	FD6-24	30	24 VCT @ 1.25 A	12.63	10.49
967-7285	FD7-24	56	24 VCT @ 2.4 A	20.34	16.88
967-7295	FD8-24	100	24 VCT @ 4.0 A	29.60	24.57
967-7315	FD4-28	6	28 VCT @ 0.2 A	9.06	7.52
967-7325	FD5-28	12	28 VCT @ 0.42 A	11.10	9.21
967-7335	FD6-28	30	28 VCT @ 1.1 A	12.63	10.49
967-7345	FD7-28	56	28 VCT @ 2.0 A	20.34	16.88
967-7355	FD8-28	100	28 VCT @ 3.6 A	29.60	24.57
967-7375	FD4-36	6	36 VCT @ 0.17 A	9.06	7.52
967-7385	FD5-36	12	36 VCT @ 0.35 A	11.10	9.21
967-7395	FD6-36	30	36 VCT @ 0.85 A	12.63	10.49
967-7405	FD7-36	56	36 VCT @ 1.5 A	20.34	16.88
967-7415	FD8-36	100	36 VCT @ 2.8 A	29.60	24.57
967-7435	FD4-48	6	48 VCT @ 0.125 A	9.06	7.52
967-7445	FD5-48	12	48 VCT @ 0.25 A	11.10	9.21
967-7455	FD6-48	30	48 VCT @ 0.63 A	12.63	10.49
967-7465	FD7-48	56	48 VCT @ 1.2 A	20.34	16.88
967-7475	FD8-48	100	48 VCT @ 2.0 A	29.60	24.57
967-7495	FD4-56	6	56 VCT @ 0.11 A	9.06	7.52
967-7505	FD5-56	12	56 VCT @ 0.22 A	11.10	9.21
967-7515	FD6-56	30	56 VCT @ 0.54 A	12.63	10.49
967-7525	FD7-56	56	56 VCT @ 1.0 A	20.34	16.88
967-7535	FD8-56	100	56 VCT @ 1.8 A	29.60	24.57
967-7555	FD4-120	6	120 VCT @ 0.05 A	9.06	7.52
967-7565	FD5-120	12	120 VCT @ 0.1 A	11.10	9.21
967-7575	FD6-120	30	120 VCT @ 0.25 A	12.63	10.49
967-7585	FD7-120	56	120 VCT @ 0.5 A	20.34	16.88
967-7595	FD8-120	100	120 VCT @ 0.85 A	29.60	24.57

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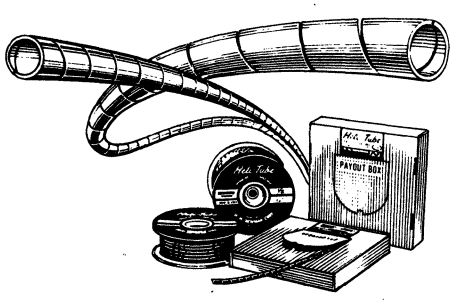
Spirally Cut Cable Wrap

U.L. Recognized Heli-Tube® is a spirally cut, expandable plastic cable harness. Bundles wires, cables or hoses firmly, but allows flexibility. Wraps on like tape, can be re-used, quickly and simply. Resists abrasion and insulates. Clamps bundles to standoffs. Dampens vibration. Can have wire breakouts in any orientation. Wires can be routed or re-routed after Heli-Tube® is in place; either new wires or replacement wires. Stocked by Allied in 100′ spools of Clear Polyethylene, Black Polyethylene, and Black Fire-Resistant Polyethylene. The Clear Polyethylene is a low cost material ideal for general applications. Not affected by ordinary solvents and extremely resistant to abrasion. **Maximum Operating Temperature:** 101°C to 215°F. **Minimum Operating Temperature:** – 76°C to – 105°F. **MIL Spec and Approvals:** Fed. Spec. LP390, MIL 1631D, MIL P26692. The Black Polyethylene is ultra-violet-resistant which permits it to be used in direct sunlight for long periods of time. Same temperature range and MIL spec. as Clear Polyethylene. The Black Fire-Resistant Polyethylene is self-extinguishing. **Maximum Operating Temperature:** 93°C to 200°F. **Minimum Operating Temperature:** – 19°C to – 1°F.

Heli-Tube



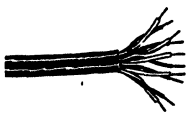
Stock No.	Mfr.'s Type	Material	O.D.	Wall Thk.	Pitch	Maximum Bundle Range (In.)	EACH 1-9	EACH 10-49
728-9005	HT1/4C2	Clear Polyethylene	.250	.035	.375	3/16-2	**9.84**	**8.83**
728-9010	HT1/4C	Clear Polyethylene	.250	.045	.375	3/16-2	**10.43**	**9.19**
728-9015	HT1/2C	Clear Polyethylene	.500	.062	.563	3/8-4	**21.29**	**19.18**
728-9020	HT3/4C	Clear Polyethylene	.750	.065	.750	3/4-5	**31.81**	**28.86**
728-9025	HT1C	Clear Polyethylene	1.000	.095	1.000	1-7	**61.11**	**55.21**
728-9040	HT1/4UR	Black Polyethylene	.250	.045	.375	3/16-2	**11.58**	**10.51**
728-9045	HT1/2UR	Black Polyethylene	.500	.062	.500	3/8-4	**22.70**	**20.30**
728-9050	HT3/4UR	Black Polyethylene	.750	.065	.750	3/4-5	**35.04**	**31.91**
728-9055	HT1UR	Black Polyethylene	1.000	.095	1.000	1-7	**67.54**	**61.69**
728-9030	HT1/4FR-B	Fire-Resistant Black	.250	.045	.375	3/16-2	**26.42**	**24.01**
728-9035	HT1/2FR-B	Fire-Resistant Black	.500	.062	.563	3/8-4	**54.72**	**50.98**

Belden/Alpha

The following is a guide of suggested alternate items which are functionally equivalent. For convenience, color code differences are denoted with an asterisk. Since constructional differences are not indicated, **consult your nearest Allied sales office for a detailed description.**

Belden	Alpha	Belden	Alpha	Belden	Alpha	Belden	Alpha	Belden	Alpha	Belden	Alpha	Belden	Alpha	Belden	Alpha
8000	112	8446	1826	8690	5033	9259	9803	9509	5499	9788	3483	83320	2827/2	17255	546
8002	136	8446	5041	8691	1136	9260	5156	9509	5479	9789	3484	83321	2829/2	17276	786
8011	289	8447	1827	8691	5036	9261	5322	9510	5480	9790	3485	83322	2826/2	17280	543
8012	286	8447	5042	8692	1139	9268	9805	9515	5480/15	9791	3486	83333	2821/3	17308	606
8013	295	8448	1828	8692	5039	9269	9062A	9515	5499/15	9792	3487	83334	2824/3	17361	628
8019	296	8448	5043	8718	2473	9271	9821	9519	5499/19	9793	3488	83335	2827/3	17405	780
8020	297	8450	2460	8719	2471	9272	9815	9519	5480/19	9794	1204	83336	2829/3	17406	615
8021	298	8451	2461	8720	2472	9273	9223	9525	5480/25	9795	3484	83337	2826/3	17407	779
8022	299	8452	1951	8722	2465	9302	5902	9533	5093	9796	3490	83348	2821/4	17408	778
8023	299/1	8453	1951/3	8723	2466	9305	5906	9534	5094	9797	3490/15	83349	2824/4	17412	782
8024	299/2	8456	1180	8724	2464	9306	5906	9536	5096	9798	3490/25	83350	2827/4	17419	783
8025	299/3	8456	5010	8725	2467	9309	5909	9538	5098	9799	3490/37	83351	2829/4	17422	784
8102	6202	8457	1181	8728	1243/2	9315	5909/15	9540	5100	9815	9818D	83352	2826/4	17425	785
8103	6203	8457	5212	8729	5104	9319	5909/19	9541	5100/15	9851	9824	83393	2838	17447	656
8104	6204	8458	1181/15	8730	2469	9327	5909/27	9542	5100/20	9855	9819	83394	2839	17448	658
8105	6205	8458	5010/15	8732	1243/4	9328	6052	9543	5100/25	9860	9820	83395	2839/3	17449	659
8106	6206	8458	5213	8734	1243	9329	6053	9544	5100/30	9863	9822	83396	2839/4	17460	636
8107	6207	8459	1181/25	8735	1737	9330	6054	9545	5100/40	9873	6033	83403	7161/24	17461	633
8108	6208	8459	5010/25	8735	5103	9331	6056	9546	5100/50	9874	6036	83404	7161	17462	631
8109	6209	8461	1897	8737	2254	9332	6059	9550	5480/25	9875	6039	83412	7149	17500	531
8110	6210	8465	1898/5	8739	2255	9333	6059/11	9553	5373	9876	6041	83413	7150	17501	532
8110/12	6210/12	8466	1898/12C	8740	1300	9334	6059/15	9555	9845	9877	6042	83414	7151	17502	533
8110/15	6210/15	8467	1898/7	8741	1302	9335	6059/19	9556	5376	9879	6045	83415	7153	17503	534
8110/18	6210/18	8468	1898/15	8742	1304	9336	6059/27	9559	5379	9880	9851	83416	7155	17506	537
8110/25	6210/25	8468	5070/15	8743	1307	9337	6059/51	9565	5379/15	9888	9802	83423	7054/19	17507	538
8132	3492	8469	1898/9	8744	1307/9	9368	6062	9620	1065	9891	9852	83424	7055/19	17508	539
8133	3493	8471	1899	8745	1309/15	9369	6063	9621	1069	9892	9853	83425	7056/19	17509	540
8134	3494	8472	1953	8746	1313	9388	6064	9622	5080/25	9910	3081	83443	7130	17512	501
8135	3495	8473	1891	8747	1322	9389	6066	9622	1085	9912	3080	83444	7131	17513	502
8136	3496	8477	1892	8747	5026	9390	6069	9623	1275	9916	3057	83445	7132	17514	503
8137	3497	8478	1952	8748	5029	9391	6069/11	9626	1898/25	9918	3055	83446	7133	17515	504
8138	3498	8484	1896/4	8748	1323	9392	6069/15	9626	5070/25	9920	3053	83900	5765	17516	505
8140	3500/10	8486	1797	8749	1327	9393	9806	9628	3463	9921	3051	83901	5762	17517	506
8142	3500/12	8487	1798	8749	5029/15	9394	1249	9629	3464	9923	3050	83905	5775	17518	511
8145	3500/15	8488	1178	8749	5243	9395	1449	9630	3465	9924	3070	83906	5772	17519	512
8148	3500/18	8489	1898/4	8750	1329	9415	682/4	9631	3466	9926	3049	83910	5785	17520	513
8155	3500/25	8489	5064	8750	5245	9416	696/4	9632	3467	9928	3048	83911	5782	17521	514
8205	1895	8490	683/2	8750	5029/27	9417	694/4	9633	3468	9930	3047	83916	5752	17524	551
8208	5162	8491	696/2	8751	2451	9420	1465	9634	3469	9951	3245	83931	5715	17525	552
8213	9847	8495	703	8752	2450	9420	4605	9635	3470	9952	3246	86262	9162F	17539	520
8215	9006A	8497	694/2	8753	1308/11	9421	1178	9636	3470/15	9953	3247	88240	9158	17600	531F
8216	9174	8500	1858/19	8754	1309	9422	1467	9637	3470/25	9954	3248	88241	9159	17601	532F
8221	9840	8501	1857	8755	1311	9422	4607	9638	3470/37	9961	3230	88641	58401	17602	533F
8227	9817	8502	1856	8756	1312	9424	1469	9639	3470/50	9962	3231	88723	58612	17603	534F
8228	9843	8503	1855	8757	1305	9425	4612	9641	5960	9963	3232	88760	58431	17604	535F
8232	9850	8504	1854	8759	2256	9425	1469/12	9642	5900/1	9964	3233	88761	58411	17605	536F
8237	9008	8505	1853	8760	2421	9427	4616	9643	5900/2	9965	3220	88777	58613	17606	537F
8238	9011	8509	1854/19	8761	2401	9427	1469/16	9644	5900/4	9966	3221	88778	58616	17609	540F
8240	9058	8510	1868/19	8762	2411	9429	1469/20	9645	5900/8	9967	3222	89120	9104	17613	502F
8241	9059	8511	1867	8763	1243/3	9429	4620	9646	5900/16	9968	3223	89269	9162	17615	504F
8242	9009B	8512	1866	8764	6004	9430	1177	9647	5900/3	9982	3522	89272	9108	17616	505F
8254	9062	8513	1865	8765	6006	9430	5211	9668	DCA-512A-6	9983	3251	89292	9105	17617	506F
8259	9058A	8514	1864	8766	6008	9431	1181/20	9669	DCA-512A-10	9984	3250	89555	9101	17629	788
8261	9011A	8515	1863	8767	6000	9431	5010/20	9670	DCA-512A-25	9985	3249	89688	9311	17635	789
8262	9058C	8516	1867/19	8768	6002	9432	1181/30	9671	DCA-512A-50	83000	2851	86989	9321	17641	521F
8263	9059B	8517	1866/19	8769	6020	9432	5010/30	9673	DCA-522A-6	83000	5851	89855	9110	17740	507F
8267	9213	8518	1865/19	8770	2423	9433	1181/40	9674	DCA-522A-10	83001	2852	89880	9151F	17741	508F
8268	9214	8519	1864/19	8771	2403	9433	5010/40	9675	DCA-522A-25	83001	5852	9A22010	3530/7	17742	547F
8281	9807	8520	1559	8772	2413	9434	1181/50	9676	DCA-522A-50	83002	2853	9A22015	3531/7	17743	548F
8362	3472	8521	1557	8773	6022	9434	5010/50	9688	9310	83002	5853	9A22020	3532/7	17745	549F
8363	3473	8522	1555	8774	6014	9435	1101	9689	9320	83003	2854	9A22030	3533/7	17746	550F
8364	3474	8523	1553	8775	6016	9436	1102	9708	1979	83003	5854	9A24010	3540/7	17753	560F
8365	3475	8524	1551	8776	6018	9437	1107	9730	6073	83004	2854/7	9A24015	3541/7	17952	544
8366	3476	8525	1550	8777	6010	9439	1896/7	9731	6076	83004	5854/7	9A24020	3542/7	19109	1964/3
8367	3477	8527	1560	8778	6012	9439	5221	9732	6079	83005	2855/7	9A24030	3543/7	19115	1976
8368	3478	8528	1565	8780	2260	9444	1896/4	9733	6079/11	83005	5855/7	9A26010	3550	19120	1951
8370	3480	8529	1563	8781	1948	9444	5054	9734	6079/12	83006	2855	9A26014	3550/14	19122	1977
8372	3480/12	8530	1561	8782	1944	9445	1896/5	9735	6079/15	83006	5855	9A26015	3551	19123	1978
8375	3480/15	8538	1561/24	8782	1945	9445	5220	9736	6079/17	83007	2856	9A26016	3551/16	19124	1953/65
8378	3480/18	8581	1655	8790	2258	9455	1896/9	9737	6079/19	83007	5856	9A26020	3552	19125	1952/41
8385	3480/25	8582	1653	8791	2258/3	9457	1896/12	9738	6079/20	83008	5856/7	9A26030	3553	19126	1978/16
8401	1704	8583	1651	8794	1203	9457	5222	9740	1131	83008	2856/7	9B22010	3530	19129	1952/3
8403	1713	8584	1579	8795	1202	9458	5223	9740	1897	83009	2857	9B22015	3531	19130	1953/3
8404	1715	8597	1852	8879	650	9458	1896/15	9741	1142	83009	5857	9B22020	3532	19140	1950
8405	1716	8598	1851	8888	1977	9458	5060/15	9741	5039/12	83010	2858	9B22030	3533	19201	1937
8407	1452/16	8599	1850	8897	1639	9462	2462	9742	1145	83010	5858	9B24010	3540	19202	1936
8408	1448/16	8601	725	8898	1638	9463	9814	9742	5039/15	83023	2874	9B24015	3541	19203	1935
8411	1703	8602	727	8899	1636	9469	652	9743	1149	83023	5874	9B24020	3542	19204	1934
8412	1448/20	8603	729	8916	3079	9470	651	9743	5039/19	83026	2875	9B24030	3543	19205	1938/3
8415	682/2	8618	2433	8917	3077	9476	660/2	9744	1317	83026	5875	9L28010	3580/10	19206	1937/3
8416	1985	8619	1898/19	8918	3075	9477	660/4	9744	5022	83027	2876	9L28014	3580/14	19207	1936/3
8418	1255/8	8620	1064	8919	3073	9478	760/2	9745	1318	83027	5876	9L28016	3580/16	19208	1935/3
8421	1702	8621	1067	8920	3071	9479	760/4	9745	5023	83029	2877	9L28020	3580/20	19209	1934/3
8422	1710	8622	1072	9141	9807	9480	662/2	9746	1319	83029	5877	9L28024	3580/24	19216	1937/4
8423	1251	8623	1075	9154	2412	9481	662/4	9746	5024	83030	2878	9L28025	3580/25	19217	1936/4
8424	1252	8624	1079	9156	1132	9482	663/2	9747	1325	83030	5878	9L28026	3580/26	19227	1932
8425	1253	8627	1274	9157	1134	9483	663/4	9747	5242	83041	2840/7	9L28034	3580/34	19228	1933
8426	1254	8628	1277	9158	1306	9484	665/2	9748	1327/19	83043	2841/7	9L28037	3580/37	19229	1932/3
8427	1255	8629	1282	9159	1135	9485	665/4	9748	5244	83045	2842/7	9L28040	3580/40	19230	1933/3
8428	1448/18	8641	2400	9161	1138	9499	690/2	9748	5029/19	83046	2843/7	9L28050	3580/50	19326	1974
8429	1105	8649	1949	9182	6071	9501	5471	9749	1328	83047	2844/7	9L28060	3580/60	19328	1975
8430	1115	8652	2132	9182	9823	9501	5491	9750	5283	83048	2844/19	17106	601	19348	1952/3T
8434	2468	8653	2162	9184	6072	9502	5472	9751	5286	83049	2845/7	17109	603	19349	1953/3T
8437	1775	8653	2132	9201	9058	9502	5492	9752	5289	83050	2845/19	17112	604	19350	1951/3T
8441	1736	8654	2163	9207	9818	9503	5473	9753	2452	83264	9179B	17205	605	19351	1954/3T
8441	5102	8661	2144	9209	9810	9503	5493	9755	5289/15	83265	9178B	17206	600	19352	1941/3
8442	1316	8661	2170	9221	9475	9504	5474	9755	5253	83266	9180B	17236	775	19353	1942/3
8442	1172	8663	2142	9231	9809	9504	5494	9768	6017	83304	2821	17237	777	19354	1943/3
8442	5021	8664	2164	9233	9844	9505	5495	9769	6019	83305	2824	17238	776	19362	1941/3F
8443	1173	8668	2138	9240	9840	9505	5475	9773	6023	83306	2827	17239	787	19363	1942/3F
8443	5003	8669	2146	9244	9830	9506	5496	9774	6024	83307	2829	17249	654	19364	1943/3F
8444	1174	8671	1235	9248	9804	9506	5476	9775	6025	83308	2826	17250	545	—	—
8444	5004	8674	2160	9250	9816	9507	5477	9776	6026	83318	2821/2	17251	535	—	—
8445	1175	8690	1133	9251	9008A	9508	5477	9777	6027	83319	2824/2	17254	523	—	—

Instumentation



U.L. Subject 13, NEC Article 725, Type PLTC
Standard bare copper conductors; extruded PVC insulation; paired construction color-coded - one black, one white; pairs twisted to minimize magnetic noise; each conductor printed with a pair number at one inch (25.4mm) intervals for easy identification; aluminum polyester shield tape and tinned copper drain wire provided for maximum electro-static noise and cross talk rejection; nylon rip cord under jacket to simplify stripping; extruded black PVC jacket passes and exceeds criteria IEEE 383 70,000 BTU Flame Test.

Single Pair Unshielded

Mfr.'s Type	Conductor			Nominal O.D.	100′			500′			1000′		
	No. of Pairs	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
5610B2001	1	20	7/28	.207″(5.26mm)	**708-8170**	2.7	**91.20**	**708Q8171**	13.8	**358.33**	**708Q8172**	27.7	**400.00**
5610B1801	1	18	7/26	.239″(6.07mm)	**708-8176**	3.7	**127.20**	**708Q8177**	18.6	**475.00**	**708Q8178**	37.1	**550.00**
Multipair Overall Shielded													
5610B2002	2	20	7/28	.310″(7.87mm)	**708-8173**	5.3	**127.20**	**708Q8174**	26.3	**508.33**	**708Q8175**	52.5	**708.00**
5610B1802	2	18	7/26	.363″(9.22mm)	**708-8179**	7.2	**223.20**	**708Q8180**	36.1	**778.57**	**708Q8181**	72.2	**1212.00**

Telephone Cable

22 AWG solid annealed bare copper conductor, 80°C PE. Color coded polyethlene insulation. Nominal insulation thickness .015″. Beige polyvinylchloride jacket. **Temp. Range:** – 20°C to + 80°C.

Mfr.'s Type*	No. of Cond.	Nom. Jacket Thickness	Nom. O.D.	100′			500′			1000′		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1202	2	.020	.155″	**708-7061**	1.7	**40.40**	**708-7062**	8.2	**80.60**	**708-7063**	16.3	**161.20**
1204	4	.022	.185″	**708-7067**	2.1	**45.20**	**708-7068**	10.0	**102.80**	**708-7069**	19.5	**186.73**

***Color Code:** Cond. 1, Red; Cond. 2, Green; Cond. 3, Yellow; Cond. 4, Black.

Speaker Cable 300V

Passes UL
VW-1 Flame Test

Stranded bare copper parallel conductors, color coded PVC insulation. Conductors separate easily when slit. **Temperature Range:** – 20 to + 80°C. **Suggested Working Voltage:** 300V.

Mfr.'s Type	AWG	Strand	Color	100′		500′		1000′		
				Stock No.	EACH	Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
1944*	24	7/32	Brown	**708-9550**	**10.80**	**708-9551**	**36.40**	**708-9552**	6.0	**72.80**
1944*	24	7/32	Black	**708-9555**	**10.80**	**708-9556**	**36.40**	**708-9557**	6.0	**72.80**
1945*	24	7/32	Clear	**708-9560**	**10.80**	**708-9561**	**36.40**	**708-9562**	6.0	**72.80**
1977†	18	41/34	Brown	**708-9535**	**36.60**	**708-9538**	**147.20**	**708Q9541**	20.0	**321.53**
1977†	18	41/34	Black	**708-9544**	**36.60**	**708-9539**	**147.20**	**708Q9542**	20.0	**321.53**
1979†	18	41/34	Clear	**708-9565**	**22.40**	**708-9566**	**83.20**	**708-9567**	20.0	**166.40**

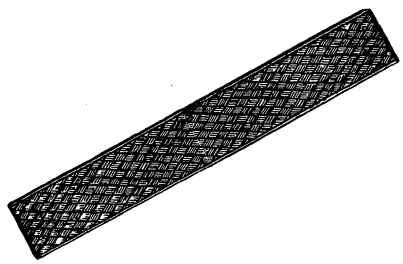
*1 conductor tinned, 1 bare. †U.L. listed SPT-1.

Tinned Copper Flat Braid

Woven tinned copper braid rolled to specific width. Each strand meets requirments of Fed. Spec. QQ-W-343E Type S and ASTM-B-33. *Values shown are for bare cable in free air at 30°C and intended as a reference guide only. Actual values will depend on permissible temp. rise, permissible voltage drop and other conditions of service.

Mfr.'s Type	Nom. Flat Width (In.)	Nom. Thick (In.)	Braid Construction Total No. of Indiv. Ends	Approx. AWG Equiv.	Nom. Circular Mil. Area (CM)	Current Carrying Capacity (Amps*)	Stock No.	PER 100′
1229†	1/8	.020	72	18	1800	16	**708-8068**	**75.00**
1230†	3/16	.020	120	15	3000	25	**708-8071**	**81.60**
1231†	1/4	.030	168	14	4200	32	**708-8074**	**110.80**
1232	3/8	.030	288	12	7200	46	**708-8077**	**187.50**
1233/2†	1/2	.030	384	10	9600	53	**708-8080**	**204.36**
1233	5/8	.030	384	10	9600	53	**708-8083**	**216.18**
1234	3/4	.040	832	7	20800	85	**708Q8086**	**446.00**
1235	1	.045	832	7	20800	85	**708Q8090**	**477.34**

†Meets QQ-B-575B.



Tinned Copper Bus Bar

MIL-W-3861 Type S
QQ-W-343 Type S
ASTM-B-33

Electrolytic, soft drawn and annealed, solid tin-plated copper. MIL-W-3861 Type S, QQ-W-343 Type S, ASTM-B-33.

Mfr.'s Type	Cond. AWG	Nom. Circular Mil. Area, CM	Nominal O.D.		100′		1000′	
			In.	mm	Stock No.	EACH	Stock No.	EACH
286	14	4110	.065	1.65	**708-8052**	**31.20**	**708-8053**	**202.00**
295	16	2580	.051	1.30	**708-8054**	**20.40**	**708-8055**	**165.40**
296	18	1620	.040	1.07	**708-8056**	**14.40**	**708-8057**	**105.80**
297	20	1020	.033	.83	**708-8058**	**11.00**	**708-8059**	**73.80**
298	22	640	.025	.63	**708-8060**	**9.20**	**708-8061**	**54.80**
299	24	404	.020	.50	**708-8062**	**8.80**	**708-8063**	**44.80**
299/1	26	253	.016	.41	**708-8064**	**8.60**	**708-8065**	**41.80**
299/2	28	159	.013	.33	**708-8066**	**8.20**	**708-8067**	**35.80**

Tinned Copper Oval Braid

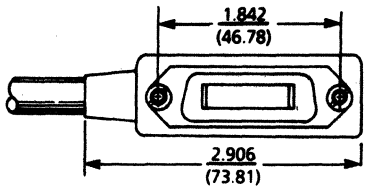
► **Woven tinned copper braid manufactured in tubular configuration**
► **Each strand meets requirements of Fed. Spec. QQ-W-343E and ASTM-B-33 Appl. Ground Strap Shielding**

Stock No.	Mfr.'s Type	Nominal I.D. When Rounded		Braid Construction		Approx. AWG Equiv.	Nominal Circular Mil Area CM	Approx. Current Carrying Capacity (Amps)	PER 100′
		Inches	mm	AWG of Indiv. Ends	Total No. of Indiv. Ends				
708-8000	2132	1/16	1.59	34	32	19	1192	11	**52.60**
708-8001	2138	11/64	4.37	34	120	14	4770	32	**132.80**
708-8002	2140	3/16	4.76	34	144	13	5724	38	**142.60**
708-8003	2142	1/4	6.35	34	168	12	6678	41	**172.60**
708-8004	2144	3/8	9.53	34	192	11	7632	46	**192.40**
708-8005	2146	1/2	12.70	34	336	9	13356	62	**304.17**
708-8006	2148	5/8	15.88	34	384	8	14264	64	**305.54**
708-8007	2150	11/16	17.46	34	480	7	19080	81	**376.92**
708-8008	2152	25/32	19.84	34	528	7	20988	85	**411.85**

Standard Put-Up: 2132, 2138-100, 500, 1000 Ft. 2140-2144-100, 500 Ft. 2146-2152-100 Ft.

IEEE-488 Interface Bus Cables

Construction. 6 twisted pairs conductors #26 AWG(7/34) tinned copper + .010" semi-rigid PVC insulation. 10 single conductors #26 AWG(7/34) tinned copper + .010" semi-rigid PVC insulation. 1 single conductor #24 AWG(7/32) tinned copper + .010" semi-rigid PVC insulation. **Drain Wire:** #24 AWG(7/32) tinned copper. **Shield:** Braided tinned copper (90% coverage). **Jacket:** Gray PVC 0.035" (0.89mm) nominal wall thickness. **Nominal O.D.:** 0.350" (8.89mm). **Shield:** Braided tinned copper, 90% coverage, min. (P/N 5910 only). **Jacket:** Gray PVC, 0.035" (0.89mm) nominal wall thickness (P/N 5910 only). **Nominal O.D.:** 0.440" (11, 23mm), (P/N 5910 only). **Characteristics. Temperature Rating:** 80°C. **Voltage Rating:** 300 Volt. **D.C. Resistance: #24 AWG—23.9 ohms/kft (78, 4 ohms/km); #26 AWG—38.4 ohms/kft (126, 0 ohms/km). Capacitance. Conductor to conductor, nominal:** Single Conductors—35 pF/ft (114,8 pF/m). Pairs—38 pF/ft (124,7 pF/m). **Characteristic Impedance, nominal:** Single Conductors—70 ohms. Pairs—75 ohms



Single Shield

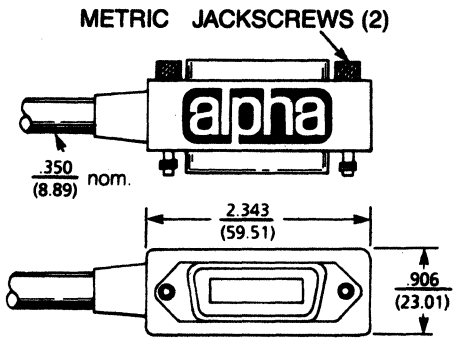
Stock No.	Mfr.'s Type	Length	EACH
943-3901	5900/1	3.3′	**121.37**
943-3902	5900/2	6.6′	**126.17**
943-3903	5900/3	9.9′	**134.67**
943-3904	5900/4	13.1′	**143.17**
943-3905	5900/8	26.2′	**171.34**
943-3906	5900/12	39.4′	**221.34**
943-3907	5900/16	52.5′	**230.17**

Double Shield

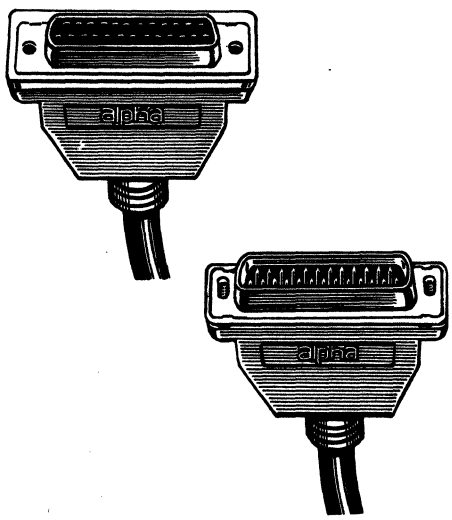
Stock No.	Mfr.'s Type	Length	EACH
943Q3908	5910/1	3.3′	**230.17**
943Q3909	5910/2	6.6′	**242.34**
943Q3910	5910/3	9.9′	**258.83**
943Q3911	5910/4	13.1′	**275.34**
943Q3912	5910/8	26.2′	**329.34**
943Q3913	5910/12	39.4′	**385.83**
943Q3914	5910/16	52.5′	**442.34**

Cable Only

Mfr.'s Type	100′		500′		1000′	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
5900	**708-0700**	**170.17**	**708Q0701**	**648.15**	**708Q0702**	**1256.15**
5910	**708Q0705**	**180.70**	**708Q0706**	**1111.85**	**708Q0707**	**2294.56**



Connector Dimensional Layout



RS-232-C Pre-Terminated Assemblies

Construction. 25 cabled conductors: #22 AWG (0,36mm²), 7/30 (7 × 0,25mm), tinned copper. 0.009" (0,23mm) color coded SR-PVC insulation. Aluminum/polyester foil shield with stranded tinned copper drain wire. Gray PVC jacket; **wall thickness:** 0.032" (0,81mm). **O.D.:** 0.380" (9,65mm), nominal. UL 2464. Alpha P/N 5199/25. **Characteristics. Temperature Rating:** 80°C. **Voltage Rating:** 300 Volt. **Cord Configuration.** Male connector, each end, fully pinned. Male connector to a female connector, fully pinned. **Connectors. Current Rating:** 4.0 amps/contact (with #22 AWG conductor). **Dielectric Withstand Voltage:** 1000 Volts, minimum. **Insulation Resistance:** 5000 M-ohms. **Contacts:** Gold over nickel plated beryllium copper. **No. of positions:** 25(pins or sockets). **Electrical Specifications. Capacitance:** 35 pF/ft. (115 pF/m), nominal. **Impedance:** 50 ohms, nominal. **Shielding:** Pin-to-pin shielded. **Applications.** General purpose EIA RS-232-C extensions. Modem control and error detection.

Male-To-Male Assemblies

Stock No.	Mfr.'s Type	Length Feet	EACH
708-0805	DCA512A-6	6	**64.18**
708-0806	DCA512A-10	10	**73.28**
708-0807	DCA512A-15	15	**90.18**
708-0808	DCA512A-25	25	**99.55**
708-0809	DCA512A-50	50	**140.55**

Male-To-Female Assemblies

Stock No.	Mfr.'s Type	Length Feet	EACH
708-0810	DCA522A-6	6	**66.36**
708-0811	DCA522A-10	10	**75.64**
708-0812	DCA522A-15	15	**92.91**
708-0813	DCA522A-25	25	**100.73**
708-0814	DCA522A-50	50	**143.09**

Cable Only

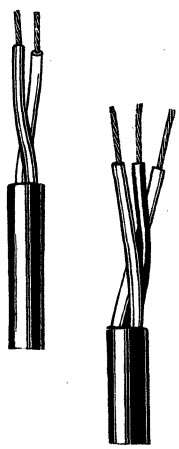
Mfr.'s Type	100′		500′		1000′	
	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
5199/25	**708Q0800**	**367.60**	**708Q0801**	**1692.00**	**708Q0802**	**2575.00**

Portable Cord—300V, 600V, 60°C

Each conductor stranded bare copper; color coded PVC or rubber insulation; cabled with filters, separator.

Rubber Jacket, 300V, 60°C

Mfr.'s Type	U.L. Type	No. of Cond.	AWG	Strand	Nom. O.D.	50′		100′		250′	
						Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
1951	SV	2	18	41/34	.250	**663-6049**	**20.83**	**663-6050**	**50.67**	**663-6051**	**111.00**
1951/3	SV	3	18	41/34	.260	**663-6052**	**36.50**	**663-6053**	**69.83**	**663-6054**	**148.67**
1952	SJ	2	18	16/30	.305	**663-6056**	**29.67**	**663-6057**	**57.17**	**663-6058**	**134.67**
1952/3	SJ	3	18	16/30	.330	**663-6059**	**30.83**	**663-6060**	**57.67**	**663-6061**	**123.09**
Neoprene Jacket, 300V, 60°C											
1932	SJO	2	18	16/30	.305	**663-6029**	**28.50**	**663-6030**	**54.50**	**663-6031**	**115.50**
1932/3	SJO	3	18	16/30	.330	**663-6032**	**36.50**	**663-6033**	**72.41**	**663-6034**	**143.34**
Neoprene Jacket, 600V, 60°C											
1934	SO	2	18	16/30	.390	**663-6035**	**46.05**	**663-6036**	**89.14**	**663-6037**	**186.50**
1934/3	SO	3	18	41/34	.405	**663-6038**	**51.67**	**663-6039**	**100.33**	**663-6040**	**213.14**
Plastic jacket, 300V, 60°C											
1941/3	SJT	3	18	—	.328	**663-6041**	**26.83**	**663-6042**	**51.67**	**663-6043**	**121.33**



Class and Type Designations

Cords on this page are UL listed. The type designations of the National Electrical Code are as follows: **SJ:** junior hard-service cord. Rubber insulation, ethylene propylene rubber or other rubber jacket. 300 V. **SJO:** junior hard-service oil-resistant cord. Rubber insulation, nitrile-PVC jacket or neoprene jacket. 300 V. **SJT:** junior hard-service cord. Polyvinyl chloride insulation and jacket. 300 V. **SPT-1:** all plastic parallel cord. 30 mils polyvinyl chloride insulation/jacket. 300 V. **SV:** rubber insulation, rubber jacket, 300 V. **SVT:** all plastic cord. Polyvinyl chloride insulation/jacket. 300 V.

2 Conductor Power Supply Cords

PVC power supply cords for TVs, radios and small, light-duty appliances. Plug rated for 15 amps. 125 volt service. UL listed, CSA approved.

Stock No.	Mfr.'s Type	Belden Equivalent	Color	AWG	UL Type	Length	Rating @ 125 V		Fig.	EACH	
							Watts	Amps		1-24	25-Up*
663-7012	601	17106	Brown	18	SPT-1	6′	1250	10	A	**2.17**	**1.99**
663-7011	601	17106	Gray	18	SPT-1	6′	1250	10	A	**2.17**	**1.99**
663-7014	603	17109	Brown	18	SPT-1	9′	1250	10	A	**2.91**	**2.68**
663-7015	605	17205	Black	18	SVT	6′	1250	10	A	**3.05**	**2.74**

*Contact the closest sales office for quantity pricing.

3 Conductor Electronic Line Cords, Unshielded

Stock No.	Mfr.'s Type	Belden Equivalent	Color	AWG	UL Type	Length	Rating @ 125 V		Fig.	EACH	
							Watts	Amps		1-24	25-Up*
663-7087	523	17254	Black	18	SVT	7′6″	1250	10	B	**4.00**	**3.68**

*Contact the closest sales office for quantity pricing.

3 Conductor Extension Cords

Types SJT are vinyl extension cords with a special plug adapter for "piggy backing." Adapter is rated for 15 amps, 125 V service and is UL listed. Type SJ cords are rubber.

Stock No.	Mfr.'s Type	Belden Equivalent	Color	AWG	UL Type	Length	Rating @ 125 V		Fig.	EACH	
							Watts	Amps		1-24	25-Up*
663-7046	633	17461	Black	16	SJ	10′	1625	13	C	**9.17**	**8.43**

*Contact the closest sales office for quantity pricing.

3 Conductor Power Supply Cords

Type SJT Vinyl, SJ Rubber and SJO Neoprene. Hard service cord sets with molded vinyl plug rated for 15 amps, 125 volt service. UL listed, CSA approved.

Stock No.	Mfr.'s Type	Belden Equivalent	Color	AWG	UL Type	Length	Rating @ 125 V		Fig.	EACH	
							Watts	Amps		1-24	25-Up*
663-7020	615	17406	Black	18	SJ	6′	1250	10	D	**5.33**	**4.91**
663-7023	780	17405	Gray	18	SJT	6′	1250	10	D	**3.67**	**3.37**
663-7021	778	17408	Black	18	SJ	8′	1250	10	D	**5.83**	**5.37**
663-7083	779	17407	Gray	18	SJT	8′	1250	10	D	**4.17**	**3.83**
663-7026	781	17409	Black	18	SJO	8′	1250	10	D	**6.00**	**5.52**
663-7022	782	17412	Black	18	SJ	12′	1250	10	D	**7.33**	**6.75**
663-7029	783	17419	Black	16	SJ	9′	1625	13	D	**7.17**	**6.59**
663-7030	784	17422	Black	16	SJ	12′	1625	13	D	**9.00**	**8.28**
Type SV Rubber and SVT Vinyl. Flexible, medium service, 3-wire cord sets. Vinyl plug rated for 15 amps, 125 V. UL listed, CSA approved.											
663-7016	775	17236	Black	18	SV	6′	1250	10	D	**4.83**	**4.45**
663-7017	776	17238	Black	18	SV	8′	1250	10	D	**5.50**	**5.06**
663-7018	777	17237	Gray	18	SVT	6′	1250	10	D	**3.33**	**3.07**
663-7019	787	17239	Gray	18	SVT	8′	1250	10	D	**3.68**	**3.37**
Type SJ Rubber. UL listed, CSA approved.											
663-7086	788	17629	Black	14	SJ	9′	1875	15	D	**10.83**	**9.97**

*Contact the closest sales office for quantity pricing.

3 Conductor Detachable Power Supply Cords

Plug and connector rated 15 amps, 125 V. Connector mates with Switchcraft EAC-301, -302 and -303 or equivalent.

Stock No.	Mfr.'s Type	Belden Equivalent	Color	AWG	UL Type	Length	Rating @ 125 V		Fig.	EACH	
							Watts	Amps		1-24	25-Up*
663-7047	547F†	17742	Black	18	SVT†	6′7″	1250	10	E	**7.83**	**7.21**
663-7048	548F†	17743	Black	18	SVT†	9′10″	1250	10	E	**9.50**	**8.74**
663-7088	535	17251	Black	18	SVT	7′7″	1250	10	E	**4.67**	**4.29**
663-7060	545	17250	Black	18	SVT	7′6″	1250	10	E	**4.67**	**4.29**
663-7089	546	17255	Black	16	SJT	7′6″	1625	13	E	**6.00**	**5.52**
663-7037	537	17506	Black	18	SJT	6′7″	1250	10	F	**5.17**	**4.75**
663-7038	538	17507	Black	18	SJT	9′10″	1250	10	F	**6.17**	**5.67**
663-7039	539	17508	Black	16	SJT	6′7″	1625	13	F	**6.00**	**5.52**
663-7040	540	17509	Black	16	SJT	9′10″	1625	13	F	**7.17**	**6.59**
Type SVT Vinyl											
663-7082	543	17280	Gray	18	SVT	7′6″	875	7	G	**5.17**	**4.75**

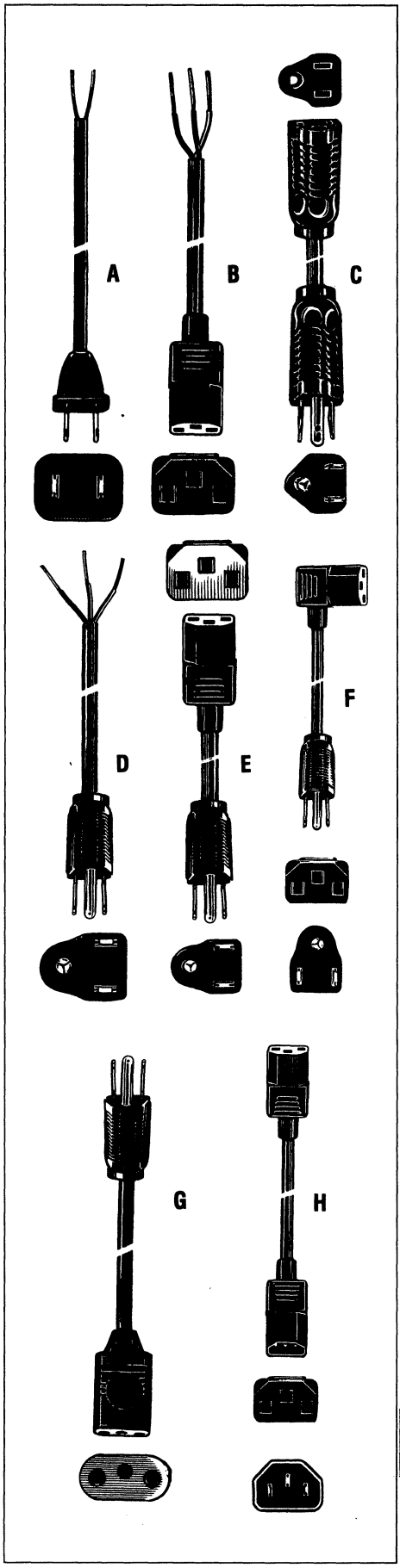
†Shielded. *Contact the closest sales office for quantity pricing.

3 Conductor Electronic Jumper Cords

Plug and connector rated 15 amps, 125 V. UL listed, CSA approved. Plug mates with Switchcraft receptacles EAC-305 and -306 or equivalent. Connector mates with Switchcraft receptacles EAC-301, -302 and -303 or equivalent.

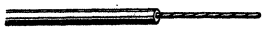
Stock No.	Mfr.'s Type	Belden Equivalent	Color	AWG	UL Type	Length	Rating @ 125 V		Fig.	EACH	
							Watts	Amps		1-24	25-Up*
663-7051	551	17524	Black	18	SJT	3′3″	1250	10	H	**4.50**	**4.14**
663-7052	552	17525	Black	16	SJT	3′3″	1625	13	H	**4.83**	**4.45**

*Contact the closest sales office for quantity pricing.



Hook-Up Wire

80°C • PVC • 300 V • UL 1007 • CSA TR-64



Conductor: Stranded tinned copper. Color-coded polyvinylchloride insulation. **Nominal Insulation Thickness:** .016″ (.41 mm). **Available stocked colors:** See bottom of page.

Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100′			1000′		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3050	1-6	24	7/32	.057″	UL 1007	300	**696-910N**	0.3	**13.80**	**696-920N**	2.8	**72.33**
3051	1-6	22	7/30	.065″	UL 1007	300	**696-912N**	0.4	**16.40**	**696-921N**	3.8	**85.15**
3053	1-6	20	10/30	.071″	UL 1007	300	**696-914N**	0.5	**21.40**	**696-922N**	5.0	**115.41**
3055	1-6	18	16/30	.080″	UL 1007	300	**696-916N**	0.7	**22.20**	**696-923N**	7.2	**99.78**
3057	1-6	16	26/30	.095″	UL 1007	300	**696-918N**	1.1	**33.40**	**696-924N**	10.8	**175.87**

80°C • Semi-Rigid PVC • 300 V • UL 1061 • CSA AWM SR-PVC

Conductor: Stranded, tinned copper. **Insulation:** color-coded semi-rigid polyvinylchloride. **Insulation Thickness:** .009″ (.23 mm). **Available stocked colors:** See bottom of page.

Mfr.'s Type	Stocked Colors	AWG	Strand	Nominal O.D.	Voltage Rating	100′			1000′		
						Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3250	1-6	24	7/32	.042″	300	**696-831N**	0.4	**19.20**	**696-836N**	2.8	**76.60**
3251	1-6	22	7/30	.048″	300	**696-832N**	0.5	**20.80**	**696-837N**	3.6	**82.40**

80°C • PVC • 1000 V • MIL-W-76B Type MW

Solid or stranded tinned copper conductor. Color coded polyvinylchloride insulation. **Nominal Insulation Thickness:** .016″ (.40 mm). **Available stocked colors:** See bottom of page.

Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100′			1000′		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1550	0-9	24	7/32	.059″	MW-C24(7)U	1000	**696-812N**	0.4	**15.60**	**696-100N**	2.8	**79.20**
1551	0-9	22	7/30	.064″	MW-C22(7)U	1000	**696-106N**	0.5	**18.20**	**696-101N**	3.6	**93.62**
1553	0-9	20	10/30	.073″	MW-C20(10)U	1000	**696-107N**	0.6	**20.80**	**696-102N**	4.8	**105.92**
1555	0-9	18	16/30	.084″	MW-C18(16)U	1000	**696-108N**	0.8	**26.60**	**696-103N**	7.3	**135.42**
1557	0-9	16	26/30	.095″	MW-C16(26)U	1000	**696-109N**	1.2	**38.75**	**696-104N**	11.2	**220.63**
1559	0-9	14	41/30	.110″	MW-C14(41)U	1000	**696-110N**	1.7	**60.80**	**696Q001N**	16.1	**272.62**
1560	0-9	12	65/30	.125″	MW-C12(65)U	1000	**696-810N**	2.6	**65.60**	**696Q811N**	24.9	**416.40**
1561/24	0-9	24	Solid	.055″	MW-C24(1)U	1000	**696-925N**	0.3	**12.40**	**696-926N**	2.5	**63.39**
1561	0-9	22	Solid	.060″	MW-C22(1)U	1000	**696-112N**	0.4	**14.20**	**696-111N**	3.3	**72.42**
1563	0-9	20	Solid	.066″	MW-C20(1)U	1000	**696-002N**	0.6	**17.80**	**696-003N**	4.6	**91.51**
1565	0-9	18	Solid	.074″	MW-C18(1)U	1000	**696-004N**	0.8	**24.80**	**696-005N**	6.9	**127.21**

105°C • PVC • 600 V • MIL-W-16878D • Type B

Conductor: Stranded tinned copper; color coded polyvinylchloride insulation. **Insulation Thickness:** .010″ (.25 mm). **Available stocked colors:** See bottom of page.

Mfr.'s Type	Stocked Colors	Conductor		Nom. O.D.		Type	Voltage Rating	100′			1000′		
		AWG	Strand	Inches	mm			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1859/19	0-9	14	19/27	.091	2.31	B-14	600	**696-813N**	2.0	**55.72**	**696-814N**	14.0	**261.20**
1858/19	0-9	16	19/32	.077	1.96	B-16	600	**696-200N**	1.1	**32.50**	**696-282N**	9.0	**215.63**
1857/19	0-9	18	19/30	.068	1.73	B-18	600	**696-815N**	0.8	**30.36**	**696-816N**	7.0	**167.00**
1857	0-9	18	7/26	.068	1.73	B-18	600	**696-201N**	0.8	**27.20**	**696-281N**	7.0	**135.20**
1856	0-9	20	7/28	.058	1.47	B-20	600	**696-202N**	0.6	**21.20**	**696-280N**	4.6	**106.00**
1855/19	0-9	22	19/34	.050	1.27	B-22	600	**696-817N**	0.4	**24.98**	**696-818N**	3.0	**124.20**
1855	0-9	22	7/30	.050	1.27	B-22	600	**696-204N**	0.4	**17.80**	**696-279N**	3.0	**88.20**
1854	0-9	24	7/32	.043	1.09	B-24	600	**696-205N**	0.3	**14.80**	**696-278N**	2.2	**81.20**
1853	0-9	26	7/34	.038	0.96	B-26	600	**696-277N**	0.3	**17.60**	**696-260N**	1.5	**87.60**
1852	0-9	28	7/36	.034	0.86	B-28	600	**696-346N**	0.2	**16.20**	**696-259N**	1.3	**80.20**
1851	0-9	30	7/38	.032	0.81	B-30	600	**696-348N**	0.1	**17.98**	**696-258N**	0.9	**89.80**

105°C • PVC • 600 V • UL 1015 • CS TEW-105

Conductor: Stranded tinned copper. Color-coded polyvinylchloride insulation. **Nominal Insulation Thickness:** .032″ (.81 mm). **Available stocked colors:** See bottom of page

Mfr.'s Type	Stocked Colors	Conductor		Nominal O.D.	Type	Voltage Rating	100′			1000′		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3071*	1-6	22	7/30	.095″	UL 1015	600	**696-250N**	0.6	**19.20**	**696-450N**	6.0	**102.20**
3073*	1-6	20	10/30	.102″	UL 1015	600	**696-251N**	0.8	**23.40**	**696-451N**	7.5	**122.13**
3075*	1-6	18	16/30	.112″	UL 1015	600	**696-252N**	1.0	**27.80**	**696-452N**	9.9	**145.18**
3077*	1-6	16	26/30	.125″	UL 1015	600	**696-253N**	1.4	**41.80**	**696-453N**	13.8	**191.36**
3079	1-6	14	41/30	.142″	UL 1015	600	**696-254N**	2.5	**57.40**	**696Q454N**	20.1	**277.69**

* Also MIL-W-76B type HW.

105°C • Irradiated PVC • 1000 V • MIL-W-16878D Type C UL 1430, CSA REW XL-PVC

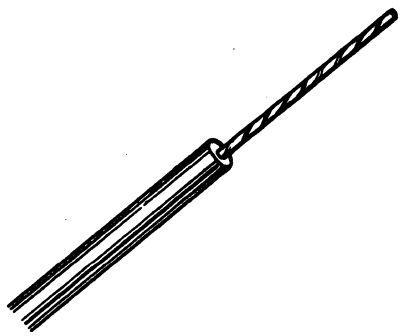
Conductor: Stranded, tinned copper. Irradiated color-coded PVC insulation. **Insulation Thickness:** .016″ (.41 mm). **Available stocked colors:** See bottom of page

Mfr.'s Type	Stocked Colors	AWG	Strand	Nominal O.D.	Voltage Rating	100′			1000′		
						Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
7130	1-6	24	7/32	.056″	300	**696-820N**	0.3	**34.80**	**696-825N**	2.8	**139.00**
7131	1-6	22	7/30	.062″	300	**696-821N**	0.4	**42.20**	**696-826N**	3.6	**168.40**
7132	1-6	20	7/28	.070″	300	**696-822N**	0.5	**49.40**	**696-827N**	4.8	**197.00**
7133	1-6	18	7/26	.080″	300	**696-823N**	0.8	**46.40**	**696-828N**	7.3	**197.88**
7134	1-6	16	19/29	.091″	300	**696-824N**	1.8	**67.00**	**696Q829N**	11.2	**292.17**

To order correct color, insert number of color desired where N appears in stock number. All listed types are available in 10 solid and 9 striped colors. Non-stocked and striped colors available by special order.

0 — Violet (Purple)
1 — White
2 — Black
3 — Red
4 — Green
5 — Yellow
6 — Blue
7 — Orange
8 — Slate (Gray)
9 — Brown

MIL-W-16878D, Type E Teflon® 200°C UL1213 (105°C)

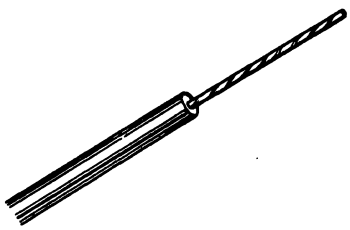


► **Conductor:** Stranded silver plated copper ► **Insulation:** Color coded, extruded Teflon TFE. ► Temperature Range: −60°C to +200°C (UL105°). ► **Voltage Range:** 600 volts (UL voltage not specified). ► **Flammability:** Passes ULVW1 flame test. **To order correct color, insert number of color desired where N appears in stock number.** Non-stocked and striped colors available on special order. 0 — Violet (Purple); 1 — White; 2 — Black; 3 — Red; 4 — Green; 5 — Yellow; 6 — Blue; 7 — Orange; 8 — Slate (Gray); 9 — Brown

Mfr.'s Type	Stocked Colors	Conductor AWG	Conductor Strand	Nominal O.D.	Type	Voltage Rating	100′ Stock No.	100′ Wt. Lbs.	100′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
5852	1-6	28	7/36	.036″ (0.91mm)	E-28	600	**696-210N**	0.3	**40.60**	**696-220N**	1.6	**175.21**
5854	1-6	24	19/36	.045″ (1.14mm)	E-24	600	**696-211N**	0.5	**63.80**	**696Q221N**	2.8	**275.35**
5855	1-6	22	19/34	.051″ (1.30mm)	E-22	600	**696-212N**	0.6	**75.20**	**696Q222N**	3.7	**325.55**
5855/7	1-6	22	7/30	.050″ (1.27mm)	E-22	600	**696-213N**	0.4	**59.60**	**696Q223N**	3.6	**321.55**
5856	1-6	20	19/32	.059″ (1.78mm)	E-20	600	**696-214N**	0.8	**75.24**	**696Q224N**	5.5	**421.32**
5857	1-6	18	19/30	.070″ (1.78mm)	E-18	600	**696-215N**	0.9	**97.37**	**696Q225N**	8.0	**541.79**
5858	1-6	16	19/29	.077″ (1.96mm)	E-16	600	**696-216N**	1.2	**119.52**	**696Q226N**	6.0	**667.85**

AWG 18-10 must be surfaced marked to comply with U.L. Please specify when ordering.

UL1180, MIL-W-16878D Type EE Heavy Wall Teflon®



► **Conductor:** Stranded silver plated copper. ► **Insulation:** Color coded, extruded Teflon TFE. ► **Temperature Range:** −60°C to +200°C (UL200°C). ► **Voltage Range:** 1000 volts MIL, 300 volt UL. ► **Flammability:** Passes ULVW1 flame test. **To order correct color, insert number of color desired where N appears in stock number.** Non-stocked and striped colors available on special order. 0 — Violet (Purple); 1 — White; 2 — Black; 3 — Red; 4 — Green; 5 — Yellow; 6 — Blue; 7 — Orange; 8 — Slate (Gray); 9 — Brown

Mfr.'s Type	Stocked Colors	AWG	Strand	Nominal O.D.	Type	100′ Stock No.	100′ Wt. Lbs.	100′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
5874	1-6	24	19/36	.055″	EE-24	**696-231N**	0.5	**66.60**	**696Q236N**	3.5	**291.80**
5875	1-6	22	19/34	.062″	EE-22	**696-232N**	0.7	**72.60**	**696Q237N**	5.0	**312.86**
5876	1-6	20	19/32	.070″	EE-20	**696-233N**	0.9	**71.18**	**696Q238N**	6.5	**402.44**
5877	1-6	18	19/30	.080″	EE-18	**696-234N**	1.1	**91.87**	**696Q239N**	9.0	**493.49**

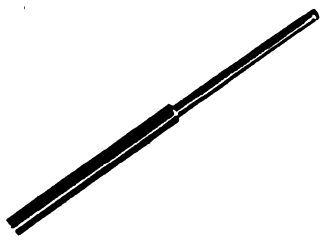
® T.M. Dupont

Test Lead Wire

► **Conductor:** Stranded tinned copper. ► **Insulation:** Color coded rubber. ► **Temperature Range:** −30°C to +90°C. **Colors available:** 2 — black; 3 — red. Insert 2 or 3 where N appears in Stock Number.

Mfr.'s Type	Conductor AWG	Conductor Strand	Nom. Ins. Thick.	Voltage Breakdown	Sugg. Working Voltage	Nominal O.D.	100′ Stock No.	100′ EACH	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ EACH
1632	20	41/36	.040	6000	1500V	.125″ (3.18mm)	**696-790N**	**36.80**	**696-791N**	**130.40**	**696-792N**	**224.20**
1635	20	41/36	.047	12000	3000V	.140″ (3.56mm)	**696-787N**	**38.20**	**696-788N**	**130.56**	**696Q789N**	**230.55**
1636	18	65/36	.045	20000	5000V	.140″ (3.56mm)	**696-796N**	**37.80**	**696-797N**	**131.00**	**696Q798N**	**241.10**
1638	18	65/36	.090	29000	10000V	.230″ (5.84mm)	**696-784N**	**50.20**	**696-785N**	**215.63**	**696Q786N**	**356.40**

Tefzel® Insulation for Wire Wrap (UL1516, UL1523)



Solid silver-plated oxygen-free high conductivity (OFHC) copper conductor: Color coded Tefzel Insulation. High cut-thru and abrasion resistance. Long flex life. **Temperature Range:** −70°C to +150°C (U.L. 105°C). **Colors Available:** 1 — white; 2 — black; 3 — red; 6 — blue. Insert 1, 2, 3, or 6 where N appears in stock number for desired color. Other colors available on special order.

Mfr.'s Type	AWG	Nominal Ins. Thickness	Nominal O.D.	U.L. Style	100′ Stock No.	100′ EACH	1000′ Stock No.	1000′ EACH
1805	30	.0050	.019″ (.48mm)	1516	**708-770N**	**73.00**	**708Q771N**	**405.50**
1806	28	.0055	.024″ (.58mm)	1523	**708-772N**	**78.80**	**708Q773N**	**437.00**
1807	26	.0055	.027″ (.69mm)	1523	**708-774N**	**84.60**	**708Q775N**	**470.00**
1808	24	.0050	.030″ (.76mm)	1516	**708-776N**	**82.32**	**708Q777N**	**529.83**

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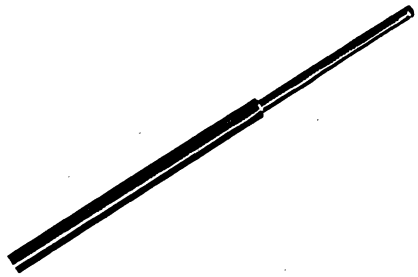
Kynar® Insulation for Wire Wrap UL1422, UL1423



Solid silver-plated, oxygen-free high conductivity (OFHC) copper conductor, extruded kynar (polyvinylidene fluoride) insulation. Extremely tough, high cut-through resistance. Self extinguishing, will not support combustion. Excellent ultra-violet and weathering resistance. Temperature rating through 125°C continuous (U.L. rated at 105°C). **Nominal wall thickness:** .005″. **Colors available:** 1 — white, 2 — black, 3 — red, 6 — blue. Insert 1, 2, 3, or 6 where N appears for desired color in Stock Number. Other colors available on special order.

Stock No.	Mfr.'s Type	AWG	Nom. Ins. Thick.	Nominal O.D.	PER 1000′
708-950N	5951	30	.0050	.020″ (.49mm)	**199.40**
708-951N	5952	28	.0055	.023″ (.58mm)	**192.17**
708-952N	5953	26	.0055	.026″ (.68mm)	**196.50**
708Q953N	5954	24	.0050	.030″ (.76mm)	**243.00**

® T.M. Pennwalt

18

Custom Cable/Connector Assemblies

The charts below provide the necessary information for specifying the cables/connectors to meet your requirements. The assemblies can be ordered with any of the cables and IDC connectors shown on these pages. Codes for the components are given below.

Example 1: A four-foot jumper assembly with gold 16-contact DIP connectors on each end.

Stock No.	Connector	Color-Coded Cable	Cable Length	Connector
942-XXXX	30-16	1-16	4′	30-16

The price is the cut length cable price plus 1.2 times the connector resale price, or $7.32

Example 2: A ten-foot length of 25 conductor shielded cable.

Stock No.	Description	EACH
942-3310	9-25/10	44.00

Stock No.*	Description (Gray)	Number of Cond.	Code	PER FOOT†
942-09XX	3580/9	9	0-9	0.41
942-10XX	3580/10	10	0-10	0.43
942-12XX	3580/14	14	0-14	0.59
942-08XX	3580/15	15	0-15	0.74
942-13XX	3580/16	16	0-16	0.74
942-14XX	3580/20	20	0-20	0.85
942-15XX	3580/24	24	0-24	1.02
942-16XX	3580/25	25	0-25	1.18
942-17XX	3580/26	26	0-26	1.11
942-18XX	3580/34	34	0-34	1.69
942-11XX	3580/37	37	0-37	1.69
942-19XX	3580/40	40	0-40	2.02
942-20XX	3580/50	50	0-50	2.12
942-35XX	3580/60	60	0-60	2.28
942-36XX	3580/64	64	0-64	2.67

* Insert footage where XX appears in the stock number.

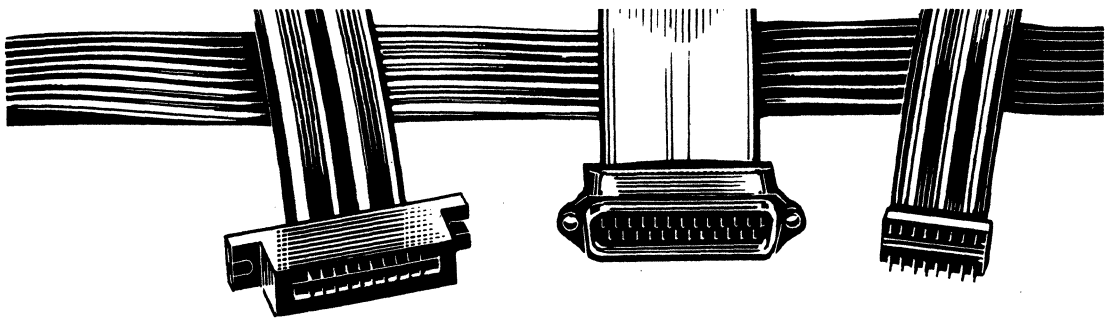
Stock No.*	Description (Color Coded)	Number of Cond.	Code	PER FOOT†
942-37XX	3583/9	9	1-9	0.47
942-21XX	3583/10	10	1-10	0.62
942-22XX	3583/14	14	1-14	0.84
942-38XX	3583/15	15	1-15	0.84
942-23XX	3583/16	16	1-16	0.95
942-24XX	3583/20	20	1-20	1.20
942-25XX	3583/24	24	1-24	1.43
942-26XX	3583/25	25	1-25	1.49
942-27XX	3583/26	26	1-26	1.55
942-28XX	3583/34	34	1-34	2.02
942-39XX	3583/37	37	1-37	2.02
942-29XX	3583/40	40	1-40	2.39
942-30XX	3583/50	50	1-50	2.85
942-40XX	3583/60	60	1-60	3.28
942-41XX	3583/64	64	1-64	3.61

† Contact the closest sales office for quantity pricing.

Jacketed Shielded Cable (2 drain wires)

Stock No.*	Description (Gray)	Number of Cond.	Code	PER FOOT
942-31XX	3590/9	9	9-9	2.69
942-32XX	3590/15	15	9-15	3.27
942-33XX	3590/25	25	9-25	4.40
942-34XX	3590/37	37	9-37	6.20

Flat Cable — 100′ Coils



See Table Above For Cut Lengths

Gray Flat Cable — UL2651

Stock No.	Mfr.'s Type	Number of Cond.	Overall Width	Per 100′ Coil 1-4	Per 100′ Coil 5-9
943-4041	3580/9	9	0.45″	37.57	34.56
943-1311	3580/10	10	0.50″	38.79	35.69
943-1312	3580/14	14	0.70″	54.26	49.92
943-4042	3580/15	15	0.75″	67.28	61.90
943-1314	3580/16	16	0.80″	61.95	56.99
943-1315	3580/20	20	1.00″	77.07	70.90
943-1316	3580/24	24	1.20″	93.00	85.56
943-1317	3580/25	25	1.25″	107.93	99.30
943-1318	3580/26	26	1.30″	100.78	92.72
943-1319	3580/34	34	1.70″	138.10	127.80
943-4043	3580/37	37	1.85″	151.62	139.49
943-1320	3580/40	40	2.00″	184.76	169.98
943-1321	3580/50	50	2.50″	193.62	178.13
943-4044	3580/60	60	3.00″	207.48	190.88
943-4045	3580/64	64	3.20″	243.90	224.39

Thermally Bonded Color-Coded UL20029

Stock No.	Mfr.'s Type	Number of Cond.	Overall Width	Per 100′ Coil 1-4	Per 100′ Coil 5-9
943-4046	3583/9	9	0.45″	39.18	36.05
943-1322	3583/10	10	0.50″	51.55	47.43
943-1323	3583/14	14	0.70″	76.10	70.02
943-4047	3583/15	15	0.75″	75.12	69.11
943-1324	3583/16	16	0.80″	86.95	79.99
943-1325	3583/20	20	1.00″	108.70	100.01
943-1326	3583/24	24	1.20″	130.46	120.02
943-1327	3583/25	25	1.25″	135.86	124.99
943-1328	3583/26	26	1.30″	141.29	129.99
943-1329	3583/34	34	1.70″	184.76	169.98
943-4048	3583/37	37	1.85″	184.37	169.62
943-1330	3583/40	40	2.00″	217.40	199.98
943-1331	3583/50	50	2.50″	259.81	239.03
943-4049	3583/60	60	3.00″	298.90	274.90
943-4050	3583/64	64	3.20″	328.82	302.82

Jacketed Shielded Cable (2 drain wires) — UL2912

Stock No.	Description (Gray)	Number of Cond.	Overall Width	Per 100′ Coil 1-4	Per 100′ Coil 5-9
943-1332	3590/9	9	0.52″	268.98	247.46
943-1333	3590/15	15	0.82″	326.83	300.69
943-1334	3590/25	25	1.32″	440.12	404.91
943-1335	3590/37	37	1.95″	620.22	570.60

Flat Cable—100' Coils
Gray Flat Cable—UL 2678

NEW

Description

► 30 AWG, solid copper conductors on 0.025" centers.

► Gray PVC insulation with red strips on leading edge.

► UL Recognized. Style 2678.

► Resists acids, alkalis, oil, moisture, solvents, ozone and fungus.

► Passes UL VW-1 Flame Test.

Application

► Easy termination to 0.025" IDC connectors.

► Low cost alternative to fluorcarbon transmission cables.

► For new generation of surface mounted connectors with reduced contact spacing.

Stock No.	Mfr.'s Type	No. of Cond.	Overall Length	PER 100' COIL	
				1-4	5-9
943-5051	3582/26	26	.65"	61.48	56.56
943-5052	3582/40	40	1.00"	94.48	86.92
943-5053	3582/50	50	1.25"	118.87	108.92
943-5054	3582/60	60	1.50"	141.62	130.29

Round-to-Flat Cable
0.050" Centers—UL 2651/20381

NEW

Description

► Mass terminated round cable.

► Flat cable on 0.50" centers.

► Supershield™ Aluminum/Polyester tape plus 90% tinned copper braid.

Application

► Specially designed for routing in cramped spaces where the mass termination capabilities of flat cable is required and the flexibility of round cable is needed.

Stock No.	Mfr.'s Type	No. of Cond.	Nom. Dia.	PER 100' COIL	
				1-4	5-9
943-5151	3585/25	25	.34"	148.33	136.46
943-5152	3585/26	26	.39"	154.27	141.74
943-5153	3585/40	40	.40"	198.94	183.06
943-5154	3585/50	50	.46"	231.60	213.07

Color-Coded Twist-To-Flat Cable
0.050" Centers—UL 20184

NEW

Description

► 28 AWG, 7/36 stranded tinned copper conductors, PVC insulation.

► 10 standard color repeat with tan as the common color in each pair.

► Overall cable thickness .037" mates with all 0.50" IDCs.

► High stability .007" laminated film is needed to increase dimensional stability.

► Twisted length 18", flat length 2".

► UL Recognized. Style 20184 (internal use only).

Application

► Ideal for situations where reduced crosstalk is necessary such as high speed data transmission in computers, cash registers, and communications equipment.

Stock No.	Mfr.'s Type	No. of Cond.	Overall Width	PER 100' COIL	
				1-4	5-9
943-5171	3586/26	26	1.30"	138.70	127.60
943-5172	3586/40	40	2.00"	201.02	184.94
943-5173	3586/50	50	2.50"	247.27	227.49
943-5174	3586/60	60	3.00"	296.69	272.96

Ground Plane Cable

Description

► 28 AWG 7/36 stranded tinned copper conductor.

► 28 AWG 7/36 stranded tinned copper single drain wire in contact with screen shield.

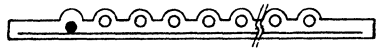
► Ground Plain .004" nom expanded copper mesh.

► Conductor on .050" centers.

Characteristics

► Temperature Rating: 105°C.

► Voltage Rating: 300 volts.



► Capacitance: 29 pF/ft.

► Impedance: 65 ohms nom.

► Conductor Resistance: 67.5 ohms per 1000 ft.

► Cross Talk: GSG to Screen at 3.5 ns rise time near end 6.5% for end 3.5%.

Applications

► For use where a measure of shielding is necessary for digital and signal transmission.

► To limit cross talk.

► For field termination of ground plane cable.

Stock No.	Mfr.'s Type	No. of Cond.	Overall Width	PER 100' COIL	
				1-4	5-9
940-1001	3584/9	9	.70"	66.67	61.34
940-1002	3584/10	10	.75"	66.67	61.34
940-1003	3584/14	14	.95"	83.34	76.67
940-1004	3584/15	15	1.00"	83.34	76.67
940-1005	3584/16	16	1.05"	91.66	84.33
940-1006	3584/20	20	1.25"	99.98	91.98
940-1007	3584/24	24	1.45"	116.67	107.33
940-1009	3584/26	26	1.55"	116.67	107.33
940-1011	3584/37	37	2.10"	158.33	145.67
940-1012	3584/40	40	2.25"	166.67	153.33
940-1013	3584/50	50	2.75"	174.98	160.98
940-1014	3584/60	60	3.25"	183.33	168.67

Unshielded Flat Cable
Gray—UL 2912

Description

► 28 AWG 7/36 stranded tinned copper conductor.

► Gray PVC jacket with red strips on the leading edge.

► Conductors on .050" centers.

Characteristics

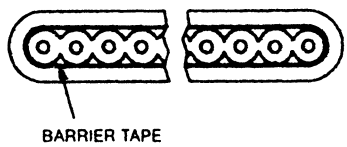
► Temperature Rating: 105°C.

► Voltage Rating: 150 volts.

► Capacitance: 18 pF/ft at 1 MHz.

► Impedance: 95 ohms nom.

► Passes ULVW-1 flame test.



Applications

► External interconnecting computer-to-peripheral such as printers VDTs and keyboards.

► Electronic equipment interconnects requiring low profile unobtrusive routing.

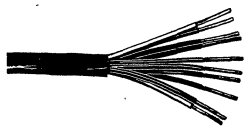
Stock No.	Mfr.'s Type	No. of Cond.	Overall Width	PER 100' COIL	
				1-4	5-9
940-1021	3589/9	9	.52"	58.34	53.67
940-1024	3589/15	15	.82"	74.98	68.98
940-1025	3589/16	16	.87"	74.98	68.98
940-1026	3589/20	20	1.07"	83.34	76.67
940-1027	3589/24	24	1.27"	108.34	99.67
940-1028	3589/25	25	1.32"	108.34	99.67
940-1029	3589/26	26	1.37"	108.34	99.67
940-1030	3589/34	34	1.77"	124.98	114.98
940-1031	3589/37	37	1.95"	124.98	114.98
940-1032	3589/40	40	2.07"	141.67	130.34
940-1034	3589/60	60	3.07"	191.67	176.34

Multiconductor 80°C PVC— 150 Volts UL2576 (Unshielded)

► **Conductor:** Stranded tinned copper. ► **Insulation:** Color-coded polyvinylchloride; conductors twisted. ► **Temperature Range:** – 20° to + 80°C. ► **Nominal Insulation Thickness:** .010". ► **Jacket Thickness:** .032". Gray PVC jacket.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	No. of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1172C	2	22	7/30	.164" (4.17 mm)	**708-5397**	2.0	**28.00**	**708-2079**	7.0	**58.54**	**708-5400**	12.0	**117.06**
1173C	3	22	7/30	.169" (4.29 mm)	**708-5398**	2.0	**36.40**	**708-2082**	8.0	**72.80**	**708-5402**	14.4	**145.60**
1174C	4	22	7/30	.194" (4.93 mm)	**708-5399**	3.0	**46.00**	**708-2085**	10.0	**97.85**	**708-5403**	18.6	**161.28**
1175C	5	22	7/30	.199" (5.05 mm)	**708-2087**	3.0	**47.60**	**708-2088**	12.0	**138.49**	**708-5404**	21.8	**237.40**
1176C	6	22	7/30	.209" (5.31 mm)	**708-5401**	3.0	**64.00**	**708-5410**	13.0	**169.60**	**708Q5411**	24.6	**339.19**
1177C	7	22	7/30	.214" (5.44 mm)	**708-7019**	3.0	**77.00**	**708-7020**	14.0	**192.40**	**708Q7021**	27.1	**320.34**
1178C	8	22	7/30	.224" (5.69 mm)	**708-7022**	4.0	**75.20**	**708-7023**	18.0	**188.00**	**708Q7024**	33.5	**352.98**
1179C	9	22	7/30	.249" (6.32 mm)	**708-7025**	4.0	**81.40**	**708-7026**	19.0	**218.00**	**708Q7027**	37.0	**435.83**
1180C	10	22	7/30	.259" (6.58 mm)	**708-5405**	5.0	**83.60**	**708-2121**	21.0	**253.00**	**708Q5412**	40.5	**505.83**
1181C	12	22	7/30	.279" (7.09 mm)	**708-5406**	5.0	**86.80**	**708Q2128**	25.0	**288.83**	**708Q5413**	48.5	**577.50**
1181/15C	15	22	7/30	.304" (7.72 mm)	**708-5407**	7.0	**133.00**	**708Q5414**	31.0	**442.83**	**708Q5415**	61.0	**859.32**
1181/20C	20	22	7/30	.324" (8.23 mm)	**708-5408**	9.0	**166.90**	**708Q5416**	41.0	**582.30**	**708Q5417**	80.0	**1164.60**
1181/25C	25	22	7/30	.364" (9.25 mm)	**708-5409**	10.0	**166.90**	**708Q5418**	50.0	**697.50**	**708Q5419**	98.0	**1396.80**
1181/40C	40	22	7/30	.439" (11.15 mm)	**708-5420**	15.0	**287.00**	**708Q5421**	76.0	**1148.00**	**708Q5422**	150.0	**2208.60**

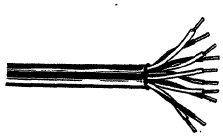
Multiconductor 80°C PVC— 300 Volts UL2509 (Unshielded)



► **Conductor:** Tinned copper; color-coded PVC insulation .016". Gray PVC jacket.
► **Temperature Range:** – 20°C to + 80°C.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	No. of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1895C	2	20	10/30	.180" (4.57 mm)	**708-0902**	2.0	**37.40**	**708-0903**	8.6	**74.80**	**708-0904**	17.0	**165.80**
1896C	3	20	10/30	.190" (4.83 mm)	**708-0905**	3.0	**56.40**	**708-0906**	11.3	**152.78**	**708-0907**	22.0	**255.82**
1896/4C	4	20	10/30	.215" (5.46 mm)	**708-7028**	3.0	**35.08**	**708-7029**	13.5	**128.42**	**708-7030**	26.0	**211.68**
1896/64C	6	20	10/30	.255" (6.48 mm)	**708-8185**	5.0	**74.50**	**708Q8186**	21.0	**135.00**	**708Q8187**	40.0	**250.73**
1896/8C	8	20	10/30	.270" (6.86 mm)	**708-8188**	6.0	**87.60**	**708Q8189**	6.0	**247.13**	**708Q8190**	50.0	**468.69**
1896/12C	12	20	10/30	.350" (8.89 mm)	**708-8191**	10.0	**125.50**	**708Q8192**	46.5	**367.49**	**708Q8193**	90.0	**616.93**
1897C	2	18	16/30	.200" (5.08 mm)	**708-6250**	3.0	**130.00**	**708-2221**	12.5	**435.67**	**708-2222**	24.0	**804.31**
1898C	3	18	16/30	.210" (5.33 mm)	**708-7031**	3.0	**59.00**	**708-7032**	15.0	**121.24**	**708-7033**	29.0	**236.00**
1898/4C	4	18	16/30	.240" (6.10 mm)	**708-2365**	4.0	**59.34**	**708-2367**	17.5	**210.00**	**708Q2368**	34.0	**350.00**
1898/6C	6	18	16/30	.290" (7.37 mm)	**708-8195**	5.0	**105.60**	**708Q8196**	22.0	**348.30**	**708Q8197**	43.0	**544.28**
1898/7C	7	18	16/30	.290"(7.37mm)	**708-8204**	10.0	**85.73**	**708Q8205**	43.0	**334.17**	—	—	—
1898/8C	8	18	16/30	.315" (8.00 mm)	**708-8198**	6.0	**132.60**	**708Q8199**	27.0	**467.59**	**708Q8200**	53.0	**1097.00**
1898/12C	12	18	16/30	.385" (9.78 mm)	**708-7034**	8.0	**225.20**	**708Q7035**	38.0	**750.00**	**708Q7036**	75.0	**1384.62**
1898/15C	15	18	16/30	.445" (11.30 mm)	**708-6256**	19.0	**214.27**	**708Q6257**	92.0	**901.80**	**708Q6258**	183.0	**1803.60**
1899C	2	16	26/30	.225" (5.72 mm)	**708-2283**	4.0	**47.72**	**708-2284**	15.4	**187.50**	**708Q2285**	30.0	**281.16**
1899/3C	3	16	26/30	.245" (6.22 mm)	**708-8201**	5.0	**125.00**	**708Q8202**	21.5	**424.50**	**708Q8203**	42.0	**829.67**

Multi-Pair 80°C PVC 150 Volts UL2576 and *UL2464 (Unshielded)

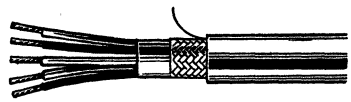


► **Conductor:** Stranded tinned copper. Color-coded polyvinylchloride insulation, .010". Conductors twisted into pairs. Gray PVC jacket.
► **Temp. Range:** – 20°C to + 80°C. 150 volts.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	No. of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1317C	2	22	7/30	.239" (6.07 mm)	**708-7001**	3.0	**54.00**	**708-7002**	11.0	**134.80**	**708Q7003**	20.0	**224.67**
1318C	3	22	7/30	.252" (6.40 mm)	**708-7004**	3.0	**77.00**	**708-7005**	13.0	**192.20**	**708Q7006**	24.0	**320.34**
1319C	4	22	7/30	.274" (6.96 mm)	**708-8148**	4.0	**77.80**	**708Q8149**	17.0	**236.18**	**708Q8150**	32.0	**431.67**
1320C	5	22	7/30	.304" (7.72 mm)	**708-8151**	5.0	**81.00**	**708Q8152**	22.0	**294.18**	**708Q8153**	42.0	**539.34**
1323C	9	22	7/30	.370(9.25mm)	**708Q8169**	8.0	**103.35**	**708Q8211**	35.0	**415.03**	**708Q8212**	70.0	**830.07**
1325C	12	22	7/30	.410(10.46mm)	**708Q8213**	5.0	**146.82**	**708Q8214**	21.0	**572.12**	**708Q8215**	70.0	**1056.19**
1131*C	1	18	16/30	.222" (5.64 mm)	**708-8154**	4.0	**51.00**	**708-8155**	17.0	**127.40**	**708Q8156**	34.0	**201.40**
1132*C	2	18	16/30	.347" (8.82 mm)	**708-8157**	7.0	**73.40**	**708Q8158**	33.0	**222.00**	**708Q8159**	68.0	**407.00**
1133*C	3	18	16/30	.356" (9.04 mm)	**708-8160**	8.0	**105.40**	**708Q8161**	36.0	**351.00**	**708Q8162**	74.0	**648.00**
1134*C	4	18	16/30	.412" (10.46 mm)	**708-8163**	10.0	**117.00**	**708Q8164**	46.0	**351.00**	**708Q8165**	94.0	**719.85**
1135*C	5	18	16/30	.469" (11.91 mm)	**708-8166**	11.0	**187.50**	**708Q8167**	55.0	**488.46**	**708Q8168**	109.0	**956.77**

*UL2464—Nominal Insulation thickness .016", 300 volts.

Foil Shielded Multiconductor 150 Volts



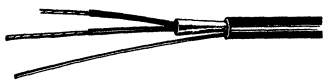
► **ULVW-1, UL 2576, 100% Coverage.** ► **Conductor:** Stranded tinned copper. ► **Insulation:** Color coded PVC. ► **Shield:** Aluminum/polyester tape. ► **Drain Wire:** Tinned copper. ► **Jacket:** Gray PVC. ► **Operating Temperature Range:** + 80°C.

Multiconductor, Foil Shielded—24 AWG

Mfr.'s Type	No. of Cond.	Nom. Jacket Thickness	Nom. O.D.	100′			500′			1000′		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1212C	2	.032	0.16	**708-0100**	2.0	**44.00**	**708-0101**	6.0	**110.00**	**708-0102**	11.0	**182.00**
1213C	3	.032	0.17	**708-0103**	2.0	**58.00**	**708-0104**	7.0	**145.00**	**708-0105**	13.0	**241.00**
1214C	4	.032	0.18	**708-0106**	2.0	**62.00**	**708-0107**	9.0	**154.00**	**708-0108**	16.0	**256.00**
1215C	5	.032	0.18	**708-0109**	2.0	**68.00**	**708-0110**	10.0	**185.00**	**708Q0111**	18.0	**308.00**
1216C	6	.032	0.20	**708-0112**	3.0	**70.00**	**708-0113**	11.0	**204.00**	**708Q0114**	20.0	**340.00**
1217C	7	.032	0.20	**708-0115**	3.0	**72.00**	**708-0116**	12.0	**214.00**	**708Q0117**	22.0	**371.00**
1218C	8	.032	0.21	**708-0118**	3.0	**75.00**	**708Q0119**	14.0	**226.00**	**708Q0120**	27.0	**381.00**
1219C	9	.032	0.22	**708-0121**	3.0	**80.00**	**708Q0122**	16.0	**236.00**	**708Q0123**	30.0	**410.00**
1219/10C	10	.032	0.23	**708-0124**	4.0	**86.00**	**708Q0125**	17.0	**248.00**	**708Q0126**	32.0	**439.00**
1219/12C	12	.032	0.27	**708-0127**	4.0	**88.00**	**708Q0128**	20.0	**293.00**	**708Q0129**	38.0	**541.00**
1219/15C	15	.032	0.28	**708-0130**	5.0	**101.00**	**708Q0131**	24.0	**343.00**	**708Q0132**	48.0	**635.00**
1219/20C	20	.032	0.30	**708-0133**	7.0	**139.00**	**708Q0134**	32.0	**456.00**	**708Q0135**	62.0	**887.00**
1219/25C	25	.032	0.33	**708-0136**	8.0	**167.00**	**708Q0137**	39.0	**566.00**	**708Q0138**	75.0	**1053.00**
Multiconductor, Foil Shielded—22 AWG												
1292C	2	.032	0.17	**708-0139**	2.0	**45.00**	**708-0140**	8.0	**113.00**	**708-0141**	14.0	**188.00**
1293C	3	.032	0.18	**708-0142**	2.0	**62.00**	**708-0143**	9.0	**154.00**	**708-0144**	15.0	**256.00**
1294C	4	.032	0.19	**708-0145**	3.0	**70.00**	**708-0146**	11.0	**168.00**	**708Q0147**	21.0	**309.00**
1295C	5	.032	0.20	**708-0148**	3.0	**72.00**	**708-0149**	13.0	**191.00**	**708Q0150**	24.0	**350.00**
1296C	6	.032	0.22	**708-0151**	3.0	**74.00**	**708-0152**	14.0	**214.00**	**708Q0153**	27.0	**392.00**
1297C	7	.032	0.22	**708-0154**	3.0	**77.00**	**708Q0155**	15.0	**234.00**	**708Q0156**	30.0	**428.00**
1298C	8	.032	0.23	**708-0157**	4.0	**86.00**	**708Q0158**	19.0	**248.00**	**708Q0159**	36.0	**476.00**
1299C	9	.032	0.25	**708-0160**	4.0	**88.00**	**708Q0161**	20.0	**258.00**	**708Q0162**	39.0	**499.00**
1299/10C	10	.032	0.26	**708-0163**	5.0	**90.00**	**708Q0164**	22.0	**278.00**	**708Q0165**	43.0	**555.00**
1299/12C	12	.032	0.28	**708-0166**	6.0	**101.00**	**708Q0167**	26.0	**311.00**	**708Q0168**	51.0	**578.00**
1299/15C	15	.032	0.31	**708-0169**	7.0	**157.00**	**708Q0170**	32.0	**468.00**	**708Q0171**	63.0	**894.00**
1299/20C	20	.032	0.33	**708-0172**	9.0	**190.00**	**708Q0173**	42.0	**598.00**	**708Q0174**	82.0	**1197.00**
1299/25C	25	.032	0.36	**708Q0175**	11.0	**230.00**	**708Q0176**	51.0	**724.00**	**708Q0177**	100.0	**1448.00**

Multiconductor Foil Shield 300 Volts

UL2092, 2093, 2094



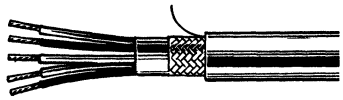
► **Conductor:** Stranded tinned copper. ► **Insulation:** Color coded polyethylene .016″. ► **Conductor:** Cabled. ► **Shield:** Wrapped mylar supported aluminum foil. ► **Shield coverage:** 100%. ► **Jacket:** Gray polyvinylchloride. ► **Operating Temperature Range:** + 80°C (UL + 60°C).

Mfr.'s Type	No. of Cond.*	Cond.		Cond. Color Code**	Nom. O.D.	100′			500′			1000′		
		AWG	Strand			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2460C	2	22	Solid	1,2	.135″	**708-6352**	2.0	**46.00**	**708-6353**	8.0	**91.00**	**708-6354**	15.0	**183.00**
2461C†	2	22	7/30	1,2	.135″	**708-6358**	2.0	**50.00**	**708-6357**	8.0	**99.00**	**708-6355**	15.0	**198.00**
2401C	2	22	7/30	1,3	.170″	**708-8004**	3.0	**48.00**	**708-8005**	11.0	**118.00**	**708-8006**	22.0	**198.00**
2402C	2	22	7/30	1,2	.170″	**708-6350**	2.0	**60.00**	**708-6349**	9.0	**155.00**	**708-6348**	17.0	**273.00**
2403C	3	22	7/30	1,2,3	.185″	**708-8007**	3.0	**51.00**	**708-8008**	11.0	**150.00**	**708-8009**	21.0	**245.00**
2404C	4	22	7/30	1,2,3,4	.210″	**708-8010**	3.0	**61.00**	**708Q8011**	13.0	**202.00**	**708Q8012**	24.0	**337.00**
2411C	2	20	10/30	1,3	.186″	**708-8013**	3.0	**53.00**	**708-8014**	13.0	**133.00**	**708-8015**	25.0	**236.00**
2412C	2	20	10/30	1,2	.186″	**708-8016**	3.0	**47.00**	**708-8017**	11.0	**118.00**	**708-8018**	20.0	**236.00**
2413C	3	20	10/30	1,2,3	.205″	**708-8019**	4.0	**59.00**	**708-8020**	15.0	**147.00**	**708Q8021**	29.0	**294.00**
2414C	4	20	10/30	1,2,3,4	.225″	**708-8022**	5.0	**104.00**	**708Q8023**	20.0	**377.00**	**708Q8024**	38.0	**592.00**
2421C	2	18	16/30	1,3	.210″	**708-8025**	4.0	**56.00**	**708-8026**	18.0	**141.00**	**708-8027**	35.0	**234.00**
2422C	2	18	16/30	1,2	.210″	**708-8028**	4.0	**72.00**	**708-8029**	16.0	**217.00**	**708Q8030**	30.0	**397.00**
2423C	3	18	16/30	1,2,3,4	.230″	**708-6359**	5.0	**62.00**	**708-6360**	20.0	**204.00**	**708Q6361**	38.0	**340.00**
2424C	4	18	16/30	1,2,3,4	.255″	**708-8031**	5.0	**129.00**	**708Q8032**	24.0	**433.00**	**708Q8033**	47.0	**741.00**
2432C	2	16	26/30	1,2	.245″	**708-8034**	5.0	**80.00**	**708Q8035**	21.0	**289.00**	**708Q8036**	40.0	**530.00**
2433C	3	16	26/30	1,2,3	.270″	**708-6362**	6.0	**83.00**	**708Q6363**	26.0	**296.00**	**708Q6364**	51.0	**552.00**

* 2 cond. — UL2092, 3 cond. — UL2093, 4 cond. — UL2094, except for 2460C and 2461C. † 2461 has a miniature foil shield, polypropylene insulation .008″, + 105°C, 200V, is not U.L. listed. ** Color Codes: 1-Black; 2-Red; 3-Clear; 4-Green;.

Multiconductor Shielded 350 Volts

UL1007, CSA TR-64



► **Conductor:** stranded tinned copper. ► **Insulation:** Color coded polyvinylchloride. ► **Shield:** .015″ Aluminum foil/mylar over conductors 2 and 3 with a stranded tinned copper drain wire for grounding. ► **Conductors:** 1 and 4 are paired. ► **Jacket:** Polyvinylchloride. ► **Operating Temperature Range:** + 80°C.

Mfr.'s Type	Conductor			Nominal O.D.	100′			500′			1000′		
	No. of Cond.	AWG GA	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2464C	4	22	7/30	.160″(4.10mm)	**708-6046**	2.3	**68.00**	**708-6047**	11.0	**167.00**	**708Q6048**	21.5	**309.00**
2465C	4	20	7/28	.233″(5.92mm)	**708-6043**	3.8	**76.00**	**708-6044**	18.8	**231.00**	**708Q6045**	35.5	**424.00**

Data, Communications and Control Cables

Multi-Conductor, Braided Shield, PE

Each conductor stranded, tinned copper. Color-coded polyethylene insulation .015". Cabled with fillers where necessary. Mylar wrap, braided tinned copper shield. Gray PVC jacket. – 20°C to + 80°C, 600V. Passes U.L. VW-1 flame test.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	Number of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1712C	2	20	26/34	.245" (6.22mm)	708-8120	5.0	114.40	708Q8121	17.8	416.00	708Q8122	35.0	704.00
1713C	3	20	26/34	.250" (6.35mm)	708-8123	5.6	114.40	708Q8124	22.5	416.00	708Q8125	44.0	704.00
1715C	4	20	26/34	.260" (6.60mm)	708-8126	5.8	117.60	708Q8127	26.8	427.45	708Q8128	52.5	723.38
1716C	5	20	26/34	.275" (6.99mm)	708-6040	7.0	76.20	708Q6041	30.7	218.40	708Q6042	60.5	345.82

Multi-Conductor, Braided Shield, UL1108, UL2095

Each conductor stranded tinned copper. Color-coded polyvinylchloride insulation. Braided copper shield. Gray polyvinylchloride jacket. Nom. jacket thickness, .020". **Temp. Range:** – 20°C to + 80°C. 300V. UL 1108 — 1 Conductor, UL2095 — multiconductor.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	Number of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1735C	1	22	7/30	.125" (3.18mm)	708-8130	2.0	76.20	708-8131	7.0	218.40	708Q8132	13.0	345.82
1736C	2	22	7/30	.185" (4.60mm)	708-7037	2.0	64.00	708-7038	10.0	194.00	708Q7039	19.0	355.67
1737C	3	22	7/30	.200" (5.08mm)	708-7040	3.0	63.60	708-7041	12.0	192.73	708Q7042	23.0	353.17
1738C	4	22	7/30	.210" (5.33mm)	708-7043	3.0	99.00	708Q7044	15.0	329.83	708Q7045	29.0	659.50
1745C	1	18	16/30	.145" (3.68mm)	708-8133	3.0	76.20	708Q8134	14.0	218.40	708Q8135	26.0	345.82
1746C	2	18	16/30	.235" (5.97mm)	708-7046	4.0	134.80	708Q7047	17.0	448.83	708Q7048	32.0	828.46
1747C	3	18	16/30	.245" (6.22mm)	708-8136	4.0	189.60	708Q8137	20.0	631.67	708Q8138	38.0	1166.15

Multi-Conductor, Braided Shield, MIL-W-16788D Type B/N

Conductor: Stranded, tinned copper. Color-coded polyvinylchloride insulation; conductors cabled; braided tinned copper shield, 90% coverage. Clear nylon jacket .003" and gray PVC jacket (**3221:** .016"; **3232:** .019"). – 55°C to + 105°C. 600V.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	Number of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3221C	2	22	19/34	.168" (4.27mm)	708-7208	3.0	88.20	708Q7209	13.0	293.84	708Q7210	26.0	587.50
3232C	3	20	19/32	.196" (4.98mm)	708-7211	4.0	123.40	708Q7212	17.0	412.00	708Q7213	32.0	773.88

Multi-Conductor, Braided Shield — Rubber

Each conductor stranded tinned copper. Color-coded rubber insulation cable with fillers where necessary. Clear polyester wrap. Braided tinned copper shield. Black rubber jacket. 60°C rubber. 600 volts. **Insulation:** 0.020". **Jacket:** 0.035".

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	Number of Cond.	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1250C	2	20	26/34	.260" (6.60mm)	708-7007	5.0	123.80	708Q7008	23.0	412.33	708Q7009	44.0	761.08
1251C	3	20	26/34	.275" (6.99mm)	708-8140	6.0	122.40	708Q8141	27.0	407.83	708Q8142	52.0	752.77

Multi-Pair, Individually Foil Shielded, UL2493

60°C PP/PVC 300V. Nominal Ins. Thickness at 22 AWG, .010"; at 18 AWG, .016". Each conductor tinned copper. Color-coded high density polyethylene insulation. Conductors twisted into pairs. Mylar supported aluminum foil shield, aluminum facing inward. Stranded tinned copper drain wire for each pair. Polypropylene Gray polyvinylchloride jacket. **Temp. Range:** – 40°C to + 60°C. U.L. Style 2493. Passes U.L. VW-1 flame test.

Mfr.'s Type	Conductor			Nominal O.D.	100'			500'			1000'		
	Number of Pairs	AWG	Strand		Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
6010C	3	22	7/30	.315" (8.00mm)	708-8001	5.3	76.44	708Q8002	26.0	245.00	708Q8003	48.0	491.83
6012C	6	22	7/30	.390" (9.91mm)	708-8712	9.5	187.50	708Q8713	46.0	448.57	708Q8714	88.0	897.15
6014C	9	22	7/30	.460" (11.65mm)	708-8703	14.0	219.64	708Q8704	65.0	805.00	708Q8705	125.0	1596.34
6016C	11	22	7/30	.480" (12.09mm)	708-8100	16.0	260.73	708Q8101	73.0	955.50	708Q8102	140.0	1804.68
6017C	12	22	7/30	.486" (12.43mm)	708-8103	17.0	279.10	708Q8104	79.0	961.52	708Q8105	152.1	1922.35
6018C	15	22	7/30	.565" (14.35mm)	708-8706	20.5	316.83	708Q8707	97.0	1192.32	708Q8709	188.0	2341.44
6019C	17	22	7/30	.615" (15.62mm)	708Q8711	25.0	376.83	708Q8715	117.5	1422.10	708Q8717	228.1	2260.13
6022C	27	22	7/30	.730" (18.54mm)	708Q8718	44.0	596.33	708Q8719	211.0	2243.88	708Q8721	415.0	3894.28
6023C*	3	18	16/30	.385" (9.78mm)	708-8722	8.2	130.00	708Q8723	40.5	433.34	708Q8724	80.0	800.00
6024C*	6	18	16/30	.565" (14.35mm)	708-8725	16.8	220.83	708Q8726	83.5	830.77	708Q8727	166.0	1568.36
6025C*	9	18	16/30	.660" (16.76mm)	708Q8106	33.8	337.09	708Q8107	168.0	1167.48	708Q8108	335.0	2332.90
6026C*	12	18	16/30	.725" (18.42mm)	708Q8728	33.5	436.17	708Q8729	116.0	1609.24	708Q8730	325.0	3109.14
6027C*	15	18	16/30	.800" (20.32mm)	708Q8731	40.5	541.67	708Q8732	200.0	1937.52	708Q8733	399.0	3875.04
6032C	2	20	10/30	.310" (8.0mm)	708Q8734	6.0	81.00	708Q8735	25.0	245.46	708Q8736	58.0	449.83
6033C	3	20	10/30	.340" (8.6mm)	708Q8737	7.0	94.00	708Q8738	33.0	341.82	708Q8739	68.0	626.50
6036C	6	20	10/30	.430" (10.9mm)	708Q8740	26.0	174.00	708Q8741	64.0	696.00	708Q8742	124.0	1177.69
6072C	2	22	Solid	.420" (10.6mm)	708Q8743	6.0	125.40	708Q8744	29.0	455.46	708Q8745	56.0	834.83
6073C	3	24	7/32	.370" (9.4mm)	708Q8746	7.0	84.60	708Q8747	28.0	333.82	708Q8748	66.0	612.50
6076C	6	24	7/32	.480" (12.2mm)	708Q8749	10.0	131.40	708Q8750	49.0	638.00	708Q8751	95.0	1177.69

* Suggested Voltage Rating: 400 Volts.

Multi-Pair, Individually Foil Shielded, UL2464 CSA Certified

Each conductor stranded tinned copper. Color-coded .016" nominal polyvinylchloride insulation. Conductors twisted into pairs. Tinned copper drain wire for each pair. Mylar-supported aluminum foil shield; aluminum facing inward. Gray polyvinylchloride jacket. 80°C PVC, 300 volts. Passes U.L. VW-1 flame test.

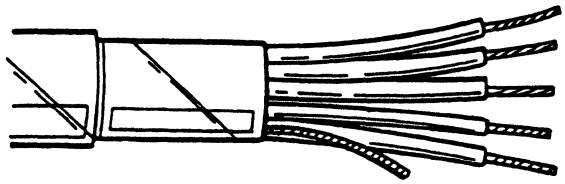
6052C	2	22	7/30	.316" (8.03mm)	708-8110	5.0	85.40	708Q8111	23.0	258.73	708Q8112	47.0	474.33
6053C	3	22	7/30	.331" (8.41mm)	708-8113	7.0	92.00	708Q8114	29.0	334.19	708Q8115	60.0	612.50
6054C	4	22	7/30	.360" (9.14mm)	708-7013	8.0	123.00	708Q7014	37.0	446.73	708Q7015	72.0	819.00
6056C	6	22	7/30	.431" (10.95mm)	708-8116	12.0	193.20	708Q8117	54.0	644.00	708Q8118	108.0	1206.82
6059C	9	22	7/30	.500" (12.7mm)	708-8220	16.0	283.60	708Q8221	80.0	915.39	708Q8222	147.0	1620.00

Multi-Pair, Individually Shielded, 105°C — 400V

Each conductor tinned copper. Common stranded 24 AWG (.061mm) tinned copper drain wire. Color coded high density polypropylene insulation, 0.008" thick. **Conductor AWG:** 22. Gray PVC jacket. Pairs cabled on common axis to reduce diameter.

Mfr.'s Type	Number of Pairs	O.D.	100'			500'			1000'		
			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
2466C	2	.165	708-6365	3.0	63.60	708-6366	11.0	194.70	708-6367	22.0	268.09

Multi-Conductor Foil Shielded Plenum Rated



- UL Subject 13
- UL Classified for Plenum Applications without Conduit
- NEC 725-38(b), UL-listed as Class 2 Power Limited Circuit Cable Type CL2P
- Passes Steiner Tunnel Test (Low Smoke and Flame Generation)
- Passes UL Flame Test

Voltage rating: 150V. **Jacket thickness:** 0.015″.

Stock No.	Mfr.'s Type	Conductors			Outside Diameter (Inches)	Wt. 1000′ Lbs.	PER 1000′ SPOOL
		No. of Pairs	AWG	Strand			
708Q8850	58401	2	24	7/32	0.017	17.00	**283.27**
708Q8851	58110/25	25	24	7/32	0.017	94.00	**1255.14**
708Q8852	58411	2	22	7/30	0.017	24.00	**286.27**
708Q8853	58113	3	22	7/30	0.017	15.00	**613.54**
708Q8854	58114	4	22	7/30	0.017	33.00	**756.31**
708Q8855	58116	6	22	7/30	0.017	42.00	**989.69**
708Q8858	58119	9	22	7/30	0.017	35.00	**710.46**
708Q8859	58120	10	22	7/30	0.017	64.00	**781.71**
708Q8860	58120/12	12	22	7/30	0.017	45.00	**863.71**
708Q8861	58120/15	15	22	7/30	0.017	84.00	**1067.86**
708Q8862	58120/25	25	22	7/30	0.017	124.00	**1528.27**
708Q8863	58421	2	20	7/28	0.017	30.00	**346.33**
708Q8864	58124	4	20	7/28	0.017	26.00	**521.85**
708Q8865	58126	6	20	7/28	0.017	26.00	**688.31**
708Q8866	58131	2	18	7/26	0.017	58.00	**432.10**
708Q8867	58133	3	18	7/26	0.017	28.00	**572.94**
708Q8868	58134	4	18	7/26	0.017	58.00	**624.62**
708Q8869	58136	6	18	7/26	0.017	43.00	**664.00**
708Q8870	58142	2	16	7/0.0152	0.017	31.00	**772.07**
708Q8871	58144	4	16	7/0.0152	0.017	51.00	**779.14**

Multipair, Overall, Foil Shielded

Mid-Capacitance Cables (18-20 pf/ft)

- UL Subject 13, PLCC Type CL2P
- NEC 725-2 (b)
- Passes Stainer Tunnel Test (Low Smoke and Flame Generation)

Plenum-rated for use without a conduit. typical applications include RS-422, RS-423 and RS-232 computer data cables, (use low-capacitance cables for extended distances) mainframes to terminals, CRT to control interfaces and other low voltage systems.

Stock No.	Mfr.'s Type	Conductors			Outside Diameter (Inches)	Wt. 1000′ Lbs.	PER 1000′ SPOOL
		No. of Pairs	AWG	Strand			
708Q8882	58802	2	24	7/32	0.17	42	**515.17**
708Q8883	58803	3	24	7/32	0.18	22	**683.54**
708Q8884	58804	4	24	7/32	0.20	27	**705.08**
708Q8885	58806	6	24	7/32	0.23	37	**906.57**
708Q8886	58809	9	24	7/32	0.27	50	**1103.60**
708Q8887	58812	12½	24	7/32	0.30	66	**1553.29**

Low-Capacitance Cables (12.5-15 pf/ft)

708Q8888	58902	2	24	7/32	0.20	23	**595.08**
708Q8889	58903	3	24	7/32	0.21	29	**709.43**
708Q8890	58904	4	24	7/32	0.23	38	**863.71**
708Q8891	58906	6	24	7/32	0.26	49	**1079.00**
708Q8892	58909	9	24	7/32	0.31	68	**1551.87**
708Q8893	58912	21/2	24	7/32	0.36	96	**1929.48**

Multipair Individually Foil Shielded

1000 Ft. Put-Ups

*These cables also have an overall aluminum foil shield, plus a tinned copper drain wire.

Product Description

- Conductors: stranded tinned copper
- Insulation: color coded FEP-Teflon® .007″ thickness
- Shield: Each pair shielded with aluminum/polyester foil plus a tinned copper drain wire.
- Jacket: Fluorocopolymer
- Maximum Operating Temperature: 125°C

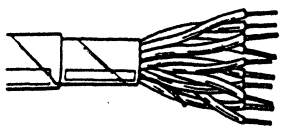
Applicable Specifications

- UL Subject 13, Type CL2P
- NEC 725-38(b)3, UL Listed as Class 2 Power Limited Circuit Cable

Product Characteristics

- Plenum rated for use without conduit
- Passes Steiner Tunnel Test (low smoke and flame generation)
- Excellent weatherability and aging characteristics
- Outstanding resistance to moisture

Passes UL 910 Flame Test
Underwriters Laboratories Inc.

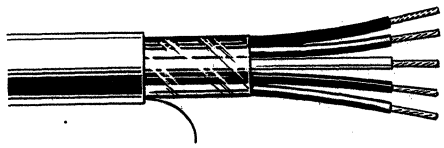


Typical Applications

- Remote control
- Intercom systems
- Burglar alarm systems
- Signaling and power limited circuits
- Cash registers
- Other low voltage systems

Stock No.	Mfr.'s Type	Conductors			Outside Diameter (Inches)	Wt. 1000′ Lbs.	PER 1000′ SPOOL
		No. of Pairs	AWG	Strand			
708Q8872	58602	2	24	7/32	0.170	19	**443.33**
708Q8873	58603	3	24	7/32	0.180	26	**592.33**
708Q8874	58604	4	22	7/30	0.200	33	**736.31**
708Q8875	58612*	2	22	7/30	0.200	33	**490.92**
708Q8876	58613*	3	22	7/30	0.210	42	**707.57**
708Q8877	58616*	6	22	7/30	0.270	71	**1155.14**
708Q8878	58632*	2	18	7/0.0152	0.260	55	**871.29**
708Q8879	58633	3	18	7/0.0152	0.270	70	**1165.86**
708Q8880	58642	2	16	7/0.0192	0.300	58	**918.57**
708Q8881	58643	3	16	7/0.0192	0.320	112	**1219.73**

XTRA•GUARD® 1 — General Purpose/Indoor Applications



► Conductor: Fully annealed, stranded tin coated copper per ASTM B-33. ► Conductor Styles: UL 1015; CSA AWM PVC. ► Insulation: Color coded: 105°C polyvinylchloride. ► Core Wrap: Clear polyester (25% overlap, typical). Nylon rip cord for ease of jacket stripping. ► Cable Styles: UL 2501; CSA AWM PVC 105°C. ► Operating Temperature Range: −20 to +105°C (UL, CSA 105°C). Passes UL VW-1 flame test. ► Jacket: Premium polyvinylchloride in gray, black, or sand beige; stocked in gray

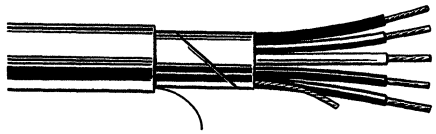
Multi-Conductor, Unshielded, 300 V

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Thickness	100′			500′		
						Stock No.	Wt. Lb.	EACH	Stock No.	Wt. Lb.	EACH
5012C	2	24	7/32	.16″	.010″	708-0910	1.2	60.00	708Q0911	6.0	291.00
5013C	3	24	7/32	.17″	.010″	708-0913	1.5	68.00	708Q0914	7.5	308.00
5014C	4	24	7/32	.19″	.010″	708-0916	1.7	75.00	708Q0917	8.5	366.00
5016C	6	24	7/32	.21″	.010″	708-0919	2.3	93.00	708Q0920	11.5	458.00
5018C	8	24	7/32	.23″	.010″	708-0922	2.8	113.00	708Q0923	14.0	516.00
5020C	10	24	7/32	.24″	.010″	708-0925	3.3	131.00	708Q0926	16.5	641.00
5020/15C	15	24	7/32	.28″	.010″	708Q0928	4.5	188.00	708Q0929	22.5	853.00
5020/20C	20	24	7/32	.31″	.010″	708Q0931	5.7	246.00	708Q0932	28.5	1076.00
5020/25C	25	24	7/32	.34″	.010″	708Q0934	6.8	298.00	708Q0935	34.0	1338.00
5002C	2	22	7/30	.17″	.010″	708-0937	1.4	60.00	708Q0938	7.0	291.00
5003C	3	22	7/30	.19″	.010″	708-0940	1.8	73.00	708Q0941	9.0	358.00
5004C	4	22	7/30	.20″	.010″	708-0943	2.2	90.00	708Q0944	11.0	441.00
5006C	6	22	7/30	.23″	.010″	708-0946	3.0	101.00	708Q0947	15.0	491.00
5008C	8	22	7/30	.25″	.010″	708-0949	3.7	128.00	708Q0950	18.5	569.00
5010C	10	22	7/30	.27″	.010″	708-6400	4.4	147.00	708Q6401	22.0	646.00
5010/15C	15	22	7/30	.31″	.010″	708Q0955	6.1	220.00	708Q0956	30.5	984.00
5010/20C	20	22	7/30	.35″	.010″	708Q0958	7.7	280.00	708Q0959	38.5	1150.00
5010/25C	25	22	7/30	.38″	.010″	708Q6405	9.4	343.00	708Q6406	47.0	1400.00
5052C	2	20	10/30	.21″	.017″	708-0964	2.0	68.00	708Q0965	10.0	308.00
5053C	3	20	10/30	.23″	.017″	708-0967	2.7	99.00	708Q0968	13.5	392.00
5054C	4	20	10/30	.25″	.017″	708-0970	3.3	116.00	708Q0971	16.5	467.00
5056C	6	20	10/30	.29″	.017″	708-0973	4.5	158.00	708Q0974	22.5	642.00
5058C	8	20	10/30	.32″	.017″	708-0976	5.6	175.00	708Q0977	28.0	700.00
5060C	10	20	10/30	.35″	.017″	708-0979	6.7	186.00	708Q0980	33.5	830.00
5060/15C	15	20	10/30	.40″	.017″	708Q0982	9.5	283.00	708Q0983	47.5	1135.00
5060/20C	20	20	10/30	.45″	.017″	708Q0985	12.1	353.00	708Q0986	60.5	1457.00
5060/25C	25	20	10/30	.49″	.017″	708Q0988	14.8	441.00	708Q0989	74.0	1821.00
5062C	2	18	16/30	.23″	.017″	708-0991	2.6	94.00	708Q0992	13.0	367.00
5063C	3	18	16/30	.26″	.017″	708-0994	3.5	118.00	708Q0995	17.5	483.00
5064C	4	18	16/30	.28″	.017″	708-0997	4.3	148.00	708Q0998	21.5	590.00
5066C	6	18	16/30	.32″	.017″	708-1000	6.0	185.00	708Q1001	30.0	738.00
5068C	8	18	16/30	.36″	.017″	708Q1003	7.6	232.00	708Q1004	38.0	930.00
5070C	10	18	16/30	.39″	.017″	708Q1006	9.2	250.00	708Q1007	46.0	1095.00
5070/15C	15	18	16/30	.45″	.017″	708Q1009	13.1	365.00	708Q1010	65.5	1514.00
5070/20C	20	18	16/30	.51″	.017″	708Q1012	16.9	481.00	708Q1013	84.5	1989.00
5070/25C	25	18	16/30	.56″	.017″	708Q1015	20.7	587.00	708Q1016	103.5	2450.00
5072C	2	16	26/30	.26″	.017″	708-1018	3.5	118.00	708Q1019	17.5	483.00
5073C	3	16	26/30	.29″	.017″	708-1021	4.8	157.00	708Q1022	24.0	650.00
5074C	4	16	26/30	.32″	.017″	708-1024	6.0	198.00	708Q1025	30.0	738.00
5076C	6	16	26/30	.37″	.017″	708-1027	8.4	250.00	708Q1028	42.0	985.00
5078C	8	16	26/30	.41″	.017″	708Q6480	10.8	293.00	708Q6481	54.0	1207.00
5080C	10	16	26/30	.44″	.017″	708Q1033	13.1	405.00	708Q1034	65.5	1664.00

Multi-Conductor, Unshielded, 600 V

5404C	4	22	7/30	.38″	.032″	708-1035	6.4	158.00	708Q1036	32.0	633.00
5405C	5	22	7/30	.41″	.032″	708-1038	7.3	176.00	708Q1039	36.5	653.00
5407C	7	22	7/30	.45″	.032″	708-1041	9.0	198.00	708Q1042	45.0	823.00
5414C	4	20	10/30	.40″	.032″	708-1044	7.0	176.00	708Q1045	35.0	653.00
5415C	5	20	10/30	.42″	.032″	708-1047	8.1	187.00	708Q1048	40.5	769.00
5417C	7	20	10/30	.47″	.032″	708-1050	10.1	234.00	708Q1051	50.5	946.00
5424C	4	18	16/30	.42″	.032″	708-1053	8.4	198.00	708Q1054	42.0	823.00
5425C	5	18	16/30	.45″	.032″	708-1056	9.7	230.00	708Q1057	48.5	907.00
5427C	7	18	16/30	.45″	.032″	708Q1059	12.3	298.00	708Q1060	61.5	1107.00
5434C	4	16	26/30	.46″	.032″	708Q6463	10.4	230.00	708Q6464	52.0	957.00
5435C	5	16	26/30	.49″	.032″	708Q1161	12.2	275.00	708Q1162	61.0	1114.00
5437C	7	16	26/30	.55″	.032″	708Q6466	15.7	353.00	708Q6467	78.5	1569.00

XTRA•GUARD® Cables



► Conductor: Fully annealed, stranded tin coated copper per ASTM B-33.► Conductor Styles: 24 and 22 AWG—UL 1061, CSA AWM SR-PVC; 20, 18 and 16 AWG—UL 1007, CSA AWM PVC; 24 and 22 AWG—UL Type CL2, AWM 2464, CSA AWM SR-PVC; 20, 18 and 16 AWG—UL Type CL2, AWM 2464, CSA AWM PVC. ► Insulation: Color coded, 80°C premium polyvinylchloride. ► Shield: Aluminum/polyester (25% overlap, typical), foil facing in plus stranded, tinned copper drain wire equal in size to insulated conductors of cable. Nylon rip cord for ease of jacket stripping. ► Operating Temperature Range: −20°C to +80°C (AWM, 75°C—CL2). ► Jacket: Premium polyvinylchloride in gray, black, or sand beige; stocked in gray. ► Cable Styles: 24 and 22 AWG—UL2464, CSA AWM PVC SR-PVC; 20, 18 and 16 AWG—UL2464, CSA AWM PVC.

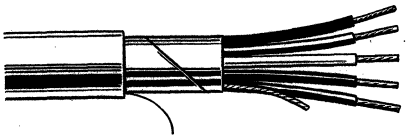
Multi-Conductor, Foil Shielded, 300 V

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Thickness	100'			500'		
						Stock No.	Wt. Lb.	EACH	Stock No.	Wt. Lb.	EACH
5092C	2	24	7/32	0.16″	.010″	708-1062	1.3	90.00	708Q1063	6.5	367.00
5093C	3	24	7/32	0.18″	.010″	708-1065	1.6	106.00	708Q1066	8.0	425.00
5094C	4	24	7/32	0.19″	.010″	708-1068	1.9	116.00	708Q1069	9.5	467.00
5096C	6	24	7/32	0.21″	.010″	708-1071	2.4	134.00	708Q1072	12.0	572.00
5098C	8	24	7/32	0.23″	.010″	708-1074	2.9	158.00	708Q1075	14.5	642.00
5100C	10	24	7/32	0.25″	.010″	708-1077	3.4	178.00	708Q1078	17.0	700.00
5100/15C	15	24	7/32	0.28″	.010″	708Q1080	4.7	232.00	708Q1081	23.5	930.00
5100/20C	20	24	7/32	0.31″	.010″	708Q1083	5.8	291.00	708Q1084	29.0	1154.00
5100/25C	25	24	7/32	0.34″	.010″	708Q1086	7.0	345.00	708Q1087	5.0	1415.00
5192C	2	22	7/30	0.17″	.010″	708-1089	1.7	94.00	708Q1090	8.5	409.00
5193C	3	22	7/30	0.19″	.010″	708-1092	2.1	108.00	708Q1093	10.5	481.00
5194C	4	22	7/30	0.21″	.010″	708-1095	2.5	124.00	708Q1096	12.5	536.00
5196C	6	22	7/30	0.23″	.010″	708-1098	3.2	148.00	708Q1099	16.0	654.00
5198C	8	22	7/30	0.26″	.010″	708-1101	3.9	168.00	708Q1102	19.5	693.00
5199/10C	10	22	7/30	0.28″	.010″	708-1104	4.6	204.00	708Q1105	23.0	881.00
5199/15C	15	22	7/30	0.32″	.010″	708Q1107	6.3	278.00	708Q1108	31.5	1142.00
5199/20C	20	22	7/30	0.35″	.010″	708Q1110	8.0	321.00	708Q1111	40.0	1433.00
5199/25C	25	22	7/30	0.38″	.010″	708Q1113	9.6	360.00	708Q1114	48.0	1650.00
5462C	2	20	10/30	0.21″	.010″	708-1116	2.4	106.00	708Q1117	12.0	425.00
5463C	3	20	10/30	0.24″	.017″	708-1119	3.0	118.00	708Q1120	15.0	483.00
5464C	4	20	10/30	0.26″	.017″	708-1122	3.6	142.00	708Q1123	18.0	567.00
5466C	6	20	10/30	0.29″	.017″	708-1125	4.8	176.00	708Q1126	24.0	700.00
5468C	8	20	10/30	0.32″	.017″	708-1128	5.9	208.00	708Q1129	29.5	850.00
5470C	10	20	10/30	0.35″	.017″	708-1131	7.1	224.00	708Q1132	30.5	931.00
5470/15C	15	20	10/30	0.41″	.017″	708Q1134	9.8	318.00	708Q1135	49.0	1293.00
5470/20C	20	20	10/30	0.46″	.017″	708Q1137	12.5	371.00	708Q1138	62.5	1529.00
5470/25C	25	20	10/30	0.50″	.017″	708Q1140	15.1	457.00	708Q1141	75.5	1738.00
5382C	2	18	16/30	0.23″	.017″	708-1143	3.1	116.00	708Q1144	15.5	467.00
5383C	3	18	16/30	0.26″	.017″	708-1146	4.0	144.00	708Q1147	20.0	591.00
5384C	4	18	16/30	0.29″	.017″	708-1149	4.9	164.00	708Q1150	24.5	675.00
5386C	6	18	16/30	0.33″	.017″	708-1152	6.5	216.00	708Q1153	32.5	833.00
5388C	8	18	16/30	0.36″	.017″	708Q1155	8.1	243.00	708Q1156	40.5	1015.00
5390C	10	18	16/30	0.39″	.017″	708-1158	9.7	294.00	708Q1159	48.5	1492.00

Multipair, Foil Shielded, 300 V

5491C	1	24	7/32	0.16″	.010″	708-0202	1.4	90.00	708Q0203	7.0	367.00
5492C	2	24	7/32	0.16″	.010″	708-0204	2.0	116.00	708Q0205	10.0	467.00
5493C	3	24	7/32	0.16″	.010″	708-0206	2.6	144.00	708Q0207	13.0	592.00
5494C	4	24	7/32	0.25″	.010″	708-0208	3.1	164.00	708Q0209	15.5	675.00
5495C	5	24	7/32	0.27″	.010″	708-0210	3.6	194.00	708Q0211	18.0	792.00
5496C	6	24	7/32	0.29″	.010″	708-0212	4.1	216.00	708Q0213	20.5	815.00
5499C	9	24	7/32	0.34″	.010″	708Q0214	5.6	270.00	708Q0215	28.0	1107.00
5499/11C	11	24	7/32	0.36″	.010″	708Q0216	6.5	316.00	708Q0217	32.5	1292.00
5499/15C	15	24	7/32	0.40″	.010″	708Q0218	8.4	383.00	708Q0219	42.0	1550.00
5499/19C	19	24	7/32	0.44″	.010″	708Q0220	10.2	467.00	708Q0221	51.0	1914.00
5481C	1	22	7/30	0.18″	.010″	708-0222	1.7	94.00	708Q0223	8.5	367.00
5482C	2	22	7/30	0.23″	.010″	708-0224	2.6	124.00	708Q0225	13.0	508.00
5483C	3	22	7/30	0.25″	.010″	708-0226	3.4	158.00	708Q0227	17.0	642.00
5484C	4	22	7/30	0.28″	.010″	708-0228	4.1	186.00	708Q0229	20.5	741.00
5485C	5	22	7/30	0.31″	.010″	708-0230	4.8	214.00	708Q0231	24.0	866.00
5486C	6	22	7/30	0.33″	.010″	708-0232	5.5	240.00	708Q0233	27.5	983.00
5489C	9	22	7/30	0.38″	.010″	708-0234	7.6	305.00	708Q0235	38.0	1238.00
5489/11C	11	22	7/30	0.41″	.010″	708Q0236	8.9	326.00	708Q0237	44.5	1462.00
5489/15C	15	22	7/30	0.46″	.010″	708Q0238	11.5	433.00	708Q0239	57.5	1779.00
5489/19C	19	22	7/30	0.50″	.010″	708Q0240	14.1	532.00	708Q0241	70.5	2186.00

Multi-Conductor, Foil Shielded, 600 V

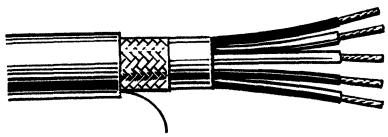


► **Conductor:** Fully annealed, stranded tin coated copper per ASTM B-33. ► **Insulation:** Color-coded, 105°C polyvinylchloride. ► **Shield:** Aluminum/polyester (25% overlap, typical), foil facing in plus stranded, tinned copper drain wire equal in size to insulated conductors of cable. Nylon rip cord for ease of jacket stripping. ► **Conductor Styles:** UL 1015, CSA AWM PVC. ► **Cable Styles:** UL 2501, CSA AWM PVC 105°C. **Passes** ULVW1 flame test. ► **Operating Temperature Range:** – 20°C to + 105°C (UL CSA 105°C). ► **Jacket:** Premium polyvinylchloride in gray, black, or sand beige; stocked in gray.

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Thickness	100′			500′		
						Stock No.	Wt. Lb.	EACH	Stock No.	Wt. Lb.	EACH
5410/4	4	22	7/30	.39″	.032″	**708-1164**	6.6	**121.67**	**708Q1165**	33.0	**785.71**
5410/5	5	22	7/30	.41″	.032″	**708-1167**	7.5	**141.67**	**708Q1168**	37.5	**942.86**
5410/7	7	22	7/30	.46″	.032″	**708-1170**	9.3	**169.69**	**708Q1171**	46.5	**1128.57**
5420/4	4	20	10/30	.40″	.032″	**708-1173**	7.4	**121.67**	**708Q1174**	37.0	**957.14**
5420/5	5	20	10/30	.43″	.032″	**708-1176**	8.4	**188.34**	**708Q1177**	42.0	**1228.86**
5420/7	7	20	10/30	.47″	.032″	**708-1179**	10.5	**203.34**	**708Q1180**	52.5	**1342.86**
5430/4	4	18	16/30	.43″	.032″	**708-1182**	8.9	**168.34**	**708Q1183**	44.5	**1128.57**
5430/5	5	18	16/30	.46″	.032″	**708-1185**	10.2	**201.67**	**708Q1186**	51.0	**1314.29**
5430/7	7	18	16/30	.51″	.032″	**708Q1188**	12.9	**255.00**	**708Q1189**	64.5	**1701.05**
5440/4	4	16	26/30	.46″	.032″	**708Q1191**	11.3	**266.67**	**708Q1192**	56.5	**1742.86**
5440/5	5	16	26/30	.52″	.032″	**708Q1194**	13.1	**256.67**	**708Q1195**	65.5	**1706.93**
5440/7	7	16	26/30	.59″	.032″	**708Q1197**	16.6	**323.33**	**708Q1198**	83.0	**2053.34**

Multi-Conductor, SUPRASHIELD™, 300 V + 600 V

► **Conductors:** Fully annealed, stranded tin coated copper per ASTM B-33. ► **Insulations:** Color-coded, 80°C (105°C in 600 V) polyvinylchloride. ► **Foil/Braid Combination:** Triple laminate tape, aluminum/polypropylene/aluminum bonded in one Layer, 25% overlap, overall 70% coverage tinned copper braid shield. Provides maximum shielding effectiveness for applications required to meet: FCC Docket 20780, TEMPEST, MIL-STD-461, MIL-STD-462B. ► **Conductor Styles:** 24 and 22 AWG — UL 1061, CSA AWM SR-PVC; 20, 18 and 16 AWG — UL 1007, CSA AWM PVC; 600 V — UL 1015, CSA AWM PVC. ► **Cable Styles:** 24 and 22 AWG — UL 2464, CSA AWM SR-PVC; 20, 18 and 16 AWG — UL 2464, CSA AWM PVC; 600 V — UL 2501, CSA AWM PVC 105°C. ► **Operating Temperature Range:** – 20°C to + 80°C (to 105°C in 600 V) (UL CSA 80°C; 105°C). ► **Jacket:** Premium polyvinylchloride in gray, black, or sand beige; stocked in gray.



300 Volt Types

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Thick.	100′		500′	
						Stock No.	EACH	Stock No.	EACH
5112C	2	24	7/32	.18″	.010″	**708-1200**	**122.00**	**708Q1201**	**491.00**
5113C	3	24	7/32	.20″	.010″	**708-1203**	**148.00**	**708Q1204**	**550.00**
5114C	4	24	7/32	.21″	.010″	**708-1206**	**158.00**	**708Q1207**	**617.00**
5116C	6	24	7/32	.23″	.010″	**708-1209**	**176.00**	**708Q1210**	**717.00**
5118C	8	24	7/32	.25″	.010″	**708-1212**	**212.00**	**708Q1213**	**833.00**
5120C	10	24	7/32	.27″	.010″	**708-1215**	**238.00**	**708Q1216**	**942.00**
5120/15C	15	24	7/32	.31″	.010″	**708Q1218**	**295.00**	**708Q1219**	**1193.00**
5120/20C	20	24	7/32	.34″	.010″	**708Q1221**	**363.00**	**708Q1222**	**1485.00**
5120/25C	25	24	7/32	.36″	.010″	**708Q1224**	**431.00**	**708Q1225**	**1629.00**
5102C	2	22	7/30	.20″	.010″	**708-9761**	**130.00**	**708Q6500**	**525.00**
5103C	3	22	7/30	.21″	.010″	**708-9762**	**154.00**	**708Q6502**	**617.00**
5104C	4	22	7/30	.23″	.010″	**708-9763**	**164.00**	**708Q6504**	**675.00**
5106C	6	22	7/30	.26″	.010″	**708-9764**	**198.00**	**708Q6506**	**748.00**
5108C	8	22	7/30	.28″	.010″	**708-9765**	**232.00**	**708Q6508**	**831.00**
5110C	10	22	7/30	.30″	.010″	**708-9766**	**270.00**	**708Q6510**	**969.00**
5110/15C	15	22	7/30	.34″	.010″	**708Q9767**	**364.00**	**708Q6512**	**1346.00**
5110/20C	20	22	7/30	.37″	.010″	**708Q9768**	**426.00**	**708Q6514**	**1615.00**
5110/25C	25	22	7/30	40″	.010″	**708Q9769**	**502.00**	**708Q6516**	**1900.00**
5152C	2	20	10/30	.23″	.017″	**708-1227**	**160.00**	**708Q1228**	**641.00**
5153C	3	20	10/30	.26″	.017″	**708-1230**	**172.00**	**708Q1231**	**700.00**

Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Thick.	100′		500′	
						Stock No.	EACH	Stock No.	EACH
5154C	4	20	10/30	.28″	.017″	**708-1233**	**198.00**	**708Q1234**	**775.00**
5156C	6	20	10/30	.32″	.017″	**708-1236**	**246.00**	**708Q1237**	**857.14**
5158C	8	20	10/30	.35″	.017″	**708-1239**	**286.00**	**708Q1240**	**992.00**
5160C	10	20	10/30	.37″	.017″	**708-1242**	**338.00**	**708Q1243**	**1165.00**
5160/15C	15	20	10/30	.43″	.017″	**708Q1245**	**478.00**	**708Q1246**	**1621.00**
5160/20C	20	20	10/30	.48″	.017″	**708Q1248**	**553.00**	**708Q1249**	**2050.00**
5160/25C	25	20	10/30	.52″	.017″	**708Q1251**	**613.00**	**708Q1252**	**2731.00**
5162C	2	18	16/30	.25″	.017″	**708-1254**	**170.00**	**708Q1255**	**683.00**
5163C	3	18	16/30	.28″	.017″	**708-6415**	**195.00**	**708Q6416**	**738.00**
5164C	4	18	16/30	.31″	.017″	**708-1260**	**205.00**	**708Q1261**	**760.00**
5166C	6	18	16/30	.35″	.017″	**708-1263**	**245.00**	**708Q1264**	**1100.00**
5168C	8	18	16/30	.38″	.017″	**708Q1266**	**360.00**	**708Q1267**	**1243.00**
5170C	10	18	16/30	.41″	.017″	**708Q1269**	**407.27**	**708Q1270**	**1535.00**
5172C	2	16	26/30	.28″	.017″	**708-1272**	**204.00**	**708Q1273**	**825.00**
5173C	3	16	26/30	.32″	.017″	**708-1275**	**252.00**	**708Q1276**	**923.00**
5174C	4	16	26/30	.34″	.017″	**708Q1278**	**292.00**	**708Q1279**	**1015.00**
5176C	6	16	26/30	.39″	.017″	**708Q1281**	**356.00**	**708Q1282**	**1336.00**
5178C	8	16	26/30	.43″	.017″	**708Q1284**	**452.00**	**708Q1285**	**1646.00**
5180C	10	16	26/30	.47″	.017″	**708Q6420**	**551.00**	**708Q6421**	**2269.00**
—	—	—	—	—	—	—	—	—	—

600 Volt Types

5504	4	22	7/30	.41″	.032″	**708Q1290**	**256.00**	**708Q1291**	**953.00**
5505	5	22	7/30	.44″	.032″	**708Q1293**	**290.00**	**708Q1294**	**1092.00**
5507	7	22	7/30	.48″	.032″	**708Q1296**	**307.00**	**708Q1297**	**1262.00**
5514	4	20	10/30	.42″	.032″	**708Q1299**	**290.00**	**708Q1300**	**1092.00**
5515	5	20	10/30	.45″	.032″	**708Q1302**	**315.00**	**708Q1303**	**1284.00**
5517	7	20	10/30	.50″	.032″	**708Q1305**	**367.00**	**708Q1306**	**1386.00**
5524	4	18	16/30	.45″	.032″	**708Q1308**	**334.00**	**708Q1309**	**1253.00**
5525	5	18	16/30	.48″	.032″	**708Q1311**	**392.00**	**708Q1312**	**1469.00**
5527	7	18	16/30	.53″	.032″	**708Q1314**	**478.00**	**708Q1315**	**1664.00**
5534	4	16	26/30	.49″	.032″	**708Q1317**	**380.00**	**708Q1318**	**1500.00**
5535	5	16	26/30	.52″	.032″	**708Q1320**	**445.00**	**708Q1321**	**1671.00**
5537	7	16	26/30	.58″	.032″	**708Q1323**	**505.00**	**708Q1324**	**2100.00**

Coaxial Cable

Polyethylene Dielectric Flexible RG-Type

Mfr.'s Type	RG Type	Ohms	Inner Conductor			Shield		Jacket		PER 100'		PER 500'		PER 1000'	
			Mat'l	Strand	AWG	Mat'l	% Coverage	Mat'l	O.D. "	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9804C	6/U	71	C	Solid	18	A/M plus TC Braid	100	Black V	.270	708-9102	57.60	708-9122	144.00	708-9142	261.64
9843*	6/U	75	C	Solid	18	A/M plus 4 TC DW	100	Black V	.242	708-9808	49.40	—	—	708-9809	224.55
9008††	8/U	52	C	7/21	13	C	97	Black V	.405	708-9818	86.80	708-9819	314.91	708Q9820	577.50
9008A†	8A/U	52	C	7/21	13	C	97	Black NCV	.405	708-9821	131.20	708Q9822	437.00	708Q9823	806.77
9847	11/U	75	C	Solid	14	C	81	Black PE	.405	708-9990	83.60	—	—	708Q9991	557.33
9011	11/U	75	TC	7/26	18	C	97	Black V	.405	708-9820	98.60	708Q9831	328.33	708Q9832	656.67
9011A	11A/U	75	TC	7/26	18	C	96	Black NCV	.405	708-9833	114.60	708Q9834	382.00	708Q9835	763.68
9848	58U	50	C	Solid	18	TC	93	Black V	.195	708-9992	66.60	—	—	708Q9993	301.82
9058X	58/U	53	C	Solid	20	TC	80	Black V	.195	708-9850	44.00	708-9851	120.83	708-9852	189.00
9058AC	58A/U	50	TC	19/0.0071	20	TC	95	Black V	.195	708-9853	54.40	708-9854	136.00	708-9855	247.27
9058C†	58C/U	50	TC	19/0.0071	20	TC	95	Black NCV	.195	708-9856	66.00	708-9857	165.00	708-9858	296.00
9803C	59/U	75	C	7/30	22	C	95	Black V	.242	708-9101	74.40	708Q9121	186.00	708Q9141	338.00
9830**	59/U	75	CW	Solid	22	C	80	Black V	.242	708-9994	47.60	708Q9995	118.80	708Q9996	215.82
9840**	59/U	80	CW	Solid	22	C	80	Black V	.242	708-9997	52.20	708Q9998	132.40	708Q9999	236.91
9059C	59/U	75	CW	Solid	22	C	95	Black V	.242	708-9859	47.60	708-9860	118.80	708-9861	215.82
9059B†	59B/U	75	CW	Solid	23	C	95	Black NCV	.242	708-9862	77.00	708-9863	192.20	708-9864	320.33
9845C	Dual 59B/U	75	CW	Solid	23	C	95	Black NCV	.242	708-9865	91.40	708-9866	304.50	708Q9867	562.15
9062AC	62A/U	93	CW	Solid	22	C	95	Black V	.242	708-9870	47.20	708Q9871	118.00	708-9872	214.55
9174	174/U	50	CW	7/34	26	TC	95	Black V	.100	708-9974	46.00	708-9975	115.00	708-9976	209.09
9213†	213/U	50	C	7/.0196	13	C	93	Black NCV	.412	708-9960	126.13	708Q9961	405.17	708Q9962	748.00
9214†	214/U	50	SC	7/.0296	13	2X, SC	97	Black NCV	.432	708Q9965	527.33	708Q9966	1976.86	708Q9967	3951.64
9223††	223/U	50	SC	Solid	19	2X, SC	97	Black NCV	.216	708-9970	260.00	708-9971	911.44	708Q9972	1544.22

* UL1354, †MIL-C-17D, ††JAN-C-17A, **UL1478. **Material Codes:** C—bare copper; TC—tinned copper; SC—silver covered copper; V—polyvinylchloride, type 1; NCV—non-contaminating polyvinylchloride, type 2; 2X—double shield; CW—copper covered steel (copperweld). A/M—Aluminum/Mylar Tape; O—Cellular (foam) polyethylene; ± 100% Sweep Test 5-300 MHz. **Note:** Type 9059 available in 6 colors, White, Black, Red, Green, Blue and Gray. Type 9062A available in 8 colors, White, Black, Red, Green, Yellow, Blue, Orange and Gray.

TFE Teflon® Dielectric Cable

Mfr.'s Type	RG Type	Ohms	Inner Conductor			Dielectric		Shield		Jacket		PER 100'	
			Mat'l	Strand	AWG	Mat'l	O.D. "	Mat'l	% Coverage	Mat'l	O.D. "	Stock No.	EACH
9178B†	178B/U	50	SCW	7/38	30	TFE	.036	SC	96	Nat'l FEP	.071	708-9930	121.60
9179B†	179B/U	75	SCW	7/38	30	TFE	.057	SC	93	Nat'l FEP	.100	708-9935	147.80
9180B†	180B/U	95	SCW	7/38	30	TFE	.102	SC	93	Nat'l FEP	.140	708Q9940	226.00
9187A	187A/U	75	SCW	7/38	30	TFE	.060	SC	93	Nat'l TFE	.105	708-9945	164.80
9188A	188A/U	50	SCW	7/.0067	25	TFE	.060	SC	93	Nat'l TFE	.106	708-9950	164.80
9196A	196A/U	53	SCW	7/38	30	TFE	.034	SC	95	Nat'l TFE	.076	708-9955	116.60

†Mil-C-17D. **Material Codes:** SCW—silver-coated copperweld; TFE—tetrafluoroethylene (teflon); SC—silver covered copper; FEP—fluorinated ethylene-propylene. Teflon is a registered trademark of Dupont.

100 Ohm Twin-Axial Cable—UL2498

Mfr.'s Type	Inner Conductor			Dielectric	Shield		Jacket		PER 100'		PER 500'		PER 1000'	
	Mat'l	Strand	AWG		Mat'l	% Coverage	Mat'l	O.D. "	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9817	1st cond.—C 2nd cond.—TC	7/34	20	PE	TC Braid	85	Black V	.330	708-9915	119.20	—	—	—	—
9818	1st cond.—C 2nd cond.—TC	7/34	20	PE	TC Braid	95	Black V	.330	708-9918	96.40	708-9919	321.17	708-Q9920	617.04

Data Cable

9814	1 pair TC	7/28	20	PE	A/M plus TC Braid & Drain	100	Blue PVC	.242	708-9900	74.40	708Q9901	225.27	708Q9902	413.00
9815*	1 pair TC	7/28	20	PE	TC Braid	93	Blue PVC	.242	708-9909	66.00	708-9910	190.08	708Q9911	322.02
9819**	2 pair TC	Solid	22	PE	A/M plus TC Braid	100	Black PVC	.290	708-9912	77.20	708-9913	231.09	708Q9914	423.50
9820	1 pair BC	Solid	16	FPE	A/M/A plus TC Braid	100	Black PVC	.440	708-9903	165.20	708Q9904	550.50	708Q9904	1016.15
9823	1 pair TC	19/34	22	FPE	A/M/A	100	Black PVC	.350	708-9926	91.20	708Q9927	331.27	708Q9928	607.33

Material Code: PE — Polyethylene; C — bare copper; TC — tinned copper; V — polyvinylchloride, type 1. * 9815 is 78 Ohm — UL2092; ** 9819 is 100 Ohm — UL 2582.

Microphone Cables

Extra Flexible Microphone Cables

Polyethylene insulation, stranded annealed copper conductors, high-density braided shield, PVC jacket with special compounds that allow use even in sub-zero environs. Provides superior rejection of hum, noise and radio interference. Specify color when ordering.

Single Pair

Stock No.	Mfr.'s Type	AWG	Strand	Insulation	Shield		Jacket*	Nom. Imped. Ω	PER 1000'
					Material	% Coverage			
708Q7082	1771	23	60/40	PE	TC	94%	PVC .040	88	563.69

***Jacket Colors:** Black, Blue, Orange, Red, or Yellow.

Star Quad-2 Pair

Stock No.	Mfr.'s Type	AWG	Strand	Insulation	Shield		Jacket*	Nom. Imped. Ω	PER 1000'
					Material	% Coverage			
708Q7085	1772	24	40/40	PE	TC	94%	PVC .044	44	563.69

***Jacket Colors:** Black, Blue, Brown, Gray, Green, Orange, Purple, Red, Yellow, White

Shielded Microphone Cable

60°C PE/PVC. Type 1703. Stranded tinned copper conductor. White polyethylene insulation. Braided tinned copper shield. Gray-polyvinylchloride jacket. **Suggested working voltage:** 3500V. Type 1703 is for high impedence microphones. Type 1710. Stranded tinned copper conductor. Color coded polyethylene insulation; Conductor 1, White and Conductor 2 is Black. Cabled with fillers. Wrap over conductors. Braided tinned copper shield. Black polyvinylchloride jacket. **Suggested working voltage:** 1000 Volts. Type 1710 is for low impedence applications.

Mfr.'s Type	No. of Cond.	Conductor		Nom. Ins. Thick.	†Nom. Cap. pF/Ft.	Nom. O.D.	PER 100'			PER 500'			PER 1000'		
		AWG	Strand				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
1703	1	24	10/34	.020"	35	.145"	708-7049	2.0	70.80	708-7050	8.0	187.50	708Q7051	14.0	295.00
1710	2	22	16/34	.025"	31	.230"	708-7052	4.0	76.60	708Q7053	16.0	278.00	708Q7054	31.0	509.67

†Between one conductor and remaining conductors connected to shield.

Types 1448/20 and 1448/18. Conductors: Stranded tinned Copper, color-coded rubber insulation, protective wrap over conductors, Braided tinned Copper shield, overall cotton separator tape, black rubber* or neoprene** jacket. **Types 1448/20 and 1448/18:** low impedence applications.

1448/20*	2	20	26/34	—	68	.260"	708-3606	11.0	108.60	708Q3607	25.0	361.83	708Q3608	48.0	723.50
1448/18**	2	18	41/34	—	78	.290"	708-3609	15.0	143.60	708Q3610	35.0	478.33	708Q3611	71.0	882.92

Precision Video Cable

Extra Flexible, 75 Ohms

Stock No.	Mfr.'s Type	RG	Inner Conductor			Dielectric		Shield		Jacket*		PER 1000'
			AWG	Strand	Mat'l	Mat'l	Dia.	Mat'l	Coverage	Mat'l	Dia.	
708Q9982	9259	59 B/U	24	7/32	BC	PE	.142	BC	95%	PVC	.240	**658.15**
708Q9983	9813	Video Coax	22	7/30	BC	PE	.193	BC	Inner @ 96%	PVC	.303	**963.57**

*** Jacket Colors:** Black, Blue, Green, or Red.

Indoor, 75 Ohms
(100% Sweep Test @ 5 to 300 MHz)

708Q9908	9807	Video Cable	20	Solid	BC	PE	.200	Double TC Braid	99%	PE	.304	**978.46**
708Q9895	9808	Video Cable	20	Solid	BC	PE	.200	Double TC Braid	98%	Clear PE	.304	**924.62**
708Q9896	9809	Video Cable	20	Solid	BC	PE	.200	Double TC Braid	99%	Gray NCV	.304	**1063.54**
708Q9897	9810	Video Cable	23	7/32	BC Compacted	PC	.146	A/M plus TC Braid	100%	Black NCV	.220	**596.92**

*** 9807 Jacket Colors:** Red, Green, Blue, Black.

Coaxial Cables — Trunk

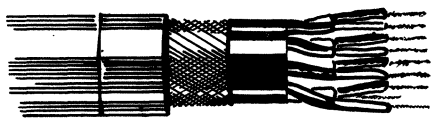
NEW

Mfr.'s Type	RG Type	Imp OHMS	Inner Conduction			Shield		Jacket		PER 100' SPOOL		PER 500' SPOOL		PER 1000' SPOOL	
			Mat'l	Strand	AWG	Mat'l	% Coverage	Mat'l	O.D. (")	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9804C	6/U	71	C	Solid	18	A/M + TC Braid	100	Black V	.270	**708-9102**	**57.60**	**708-9122**	**144.00**	**708Q9142**	**261.64**
9104	6/U Plenum	75	TC	Solid	18	A/M/A + TC Braid	100	Black FEP	.249	—	—	—	—	**708Q9143**	**1002.67**
9858	58C/U	50	TC	19/.0071	20	TC Braid	95	Black V	.195	**708-9104**	**74.60**	**708-9124**	**226.00**	**708Q9144**	**414.33**
9859	58C/U Plenum	50	TC	19/0.0071	20	A/M/A + TC Braid	95	Black FEP	.165	—	—	—	—	**708Q9145**	**445.28**
9851	Ethernet	50	TC	Solid	.0855	A/M + TC Braid + A/M/A + TC Braid	100	Yellow V	.405	**708-9106**	**221.82**	**708-9126**	**186.00**	—	**310.00**
9851C	Ethernet	50	TC	Solid	.0855	A/M + TC Braid + A/M/A + TC Braid	100	Yellow V	.405	**708-9107**	—	**708-9127**	**159.00**	**708Q9147**	**289.09**
9851F	Ethernet Plenum	50	C	Solid	.0855	A/M/A + TC Braid + A/MA + TC Braid	100	Orange V	.375	—	—	—	—	**708Q9148**	**2041.33**
9861	59 C/U DEC Thinware Ethernet	50	TC	19/32	20	A/M/A + TC Braid	95	Gray PVC	.182	—	—	**708-9129**	—	**708Q9149**	—
9888	Appletalk	78	TC	7/30	22	TC Braid	85	Beige PVC	.185	—	—	**708-9130**	—	**708Q9150**	—
9825C	11/U	75	CW	Solid	14	A/M/A + TC Braid	96	Blue V	.405	**708-9111**	**157.25**	**708-9131**	**576.67**	**708Q9151**	**988.43**

Material Code: C—bare copper; TC—tinned copper; CW—copper coated steel; FEP—fluorinated ethylene-propylene; A/M—aluminum polyester tape; A/M/A—aluminum/polyester/aluminum tape.

Multipair, Shielded, Transceiver/Drop UL AWM Style 2919 NEC Type CL2

NEW



Mfr.'s Type	Imp OHMS	No. of Pairs	Inner Conductor			Jacket		PER 100' SPOOL		PER 500' SPOOL		PER 1000' SPOOL	
			Mat'l	Strand	AWG	Mat'l	Shield	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9852C Ethernet	78	4	FPP, PVC	3 Pair 7/30, 1 Pair 7/28	22, 20	Gray, V	A/M + A/M/A + TC Braid	**708-9161**	**201.53**	**708-9171**	**625.00**	**708Q9181**	**1250.00**
9853C IEEE 802.3	78	4	FPP, PVC	3 Pair 7/28	20	Light Gray, V	A/M + A/M/A + TC Braid	**708-9162**	**227.20**	**708-9172**	**648.86**	**708Q9182**	**1211.07**
9854C	78	4	FPP, PVC	3 Pair 7/36, 1 Pair 7/34	28, 24	Gray, V	A/M + A/M/A + TC Braid	—	—	**708-9173**	**278.33**	**708Q9183**	**513.69**

Plenum Rated Coaxial Cables NEC725-38(B)3 CL2P

NEW

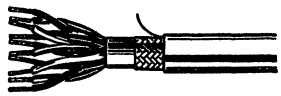
Mfr.'s Type	RG Type	IMP OHMS	Inner Conductor			Shield		Jacket		PER 100' SPOOL		PER 500' SPOOL		PER 1000' SPOOL	
			Mat'l	Strand	AWG	Mat'l	% Coverage	Mat'l	O.D. (")	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
9105	11/U	75	C	Solid	14	A/M + TC Braid	100	Black FEP	.375	—	—	—	—	**708-8832**	**2318.48**
9158	58 C/U	53	TC	19/0.0071	20	TC Braid	95	Natural FEP	.188	—	—	—	—	**708-8833**	**574.37**
9158S	58/U	53	C	Solid	20	TC Braid	95	Black FEP	.178	—	—	—	—	**708-8834**	**569.52**
9102	59/U	75	CW	Solid	20	A/M/A + TC Braid	100	Black FFEP	.218	—	—	—	—	**708-8835**	**647.08**
9159	59 B/U	75	CW	Solid	23	CBraid	97	Natural FEP	.215	—	—	—	—	**708-8836**	**696.00**
9101	Dual 59 B/U	75	CW	Solid	23	CBraid	95	Natural FEP	.230 × .435	—	—	—	—	**708-8837**	**1249.97**
9162	62 A/U	93	CW	Solid	22	CBraid	95	Natural FEP	.225	—	—	—	—	~~708-8838~~	~~466.77~~
9162F	62 A/U	93	CW	Solid	22	CBraid	95	White FEP	.225	—	—	—	—	**708-8839**	**435.19**

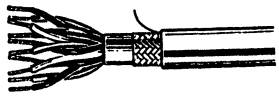
Material Code: C—bare copper; TC—tinned copper; CW—copper coated steel; FC—florocopolymer; A/M—aluminum tape; A/M/A—aluminum tape/mylar aluminum tape.

IBM Cabling System IEEE 802.5 MEC725-38(B)(1), UL Subject 13, Type CL2

Stock No.	Mfr.'s Type	Imp. OHMS	Pairs		Inner Conductor			Shield		Jacket		PER 1000' SPOOL
			Data	Voice	Mat'l	Strand	AWG	Mat'l	% Coverage	Mat'l	O.D. (")	
708Q9191	9310	150	2	—	C	Solid	22	Alum. foil tape each pair + overall TC Braid	65	Black PVC	.390	**415.39**
708Q9192	9311	150	2	—	C	Solid	22	Alum. foil tape each pair + overall TC Braid	65	Black Fluoropolymer	.370	**1201.73**
708Q9193	9320	150	2	4	C	Solid	22	2 Pair w/individual alum. tape + overall TC Braid	65	Black PVC	.465	**630.77**
708Q9194	9321	100	2	4	C	Solid	22	2 Pair w/individual alum. tape + overall TC Braid	65	Black Fluoropolymer	.430	**1453.34**
708Q9195	9360	150	2	—	C	7/A	26	Overall alum. + TC Braid	65	Black PVC Striated	.330	**507.69**
708Q9196	9390	150	2	—	C	Solid	26	Overall alum. + TC Braid	65	Black Fluoropolymer	.245	**757.14**

Multiconductor, SR-PVC, Suprashield™

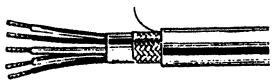


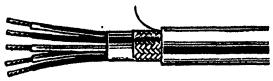


Mfr.'s Type	Number of Cond.	O.D.	100′			500′		
			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3463	3	.165	**708-1800**	4	**90.00**	**708-1801**	8	**250.00**
3464C	4	.178	**708-1803**	3	**86.22**	**708-1804**	11	**292.50**
3465C	5	.188	**708-1806**	3	**95.99**	**708Q1807**	11	**327.17**
3466C	6	.198	**708-1809**	3	**106.60**	**708Q1810**	11	**368.67**
3467C	7	.198	**708-1812**	3	**115.69**	**708Q1813**	11	**361.93**
3468C	8	.210	**708-1815**	3	**125.60**	**708Q1816**	14	**436.83**
3469C	9	.220	**708-1818**	3	**140.65**	**708Q1819**	15	**492.17**
3470C	10	.235	**708-1821**	4	**187.50**	**708Q1822**	17	**532.67**
3470/15C	15	.260	**708-1824**	8	**178.00**	**708Q1825**	26	**712.00**
3470/25C	25	.305	**708-1827**	7	**266.50**	**708Q1828**	29	**984.00**
3470/37C	37	.345	**708Q1830**	8	**363.00**	**708Q1813**	40	**1340.00**
3470/50C	50	.400	**708Q1833**	22	**451.83**	**708Q1834**	52	**1690.28**

Color coded semi-rigid PVC insulation, 0.010″ (0.25mm) thick. **Capacitance:** 3 to 5 Cond. — 28 pF/ft. (91.9 pF/m); 6 to 50 Cond — 26 pF/ft. (85.4 pF/m). Temperature range U.L., CSA 80°C. EIA RS-232. UL2464. Passes U.L. VW-1 flame test.

Multiconductor, Foam PP, Suprashield™





Mfr.'s Type	Number of Cond.	O.D.	100′			500′		
			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3483	3	.195	**708-1872**	2	**56.00**	**708-1873**	10	**140.20**
3484C	4	.210	**708-1875**	3	**66.40**	**708-1876**	12	**165.80**
3485C	5	.225	**708-1878**	3	**76.00**	**708-1879**	14	**189.50**
3486C	6	.235	**708-1881**	3	**63.00**	**708-1882**	14	**190.91**
3488C	8	.250	**708-1887**	8	**77.60**	**708-1888**	17	**234.34**
3490/25C	25	.385	**708-1899**	7	**195.40**	**708Q1900**	35	**650.83**

Color coded cellular (foam) polypropylene insulation, .016″ (0.41mm) thick. Shielded faces outward. **Capacitance:** 12 pF/ft. (39.4 pF/m). EIA RS-232, EIA-423, EIA-485. UL2919.

Multipair, Foam PP, Suprashield™

Mfr.'s Type	Number of Pairs	O.D.	100′			500′		
			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3492C	2	.260	**708-1905**	4	**94.75**	**708-1906**	16	**199.20**
3493C	3	.270	**708-1908**	5	**103.40**	**708-1909**	18	**274.33**
3494C	4	.290	**708-1911**	9	**99.85**	**708Q1912**	21	**345.67**
3495C	5	.300	**708-1914**	9	**116.60**	**708Q1915**	21	**405.00**
3496C	6	.330	**708-1917**	6	**140.80**	**708Q1918**	24	**469.00**
3500/12*C	12½	.415	**708-1929**	8	**208.33**	**708Q1930**	38	**833.00**

* 12 Pairs Plus 1 Conductor for 25 Contact D-Sub.

Color coded cellular (foam) polypropylene insulation, .016″ (0.41mm) thick. Shielded faces outward. **Capacitance:** 11 pF/ft. (36.0 pF/m). EIA RS-232, EIA-423, EIA-485. UL2919.

Multipair, PVC, Suprashield™

Mfr.'s Type	Number of Pairs	O.D.	100′			500′		
			Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3472C	2	.210	**708-1836**	6	**112.80**	**708Q1837**	14	**341.00**
3474C	4	.250	**708-1842**	8	**144.82**	**708Q1843**	19	**492.67**
3475C	5	.260	**708-1845**	8	**187.50**	**708Q1846**	19	**569.50**
3476C	6	.270	**708-1848**	9	**187.50**	**708Q1849**	21	**622.83**
3477C	7	.270	**708-1851**	10	**157.32**	**708Q1852**	22	**656.67**
3478C	8	.290	**708-1854**	5	**169.98**	**708Q1855**	24	**714.17**
3480C	10	.330	**708-1857**	6	**202.57**	**708Q1858**	29	**854.50**
3480/12C*	12½	.340	**708-1860**	7	**243.47**	**708Q1861**	31	**949.69**
3480/18C	18	.385	**708Q1866**	9	**344.50**	**708Q1867**	43	**1271.54**
3480/25C	25	.455	**708Q1869**	13	**435.83**	**708Q1870**	58	**1599.16**

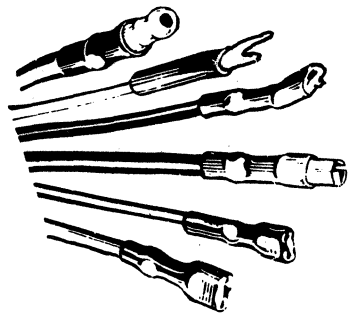
* 12 Pairs Plus 1 Conductor for 25 Contact D-Sub.

Color coded semi-rigid PVC insulation, 0.010″ (0.25mm) thick. **Capacitance:** 21 pF/ft. (69.0 pF/m). Temperature range U.L., CSA 80°C. EIA RS-232. UL2464. Passes U.L. VW-1 flame test.

FIT 221-Irradiated Polyolefin

UL Subject 224†, CSA Standard 198† MIL-I-23053/5A, AMS 3636 (Colors), AMS 3637 (Clear)
FIT-221 is the most widely used general purpose heat-shrinkable tubing. It is flexible, flame-retardent, self-extinguishing and fungus-proof. The tubing shrinks a minimum of 50% of supplied diameter at 121°C longitudinal shrinkage, ±3% (UL224). ► **Operating Temperatures:** −55°C to +135°C. ► **Tensile Strength:** 1800 psi nominal. ► **Colors Available:** 1-Black, 2-Red, 3-White, 4-Clear; yellow and blue are available by special order except in spooled lengths. Insert the color number where N appears in the stock number.

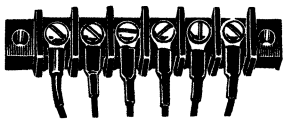
†UL and CSA require surface marking for identification. Material from stock is unmarked. If marking is required please specify when ordering.



Size (")	Min. Supplied I.D. (")	Max. Recovered I.D. (")	Wall Thickness (")	6-Inch Lengths			4-Foot Lengths			Spooled Lengths*		
				Stock No.	No. of Lengths	PER BOX	Stock No.	No. of Lengths	PER BOX	Stock No.	Put Up Length	PER SPOOL
3/64	.046	.023	.016	708-900N	40	12.89	708-901N	25	39.33	708-902N	1000′	333.14
1/16	.063	.031	.017	708-903N	36	12.89	708-904N	25	40.15	708-905N	1000′	340.06
3/32	.093	.046	.020	708-906N	32	12.89	708-907N	25	45.55	708-908N	500′	192.78
1/8	.125	.062	.020	708-909N	28	12.89	708-710N	25	40.44	708-711N	500′	190.80
3/16	.187	.093	.020	708-712N	24	12.89	708-713N	25	49.14	708-714N	500′	262.17
1/4	.250	.125	.025	708-715N	20	12.89	708-716N	25	62.20	708-717N	250′	155.52
3/8	.375	.187	.025	708-718N	16	12.89	708-719N	25	69.28	708-720N	200′	138.54
1/2	.500	.250	.025	708-921N	14	12.89	708-722N	5	15.58	708-723N	150′	111.42
3/4	.750	.375	.030	708-724N	12	12.89	708-725N	5	20.94	708-726N	250′	261.90
1	1.000	.500	.035	708-727N	8	12.89	708-728N	5	32.92	708-729N	250′	369.25
1 1/2	1.500	.750	.040	708-730N	5	12.89	708-731N	5	54.52	708-732N	125′	314.48
2	2.000	1.000	.045	708-734N	3	12.89	708-735N	5	75.30	708-736N	125′	470.68

*Black and Clear only.

FIT 221V—Highly Flame Retardant Polyolefin

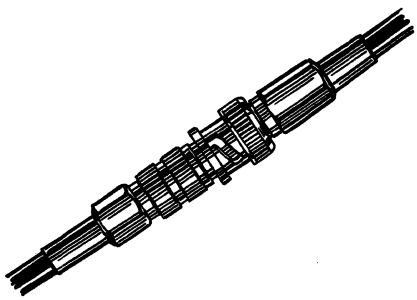


► **Flame Retardant: Passes UL VW-1 Flame Test** ► **UL Recognized and CSA Certified**
A radiation cross-linked polyolefin heat-shrinkable tubing designed for a wide range of applications requiring a highly flame retardant material. ► **Typical applications:** for use where UL recognition with VW-1 is needed; harness bundling; electrical insulation; cable jacketing; lightweight harmless jackets; terminal insulation; wire strain relief; general purpose component packaging. **Specifications.** ► **Color:** Black. ► **Operating Temperature:** −40°C to +125°C. **srt Shrinkage Ratio:** 2:1 at 121°C. ► **Tensile Strength:** 1800 psi, nom. ► **Longitudinal Shrinkage:** ±3% (UL224). ► **Dielectric Strength:** 500 V/mil. ► **Volume Resistivity:** 10^{14} ohm/cm. CSA Standard198. Fit-221V is surface marked in accordance with UL and CSA requirements.

Size (")	Min. Supplied I.D. (")	Max. Recovered I.D. (")	6" Lengths			4′ Lengths		
			Stock No.	Total Ft.	EACH	Stock No.	Total Ft.	EACH
3/64	.046	.023	708-4400	20	12.89	708-4415	100	39.33
1/16	.063	.031	708-4402	18	12.89	708-4418	100	40.15
3/32	.093	.046	708-4404	16	12.89	708-4421	100	45.55
1/8	.125	.062	708-4406	14	12.89	708-4424	100	48.18
3/16	.187	.093	708-4408	12	12.89	708-4427	100	58.50
1/4	.250	.125	708-4430	10	12.89	708-4442	100	74.05
3/8	.375	.187	708-4432	8	12.89	708-4445	100	78.31
1/2	.500	.250	708-4434	7	12.89	708-4448	20	18.55
3/4	.750	.375	708-4436	6	12.89	708-4451	20	24.93
1	1.000	.500	708-4438	4	12.89	708-4454	20	34.83

FIT® 221 VC- Clear Polyolefin

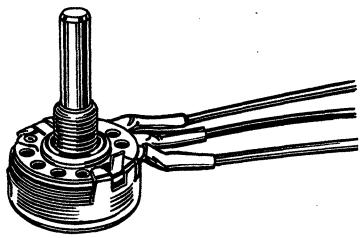
► **UL-VW-1, MIL-I-23053/17** ► **Passes UL VW-1 Flammability Test**
► **Shrink Temperature of 130°C** ► **Extremely Cost Effective**
Alpha's FIT VW-1 Clear is a heat shrinkable, clear polyolefin tubing designed for a wide range of applications that require transparent, flame retardant materials. FIT Clear contains no plasticizers and has a shrink temperature of 130°C. It is especially useful when the properties of KYNAR™ are not needed, providing a more cost efficient solution. FIT VW-1 Clear is available in a flexible thin wall version, which is ideal for those applications when space is at a premium and flexibility is required. FIT VW-1 Clear operates in a broad range of temperatures, from −55°C to +120°C. Passes UL VW-1 flammability test.



Size (")	Min. Supplied I.D. (")	Max. Recovered I.D. (")	Recovered Wall Thickness (Standard)	4-Foot Lengths			Spooled Lengths		
				Stock No.	No. of Lengths	PER BOX	Stock No.	Put Up Length	PER SPOOL
3/64	.046	.023	.016	708-9724	25	55.75	708Q9725	1000′	444.20
1/16	.063	.031	.017	708-9726	25	56.75	708Q9727	1000′	453.40
3/32	.093	.046	.020	708-9728	25	64.25	708Q9729	500′	285.78
1/8	.125	.062	.020	708-9730	25	68.00	708Q9731	500′	302.44
3/16	.187	.093	.020	708-9732	25	82.75	708Q9733	500′	367.11
1/4	.250	.125	.025	708-9734	25	104.75	708Q9735	200′	209.20
3/8	.375	.187	.025	708-9736	25	31.33	708Q9737	200′	—
1/2	.500	.250	.025	708-0738	5	28.28	708Q9739	200′	194.17
3/4	.750	.375	.030	708-9740	5	37.78	708Q9741	200′	492.40

FIT® 221 LT—Low Shrink Temperature Tubing

► **Low shrink temperature (90°C) to speed production time**
► **Passes UL VW-1 flammability test**
► **UL recognized**
► **CSA ceritified**
► **MIL-I-23053/5 Class 3**

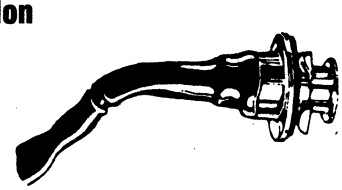


Fit 221LT incorporates the features of FIT 221 with the additional advantage of a 90°C recovery temperature that speeds production time with less potential damage to heat sensitive component insulation systems. Shrinks to 50% of supplied diameter. **Operating Temperature:** −55°C to +125°C. Passes the UL VW-1 flammability test. The thin wall version features extra flexibility and is recommended for application where space or weight is a major concern. Stocked in black. Also available from Alpha in white, red, yellow, and blue.

Size (")	Min. Supplied ID	Max. Recovered ID	Recovered Wall Thickness (Standard)	4-Foot Lengths			Spooled Lengths		
				Stock No.	No. of Lengths	PER BOX	Stock No.	Put Up Length	PER SPOOL
3/64	.046	.023	.016	708-9675	25	46.64	708Q9676	1000′	349.80
1/16	.063	.031	.017	708-9677	25	47.63	708Q9678	1000′	357.06
3/32	.093	.046	.020	708-9679	25	53.98	708Q9680	500′	229.42
1/8	.125	.062	.020	708-9681	25	57.13	708-9682	500′	242.86
3/16	.187	.093	.020	708-9683	25	69.37	708-9684	500′	294.83
1/4	.250	.125	.025	708-9685	25	87.83	708-9686	250′	219.54
3/8	.375	.187	.025	708-9687	25	97.82	708-9688	200′	195.71
1/2	.500	.250	.025	708-9689	5	24.76	708-9690	150′	165.59
3/4	.750	.375	.030	708-9691	5	33.05	708Q9692	250′	368.65
1	1.000	.500	.035	708-9693	5	46.34	708Q9694	250′	385.88

FIT 250 — High Strength Nylon

► **Outstanding Resistance to Abrasion, Cut-Through and Chemicals**
► **High Tensile Strength**
► **Provides a Smooth Slippery Surface on Recovery**

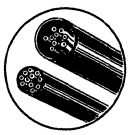


A tough irradiated nylon shrinking tubing. Nylon combines high strength with resistance to fuels, oils and abrasions. Resistant to isopropyl alcohol, JP-4 1, 1, 1—Trichlorethylene, gasoline, battery acid, diesel fuel, motor oil, antifreeze, brake fluid, transmission fluid, 5% salt water. FIT 250 has a smooth glossy surface (black) for cosmetic appeal. **Specifications. Operating Temperature:** −70°C to +125°C. **Shrink Ratio:** 2:1 at 180°C. **Tensile Strength:** 8000 psi. **Ultimate Elongation:** 250%. **Longitudinal Shrinkage:** 10% maximum. 1.0% Water Absorption. FIT 250 is flammable.

Size (")	Min. Supplied I.D. (")	Max. Recovered I.D. (")	6′ Lengths		EACH
			Stock No.	Total Ft.	
3/64	0.046	0.023	708-4000	16	15.00
1/16	0.063	0.031	708-4002	15	15.00
3/32	0.093	0.046	708-4004	14	15.00
1/8	0.125	0.062	708-4006	13	15.00
3/16	0.187	0.093	708-4008	11	15.00
1/4	0.250	0.125	708-4010	9	15.00
3/8	0.375	0.187	708-4012	8	15.00
1/2	0.500	0.250	708-4014	7	15.00
3/4	0.750	0.375	708-4016	5	15.00
1	1.000	0.500	708-4018	3	15.00

FIT 105 Flexible Irradiated Polyvinylchloride

UL Recognized†, MIL-I-23053/2C, MSFC-276B Type 3, Class 1

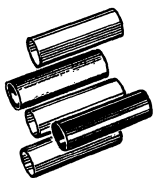


FIT 105 features high mechanical strength and excellent flexibility. It will not cold flow or melt and will not split — even over sharp edges. It is flame-retardant, self extinguishing, and does not support fungus growth (MIL-I-7444). The tubing shrinks to 50% of supplied diameter at 175°C, longitudinal shrinkage 10% nominal. **Operating Temperature:** −35°C to +105°C. Tensile strength 2600 psi nominal. Available in black only. 2″ available by special order. † UL requires that FIT 105 be surface marked for UL identification. Material from stock is unmarked. If marking is required please specify when ordering.

Size	Min. Supplied I.D. (″)	Max. Recovered I.D. (″)	Wall Thickness (″)	25′ Coil			100′ Coil		
				Stock No.	Wt. Lbs.	EACH	Stock No.	Wt. Lbs.	EACH
3/64″	0.046	.023	.020	**708-3804**	0.1	**13.75**	**708-3808**	0.1	**49.00**
1/16″	0.062	.031	.020	**708-3810**	0.1	**14.75**	**708-3813**	0.3	**52.75**
3/32″	0.093	.046	.020	**708-3817**	0.1	**16.75**	**708-3820**	0.5	**59.50**
1/8″	0.125	.062	.025	**708-3823**	0.2	**17.50**	**708-3827**	1.1	**63.00**
3/16″	0.197	.093	.025	**708-3830**	0.3	**21.50**	**708-3833**	1.4	**76.75**
1/4″	0.250	.125	.025	**708-3837**	0.4	**27.00**	**708-3840**	1.4	**97.00**
3/8″	0.375	.187	.030	**708-3843**	0.5	**30.00**	**708-3847**	2.0	**107.75**
1/2″	0.500	.020	.030	**708-3850**	0.8	**33.75**	**708-3853**	4.5	**121.50**
3/4″	0.750	.375	.035	**708-3857**	1.3	**45.50**	**708-3860**	5.0	**162.75**
1″	1.000	.500	.040	**708-3863**	2.2	**63.50**	**708-3865**	8.3	**228.00**
1 1/2″	1.500	.750	.045	**708-3867**	3.9	**119.50**	**708-3870**	15.4	**419.84**

FIT300 Surface Irradiated Polyolefin

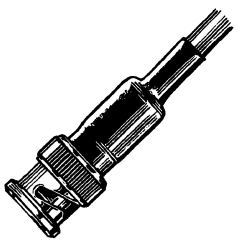
MIL-I-23053/4B, Class 1 AMS-3634 MSFC-276B, Type 1, Class 5



When heated, the outer jacket shrinks and the inner wall melts and flows. The result is semi-rigid tubing with an inner wall that seals and provides tough mechanical protection. The tubing shrinks to 15% to 40% of the supplied diameter depending on the size at 135°C. Longitudinal shrinkage is 10% nominal. Non-flame retardant. Does not support fungus growth. **Operating Temperature:** −55°C to +110°C. Tensile strength 2500 psi nominal. All sizes available in black, but only one additional color is available for each size (see right). For 6″ lengths, insert '5' where N appears in the stock number. For 4′ lengths, insert '7' where N appears in the stock number.

Stock No.	Size	Min. Supplied I.D. (″)	Max. Recovered I.D. (″)	Wall Thickness (″)	Color	6″		4′	
						No. of Lengths	PER BOX	No. of Lengths	PER BOX
708-410N	1/8″	.125	.023	.038	Brown	14	**27.75**	25	**244.00**
708-780N	1/8″	.125	.023	.038	Black	14	**18.50**	25	**202.50**
708-411N	3/16″	.187	.060	.043	Slate	12	**27.75**	25	**297.20**
708-781N	3/16″	.187	.060	.043	Black	12	**18.50**	25	**247.50**
708-412N	1/4″	.250	.080	.047	White	10	**27.75**	25	**369.60**
708-782N	1/4″	.250	.080	.047	Black	10	**18.50**	25	**273.78**
708-414N	3/8″	.375	.135	.050	Red	8	**27.75**	25	**411.80**
708-783N	3/8″	.375	.135	.050	Black	8	**18.50**	25	**343.75**
708-415N	1/2″	.500	.195	.055	Blue	6	**27.75**	5	**121.50**
708-784N	1/2″	.500	.195	.055	Black	6	**18.50**	5	**81.00**
708-416N	3/4″	.750	.313	.065	Yellow	4	**27.75**	5	**187.75**
708-785N	3/4″	.750	.313	.065	Black	4	**18.50**	5	**125.00**

FIT 321...High Shrink Ration (3:1) Polyolefin



- **3:1 Shrink Ratio**
- **Flame Retarded Outer Wall**
- **Water Resistant (0.5% Maximum Absorption)**

When heated, inner wall melts and fills all crevices and interstices of the covered object while outer wall shrinks. Upon cooling, the entire mass becomes a tough molding that provides excellent environmental protection. **Specifications. Operating Temperature:** −55°C to +110°C. **Shrink Ratio:** 3:1 at 125°C. **Tensile Strength:** 2500 psi, nominal. **Ultimate Elongation:** 400% nominal. **Longitudinal Shrinkage:** 15%, nominal. MIL-1-23053C/4B Class 3.

Size	Min. Supplied I.D. (In.)	Max. Recovered I.D. (In.)	6″ Lengths		EACH
			Stock No.	Total Ft.	
1/8″	0.120	0.040	**708-4490**	14.0	**46.50**
1/4″	0.240	0.080	**708-4492**	10.0	**46.50**
1/2″	0.470	0.160	**708-4494**	7.0	**46.50**
1″	0.940	0.320	**708-4496**	4.0	**46.50**
1 1/2″	1.570	0.510	**708-4498**	2.5	**46.50**

Assortments

5 lengths each per size. 4 sizes, 1/8″ through 1″. Total of 20 lengths. **Color:** Black.
708-9628. FIT321-MS/1 ..... **EACH 46.60**

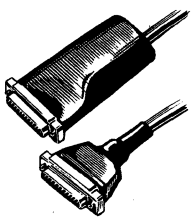
FIT 350 Irradiated Kynar*

UL Subject 224† CSA Standard 198† MIL-I-23053/8A AMS-3632

FIT-350 is transparent, thin-wall, high temperature, flame-retardant tubing which is excellent for installations requiring high resistance to abrasion and cut-through. Allows easy inspection of covered components. The tubing shrinks to 50% of supplied diameter at 175°C, longitudinal shrinkage 5% nominal. Semi-rigid, chemical resistant and self-extinguishing. Does not support fungus growth. **Operating Temperature:** −55°C to +175°C. Tensile strength 8000 psi nominal. 4′ lengths are available by special order.
* TM Pennwalt. † UL and CSA require FIT-350 to be surface marked for identification. Material from stock is unmarked. If marking is required, please specify when ordering.

Stock No.	Size	Min. Supplied I.D. (″)	Max. Recovered I.D. (″)	Wall Thickness (″)	6″ Lengths	
					No. of Lengths	PER BOX
708-4309	1/16″	.063	.031	.010	28	**21.75**
708-4315	3/32″	.093	.046	.010	24	**21.75**
708-4321	1/8″	.125	.062	.010	20	**21.75**
708-4327	3/16″	.187	.093	.010	16	**21.75**
708-4333	1/4″	.250	.125	.012	12	**21.75**

FIT 421...High Shrink Ratio 4:1 Polyolefin

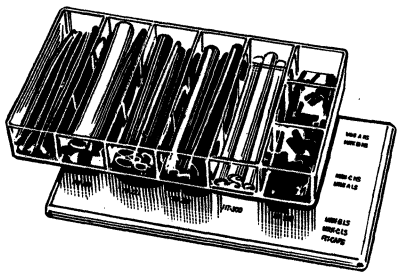


Stands up to your toughest tests. FIT 421 is a tough, irradiated polyolefin with a 4:1 shrinkage ratio that solves the problem of covering and protecting the connections between cables and bulky connectors. **Applications:** Insulation and protection for connector-to-cable terminations; harmless jacket sleeving repair; coverage of irregular shapes not possible with 2:1 shrink ratio material. **Specifications. Operating Temperature:** −55°C to +135°C. **Shrinkage ratio:** 4:1 at 121°C. **Tensile Strength:** 1800 psi. **Longitudinal Shrinkage:** 50% maximum. MIL-1-23053/5A Class 1 overexpanded. AMS 3636D. Non-corrosive; self-extinguishing. **Color:** Black.

Size	Min. Supplied I.D. (In.)	Max. Recovered I.D. (In.)	4′ Lengths		EACH
			Stock No.	Total Ft.	
1″	1.000	0.275	**708Q4460**	20	**204.00**
1 1/2″	1.500	0.375	**708Q4465**	20	**240.00**
2″	2.000	0.550	**708Q4470**	20	**276.00**
3″	3.000	0.810	**708Q4475**	8	**126.00**
4″	4.000	1.050	**708Q4480**	8	**192.00**

Fit Kits

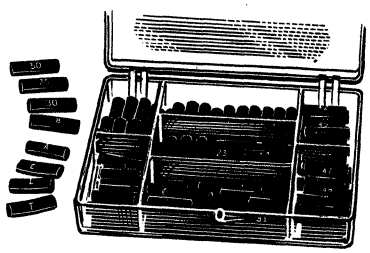
Fit Kits provide the designer, engineer or technician with a complete sampler selection of the most popular types, sizes and colors of shrink tubing. The tubing is in 6″ lengths in a clear plastic box. Each type has its own compartment. Assortments for most FIT types are also available from stock.



FIT KIT-1. Contents: 18 lengths, 9 sizes of FIT-105; 19 lengths, 9 sizes of FIT-221; 12 lengths, 8 sizes of FIT-295; 10 lengths, 5 sizes of FIT-300; 14 lengths, 7 sizes of FIT-350; 4 FIT caps in 4 sizes; 36 assorted FIT markers. Total of 73 lengths plus FIT caps and markers.
708-3775. FIT Kit-1 ..... **EACH 54.37**
FIT KIT-2. Contents: FIT Kit-1 plus a second plastic compartmented box containing: 16 lengths of 6″ and 24 lengths of 1″ in 2 sizes of FIT-321; 22 lengths, 6 sizes of FIT-400; 17 lengths, 5 sizes of FIT-500; 8 lengths, 5 sizes of FIT-600; 2 lengths, 2 sizes of FIT-700; 10 1″ lengths of FIT-750. Total of 138 6″ lengths and 34 1″ lengths plus 4 caps and 36 markers.
708-9601. FIT Kit-2 ..... **EACH 97.67**
FIT KITS 4 and 5. Tubing Designer Kits. Contents: 132 6″ lengths of 15 types of shrink tubing; the contents of FIT KIT-6(FIT-260); 10 FIT crimps, 400 FIT markers, 24 FIT caps, a caliper, a wire stripper, a crimptool, a screwdriver, a razor knife, and an Exacto knife. FIT KIT-4 includes all these items from FIT KIT-5 plus FG-2 Heat Gun.
708-9605. FIT Kit-4. With Heat Gun ..... **EACH 427.00**
708-9610. FIT Kit-5. Less Heat Gun ..... **EACH 302.17**
FIT KIT-7. Electronic Applications. Contents: 18 lengths, 9 sizes of FIT-105; 19 lengths, 9 sizes of FIT-221; 12 lengths, 8 sizes of FIT-295; 10 lengths, 5 sizes of FIT-300; 14 lengths, 7 sizes of FIT-350; 4 FIT Caps in 4 sizes; 35 Assorted FIT Markers. Total of 73 6″ lengths plus caps and markers.
708-9705. FIT Kit-7 ..... **EACH 73.67**
FIT KIT-8. Electrical/Industrial Applications. Contents: 12 lengths, 4 sizes of FIT-260; 9 lengths, 5 sizes of FIT-600; 5 lengths, 5 sizes of FIT-675; 6 lengths, 6 sizes of FIT-700; 10 lengths, 4 sizes of FIT-750; 15 FIT-crimps in 3 sizes. Total of 42 lengths plus 15 FIT-crimps.
708-9710. FIT Kit-8 ..... **EACH 123.33**
FIT KIT-9. Hostile Environment Applications. Contents: 16 lengths, 4 sizes of FIT-321; 18 lengths, 6 sizes of FIT-400; 20 lengths, 5 sizes of FIT-600; 8 lengths, 6 sizes of FIT-650; 8 lengths, 5 sizes of FIT-675; 4 lengths, 2 sizes of FIT-700. Total of 74 lengths.
708-9715. FIT Kit-9 ..... **EACH 230.83**
FIT KIT-10. High Temperature Applications. Contents: 21 lengths, 8 sizes of FIT-350; 24 lengths, 9 sizes of FIT-400; 24 lengths, 9 sizes of FIT-500; 7 lengths, 5 sizes of FIT-650; 8 lengths, 5 sizes of FIT-675. Total of 82 lengths.
708-9720. FIT Kit-10 ..... **EACH 179.17**

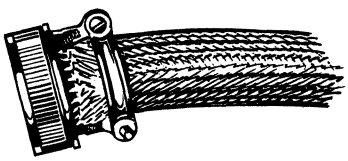
Shrinkable Wire/Cable Marker Kits

FIT Markers are pre-printed 3/4″ lengths of irradiated, heat-shrinkable (FIT 105) tubing. FIT Markers make a permanent identification and cannot slip or fall off. When used on termination points, or on connectors, FIT Markers also serve as strain reliefs and protective sleeves. Markers are printed with white numbers or letters on black tubing. Printing is done by a hot foil process. Meets MIL-I-23053/2C, AMS-3582, and MSFC-276B, Type 3, Class 1. Will not crack or split. Excellent chemical resistance. **Operating temp.:** – 35°C to + 105°C. **Shrinkage Ratio:** to 50% of supplied diameter at 175°C. Non-corrosive; does not support fungus growth (MIL-I-7444). Self-extinguishing, does not support combustion. Numerical kit contains 2 of each number. Alpha kit contains 4 of each letter. Packages of 100.



Stock No.	Mfr.'s Type	O.D. of Wire To Be Identified	Min. Supplied I.D.	Max. Recovery I.D.	Printing On Markers	EACH
708-7070	MRK-A-NS	.049″ to .065″	.098″	.049″	1 thru 50	**8.50**
708-7071	MRK-B-NS	.066″ to .095″	.122″	.061″	1 thru 50	**8.50**
708-7072	MRK-C-NS	.096″ to .150″	.178″	.089″	1 thru 50	**8.50**
708-7073	MRK-A-LS	.049″ to .065″	.098″	.049″	A thru Z	**8.50**
708-7074	MRK-B-LS	.066″ to .095″	.122″	.061″	A thru Z	**8.50**
708-7075	MRK-C-LS	.096″ to .150″	.178″	.089″	A thru Z	**8.50**

Expandable Braided Polyester Sleeving



Lightweight, expandable woven polyester sleeving. High flexibility; high resistance. Open weave for wide range of expansion of the sleeving diameter for easy installation and gripping action. An ideal protective sleeve for wire bundles, harnesses, wire and cable, pneumatic hoses, flat cable, hydraulic lines, and highly polished or threaded machine parts. **Specifications. Operating Temperature:** – 70°C to + 125°C (UL). MIL-STD-810B-Method 508. Not affected by most chemical environments and common solvents.

Flame Retardant GRP-120

Stock No.	Mfr.'s Type	Size	Min. Supplied I.D.	Max. Expanded I.D.	Put Up Length	EACH
708-4800	GRP-120-1/8	1/8	0.093″	0.250″	100′ spool	**37.00**
708-4802	GRP-120-1/4	1/4	0.125″	0.437″	100′ spool	**53.33**
708-4804	GRP-120-1/2	1/2	0.250″	0.750″	100′ spool	**95.33**
708-4806	GRP-120-3/4	3/4	0.500″	1.250″	100′ spool	**142.17**
708-4808	GRP-120-1 1/4	1 1/4	0.750″	1.750″	50′ spool	**93.00**
708-4810	GRP-120-1 3/4	1 3/4	1.250″	2.750″	50′ spool	**147.83**
708-4812	GRP-120-2	2	1.500″	3.500″	50′ spool	**190.67**

General Purpose GRP-110

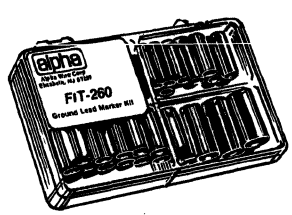
Stock No.	Mfr.'s Type	Size	Min. Supplied I.D.	Max. Expanded I.D.	Put Up Length	EACH
708-4790	GRP-110-1/8	1/8	0.093″	0.250″	100′ spool	**25.67**
708-4791	GRP-110-1/4	1/4	0.125″	0.437″	100′ spool	**35.17**
708-4792	GRP-110-1/2	1/2	0.250″	0.750″	100′ spool	**69.78**
708-4793	GRP-110-3/4	3/4	0.500″	1.250″	100′ spool	**105.83**
708-4794	GRP-110-1 1/4	1 1/4	0.750″	1.750″	50′ spool	**67.67**
708-4795	GRP-110-1 3/4	1 3/4	1.250″	2.750″	50′ spool	**110.83**
708-4796	GRP-110-2	2	1.500″	3.500″	50′ spool	**142.97**

FIT® —SLV Soldering Sleeves

One piece, shield grounding termination system with a strong, low cost, completely insulated and encapsulated soldered connection. Consists of a heat shrinkable thermoplastic sleeve containing a precisely engineered preform of fluxed solder and thermoplastic inserts at each end. When placed over a cable shield and heated, the solder melts and flows, connecting the ground lead and shield. The outer sleeve shrinks and the thermoplastic inserts melt, encapsulating the termination. The result is a perfectly soldered, strain-relieved and environmentally protected termination. **Specifications. 105°C Series:** Kynar insulating sleeve containing solder alloy preform of 51.2% Tin, 30.6% Lead, 18.2% Cadmium. **Op. Temp:** 105°C. **Solder Melt Temp.:** 145°C. MIL-F-14256. Type RMA Flux. **125°C Series:** Kynar insulating sleeve containing preform of SN-63 composed of 63% Tin, 37% Lead. **Op. Temp.:** 125°C. **Solder Melt Temp:** 180°C. QQ-S-571, solder. Use FG-2 heat gun with GA-3 soldering sleeve reflector. Heating time, 3-5 seconds. Maintain heat on sleeve until solder ring changes from dull gray to bright silver and flows toward dam on both ends of sleeve.

Mfr.'s Type		Cable Max.	Strip Min.	Sleeve		PK./25 105°C		PK./25 125°C	
105°C Series	125°C Series			A Min. (In.)	B Min. (In.)	Stock No.	EACH	Stock No.	EACH
SLV-12	SLV-22	0.140″	0.055″	0.145	0.105	**708-4820**	**27.83**	**708-4822**	**25.50**
SLV-14	SLV-24	0.195″	0.085″	0.195	0.170	**708-4824**	**29.33**	**708-4826**	**28.17**
SLV-16	SLV026	0.295″	0.170″	0.295	0.275	**708-4828**	**40.67**	**708-4830**	**39.00**

Ground Lead Marker Kit FIT-KIT-6, FIT-260



NFPA approved as ground lead identification when installed in accordance with NEC Article 250-57B, Exception 3. 2:1 shrink ration at 121°C. UL standard 224. Dual extruded colors. Packaged in plastic container containing 100 1″ lengths in four sizes, 1/8″ through 1/2″.
708-9620 ..... **EACH 14.90**

Assortment KITS

FIT350 MS/1. Five 6″ lengths each of five different sizes: 3/64″ through 3/16″. 25 lengths total.
708-9614 ..... **EACH 13.17**
FIT350 MS/2. Five 6″ lengths each of five different sizes, 1/4″ through 1″. 25 lengths total.
708-9615 ..... **EACH 75.50**

Small Quantity Packaged Assortments — 6" length

FIT221 Assortments

FIT221-MS/1. Six 6" lengths each of 5 different sizes, 3/64" through 3/16". 30 lengths total.
708-3901 ..... **EACH 17.40**
FIT221-MS/2. Four 6" lengths each of 4 different sizes, 1/4" through 3/4". 16 lengths total.
708-3902 ..... **EACH 34.60**
FIT221-MS/3. Two 6" lengths each of 4 different sizes, 1" through 4". 10 lengths total.
708-9612 ..... **EACH 32.20**

FIT221V Assortments

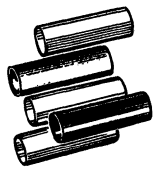
Radiation crosslinked polyolefin which passes the UL VW-1 Flame Test. FIT221V is surface marked in accordance with UL and CSA. UL Subject 224, CSA Standard 198. Also available in long length spools by drop ship and in 6" and 4' packages from Allied. **Shrink Ratio:** 2:1 at 121°C. **Color:** Black.
FIT221V MS/1. 3/64" through 3/16". 6 per size, 5 sizes (30 lengths).
708-9624 ..... **EACH 17.40**
FIT221V MS/2. 1/4" through 3/4". 4 per size, 4 sizes (16 lengths).
708-9626 ..... **EACH 34.60**

MS/1, 2, 3

FIT105-MS/1. Contains ten 6" lengths each of six sizes from 3/64" through 1/4". Wt. 1/2 lb. 60 lengths total.
708-3801 ..... **EACH 19.95**
FIT105-MS/2. Contains ten 6" lengths each of four sizes from 3/8" through 1". Wt. 1/2 lb. 40 lengths total.
708-3802 ..... **EACH 31.60**
FIT105-MS/3. Contains seven 6" lengths each of 2 different sizes. 1 1/2" and 2". 14 lengths total.
708-9611 ..... **EACH 31.00**

FIT300 Assortments

Five 6" lengths of seven different sizes, 1/8" through 3/4". 35 lengths total.



FIT300-MS/1
708-9613 ..... **EACH 52.60**

FIT® Assortments

FIT130 Thin Wall Transparent Mylar

Nominal Wall Supplied: .002". **Shrink Ratio:** 2:1 at 121°C. **Longitudinal Shrinkage:** 40% nominal. Seven different sizes, 3/32" through 1/2". Five of each size. 35 6" lengths total.
708-9634. FIT130-MS/1 ..... **EACH 25.20**

High Strength Nylon

FIT250-MS/1. 6 sizes 3/64" to 1/4", 6" lengths, 6 per size.
708-9656 ..... **EACH 18.02**
FIT250-MS/2. 4 sizes 3/8" to 1", 6" lengths, 4 per size.
708-9658 ..... **EACH 20.07**

Semi-Rigid Polyolefin FIT295

MIL-1-23053/6B Class 1, 2. **Shrink Ratio:** 2:1 at 135°C.
FIT295-MS/1. 8 sizes, 6" lengths, 5 per size, 40 pieces total.
708-9622 ..... **EACH 27.80**

Teflon (FEP) Tubing FIT400

Shrink Ratio: 1.2:1 at 176°C. **Color:** Natural.
FIT400-MS/1. 24-14. 6 sizes, 5 of each. 30 lengths total.
708-9636 ..... **EACH 14.40**
FIT400-MS/2. 12-6. 6 sizes, 5 of each. 30 lengths total.
708-9638 ..... **EACH 25.40**
FIT400-MS/3. 5-0. 6 sizes, 3 of each. 18 lengths total.
708-9640 ..... **EACH 26.20**

Teflon (TFE) Tubing FIT500

Shrink Ratio: 1.5:1 at 327°C. **Longitudinal Shrinkage:** 10% nominal. Assorted sizes, 6" lengths.
FIT500-MS/1. 30-20. 6 sizes, 5 of each. 30 lengths total.
708-9642 ..... **EACH 19.40**
FIT500-MS/2. 18-10. 5 sizes, 5 each. 25 lengths total.
708-9644 ..... **EACH 17.60**
FIT500-MS/3. 8-0. 5 sizes, 3 of each. 15 lengths total.
708-9646 ..... **EACH 31.60**

Neoprene FIT600

Shrink Ratio: 1.75:1 at 135°C.
FIT600-MS/1. 12 lengths per box, 1/4" through 7/8". 6" lengths.
708-9630 ..... **EACH 39.60**

High/Low Temperature Corrosion Protection Vitron — FIT650

Operating Temperature: −40°C to +200°C. **Shrink Ratio:** 2:1 at 175°C. MIL-I-23053/13; MIL-R-46846 Type III Class I. Also available in 6" lengths or 25' and 100' spools by drop ship.
FIT650-MS/1. 7 sizes, 1/8" through 1". 6" lengths, 2 per size (14 lengths).
708Q9648 ..... **EACH 198.40**

High Flexibility, Extreme Heat Silicon Rubber — FIT675

UL Standard 224. **Shrink Ratio:** 1.7:1 at 135°C. Also available in 6" lengths or 25' and 100' spools by drop ship.
FIT675-MS/1. 7 sizes 3mm-31mm, 6" lengths, 2 per size. 14 pieces total.
708Q9650 ..... **EACH 150.80**

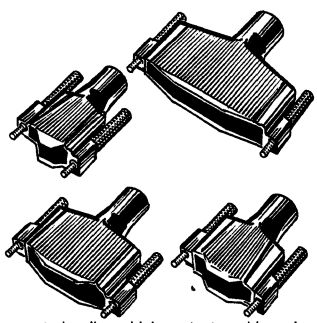
Adhesive Wall Polyolefin — FIT750

Color: Black. **Shrink Ratio:** 2:1 at 121°C. MIL-I-23053/4B Class 2.
Fit 750-MS/1. 3 sizes 1/4" through 1/2", 6" lengths, 5 per size.
708-9652 ..... **EACH 17.00**
FIT750-MS/2. 2 sizes 3/4" through 1", 6" lengths, 5 per size.
708-9654 ..... **EACH 21.00**

FIT® "D" Boots

Heat Shrinkable Hoods for D-Sub Connectors

- **Simple installation and repair access**
- **Single part — no assembly required**
- **Smooth cable-to-cable connector transition**
- **Low profile, lightweight**
- **Flame retardant**



Strain relief is achieved by a heat shrinkable adhesive coated collar which protects cables when tensioned, and provides added sealing protection. The boot is supplied as a single piece which snaps on to the back of the connector. Jack screws are provided to ensure easy access into each connector. **Jack screws:** galvanized steel. Strain relief provided by heat shrinkable coated ring. **Color:** black. Flame retardant to UL94V2.

Stock No.	Mfr.'s Type	D-Sub Size	EACH		
			1-9	10-49	50-99
708-9670	Fit D Boot 9	9	**3.31**	**3.05**	**2.80**
708-9671	Fit D Boot 15	15	**3.67**	**3.37**	**3.10**
708-9672	Fit D Boot 25	25	**3.67**	**3.37**	**3.10**
708-9673	Fit D Boot 37	37	**3.91**	**3.59**	**3.31**

FIT® -Crimp . . . Shrinkable Nylon Crimp Splices

- **UL Listed**

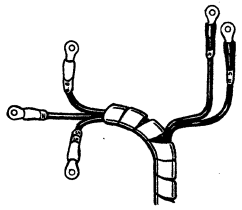
- **1-Piece Construction**

- **Easy-to-Use with AT-300 Crimp Tool**

Completely seal electrical connections from corrosion. Unlike conventional splices, these adhesive-lined butt connectors won't pull apart once they're sealed, and they are lightweight and easy to install, too. **Specifications. Operating Temperature:** −55°C to 125°C. **Shrink Ratio:** 2:1 at 180°C. **Tensile Strength:** 700 psi. Flammable.

Description	AWG Range	Max. Rec. I.D. (in.)	PK./ 25		PK./100	
			Stock No.	EACH	Stock No.	EACH
FIT Crimp 1	22-18	0.060	**708-4020**	**21.40**	**708-4022**	**68.40**
FIT Crimp 2	16-14	0.080	**708-4024**	**21.40**	**708-4026**	**68.40**
FIT Crimp 3	12-10	0.118	**708-4028**	**27.00**	**708-4030**	**86.20**

Spiral Wrap Tubing



Wire harnessing, cabling and bundling work is simplified with the use of Alpha's SW series spiral wrap tubing. SW tubing clings tightly to the wire and cable being bundled, yet is flexible and simple to apply. All types maintain flexibility, even when bent around sharp edges or subjected to repeated handling. Breakouts or tapoff connections may be made through the openings of the wrap.

Spiral Tubing
Federal Spec. LP390, MIL-1-631D, MIL-P-26692

Clear (natural) polyethylene with an operating temperature of – 20°C to + 80°C.

Mfr.'s No.	Nom. O.D."	Stock No.	Put-Up	EACH	Stock No.	Put-Up	EACH
SW1	.125	708-7501	25′	3.20	708-7502	100′	11.00
SW2	.250	708-7503	25′	5.80	708-7504	100′	18.40
SW3	.375	708-7506	25′	9.20	708-7507	100′	32.00
SW4	.500	708-7505	25′	11.20	708-7508	100′	34.91

Black, ultra-violet resistant polyethylene with an operating temperature of – 20°C to + 80°C.

SW40	.125	708-7428	25′	3.40	708-7429	100′	11.40
SW41	.250	708-7430	25′	6.80	708-7435	100′	23.40
SW42	.375	708-7431	25′	9.60	708-7436	100′	30.36
SW43	.500	708-7432	25′	12.60	708-7437	100′	39.46

Federal Spec. LP410A, MIL-M-22096A, MIL-M-20693A
Natural color Nylon with an operating temperature of – 40°C to + 120°C.

SW20	.125	708-7440	25′	8.90	708-7442	100′	29.40
SW21	.250	708-7444	25′	15.00	708-7446	100′	47.27
SW22	.375	708-7448	25′	30.55	708Q7450	100′	105.82
SW23	.500	708-7452	25′	39.46	708Q7454	100′	125.83

MIL-1-22129C, MIL-T-47287A Type 1, AMS 3653C, 3651C, 3654, 3655
Clear natural teflon with an operating temperature of – 70°C to + 250°C.

SW30	.125	708-7418	25′	64.18	708Q7419	100′	222.91
SW31	.250	708-7420	25′	111.27	708Q7425	100′	387.09
SW32	.375	708-7421	25′	179.64	708Q7426	100′	572.67
SW33	.500	708Q7422	25′	241.82	708Q7427	100′	771.00

Additional types and sizes available by special order.

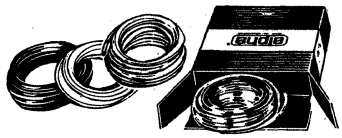
PIF-130 PVC Impregnated Fiberglass Sleeving U.L. VW-1, U.L., Grade B, NEMA, VA-1, Type 3

Heat resistant, extremely tough and flexible. Fiberglass treated to remove all organic material and resist fraying. Oil resistant and does not support fungus growth. **Operating Temperature:** – 20°C to 130°C **(NEMA):** + 105°C (U.L.).

Stock No.	Mfr.'s Type*	Nom. O.D."	Wall Thick."	PER 100′ COIL
708-4515	PIF-130-14	.066	.024	24.80
708-4510	PIF-130-10	.106	.024	27.20
708-4506	PIF-130-6	.166	.024	36.00
708-4502	PIF-130-2	.263	.031	54.80

Other sizes available by special order. *And size.

PVC-105 All Purpose Tubing*



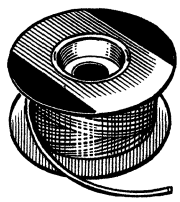
U.L. and CSA Recognized ASTM D-876, D-922, MIL-1-631D Passes UL-VW1 Flame Test

Superior thermal, mechanical and electrical properties with economical cost. Compounded with highest quality, non-migratory resinous type plasticizers—stabilizers and modifiers added. Flexible, resistant to heat, oil, abrasion, fungus and chemical corrosion. **Operating Temperature:** – 20°C to + 105°C. Furnished in black and clear in 100′ lengths. Other colors and lengths available by special order. *U.L. requires that PVC-105 be surface marked for identification. Material from stock is unmarked. If U.L. marking is required please specify when ordering.

Stock No. Clear	Stock No. Black	Mfr.'s Type Size	I.D.	Wall Thk.	PER 100′ COIL
708-7601	708-7602	PVC-105-24	.022	.013	6.10
708-4720	708-7603	PVC-105-22	.027	.012	6.10
708-4712	708-7604	PVC-105-20	.034	.016	6.62
708-4703	708-7605	PVC-105-18	.042	.016	7.15
708-4696	708-4694	PVC-105-16	.053	.016	7.63
708-4687	708-7606	PVC-105-14	.066	.016	6.67
708-4680	708-4678	PVC-105-12	.085	.016	7.13
708-4672	708-4670	PVC-105-10	.106	.016	8.26
708-4663	708-4661	PVC-105-8	.133	.020	10.85
708-4657	708-4655	PVC-105-6	.166	.020	12.43
708-4650	708-4648	PVC-105-4	.208	.020	14.16
708-4642	708-4640	PVC-105-2	.263	.020	16.68
708-7607	708-4604	PVC-105-5/16	.312	.025	24.60
708-4611	708-4610	PVC-105-3/8	.375	.025	29.16
708-7608	708-4615	PVC-105-1/2A	.500	.030	26.18
708-7609	708-4621	PVC-105-5/8	.625	.035	36.40
708-4624	708-4627	PVC-105-3/4	.750	.035	33.86**

**50-foot spool.

TFT Teflon Tubing AMS 3655 (TFT-200) AMS 3653 (TFT-250)



Exceptional toughness and flexibility throughout its temperature range. Superior dielectrical strength at high frequencies. Excellent heat and chemical resistance. Self-extinguishing, non-corrosive, does not support fungus growth. **Operating Temperature:** – 65°C to + 260°C. Natural color.

TFT-200 Thin-Wall Teflon Tubing

Stock No.	Mfr.'s Type & Size	Nom. I.D."	Nom. Wall"	PER 100′ COIL 1-4	PER 100′ COIL 5-Up
708-4930	TFT-200-30	.012	.009	23.80	21.90
708-4926	TFT-200-26	.018	.010	18.80	17.30
708-4924	TFT-200-24	.022	.010	20.40	18.77
708-4922	TFT-200-22	.027	.010	24.00	22.08
708-4920	TFT-200-20	.034	.012	29.00	26.68
708-4918	TFT-200-18	.042	.012	33.80	31.10
708-4916	TFT-200-16	.053	.012	40.60	37.35
708-4914	TFT-200-14	.066	.012	44.60	41.03

TFT-250 Standard-Wall Teflon Tubing

708-5024	TFT-250-24	.022	.012	26.04	23.96
708-5022	TFT-250-22	.027	.012	28.92	25.84
708-5020	TFT-250-20	.034	.016	39.74	36.56

Zip Zipper Tubing

UL Standard 224, UL VW-1, CSA 184-N-90
Saves time and labor in making prototype cables. Adds extra jacketing protection to existing cable assemblies without need to disconnect or tape wrap. Ideal for cable repairs or modification - no need to disturb or disconnect existing connections. Zipper tubing is manufactured from the highest quality, high-temperature, stabilized PVC. **Temperature Range** – 36°C to 105°C.

ZIP-41M LOC-TRAC® —Wall Thickness .040"

To specifiy color, insert 1 for Clear or 2 for Black where letter N appears.

Stock No.	Mfr.'s Type	Diameter (Inches)	PER 100′ COIL 1-4	PER 100′ COIL 5-9
708Q932N	Zip-41M-1/2	1/2	266.40	245.09
708Q931N	Zip-41M-3/4	3/4	302.40	278.21
708Q930N	Zip-41M-1	1	341.20	313.90
708Q933N	Zip-41M-1-1/4	1 1/4	368.00	338.56
708Q934N	Zip-41M-1-1/2	1 1/2	404.00	371.68
708Q935N	Zip-41M-2	2	475.40	437.37

ZIP-60 LOC-TRAC® Foil-Shielded Zipper Tubing—Wall Thickness .020"
Gray only.

708Q9309	Zip-60-1/2	1/2	323.60	297.71
708Q9308	Zip-60-3/4	3/4	368.60	339.11
708Q9307	Zip-60-1	1	417.60	384.19
708Q9360	Zip-60-1-1/4	1 1/4	451.60	415.47
708Q9361	Zip-60-1-1/2	1 1/2	496.60	456.87
708Q9362	Zip-60-2	2	586.80	539.86

*Not UL Standard 224

ZIP-41 LOC-TRAC®

Wall Thickness .020"
To specify color, insert 3 for Clear or 4 for Black where letter N appears.

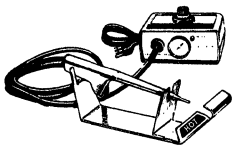
Stock No.	Mfr.'s Type	Diameter (Inches)	PER 100′ COIL 1-4	PER 100′ COIL 5-9
708-928N	Zip-41-1/2	1/2	202.00	185.84
708-929N	Zip-41-3/4	3/4	217.60	200.19
708-930N	Zip-41-1	1	234.40	215.65
708-931N	Zip-41-1-1/4	1 1/4	245.80	226.14
708-932N	Zip-41-1-1/2	1 1/2	261.40	240.49
708-933N	Zip-41-1-3/4	1 3/4	277.20	255.02
708-934N	Zip-41-2	2	292.40	269.01

ZIP-31 Standard Track

Wall Thickness .020"
To specify color, insert 5 for Clear or 6 for Black where letter N appears.

Stock No.	Mfr.'s Type	Diameter (Inches)	PER 100′ COIL 1-4	PER 100′ COIL 5-9
708-922N	Zip-31-1/4	1/4	177.60	163.40
708-923N	Zip-31-3/8	3/8	182.60	167.99
708-924N	Zip-31-1/2	1/2	202.00	185.84
708-925N	Zip-31-5/8	5/8	209.60	192.83
708-926N	Zip-31-3/4	3/4	217.60	200.19
708-927N	Zip-31-7/8	7/8	225.40	207.37
708-928N	Zip-31-1	1	234.40	215.65
708-929N	Zip-31-1-1/8	1 1/8	242.20	222.82
708-930N	Zip-31-1-1/4	1 1/4	245.80	226.14
708-931N	Zip-31-1-1/2	1 1/2	261.40	240.49
708-932N	Zip-31-1-3/4	1 3/4	277.20	255.02
708-933N	Zip-31-2	2	292.40	269.01

Hot Air Pencil, Hot Air and Heat Guns, and Torches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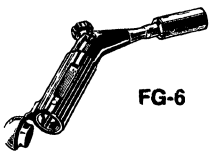
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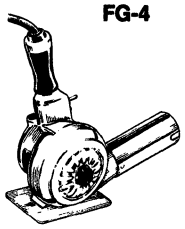
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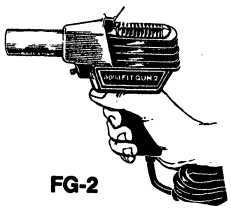
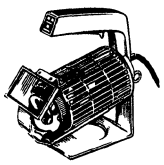

FG-2


FG-5

FG-7

FG-4 Hot Air Pencil
Heat may be concentrated in precise areas. Controlled airflow, temperature, velocity and direction. Includes stand, regulator, needlepoint tip, sleeve reflector and tubing reflector. Utilizes factory or shop compressed air. **Temperature Range:** 413° (775°F) to 524°C (975°F). 120VAC, 4 Amps.
708Q7402. Model FG-4 ..... **EACH 965.48**

Models HG-1R1 and HG-2R1 Hot Air Guns
Flameless quiet-operating, electric motor driven hot air guns can be used for portable operations or mounted permanently on a bracket. Heavy duty construction, adjustable air intake to control temperature, double jacketed housing of die cast aluminum, equipped with an 8 foot neoprene jacketed 3-wire cord and plug, HG-2 is recommended for all types of shrinkable Teflon tubing. Contoured, comfort handle. Convenient 3-way switch with guard. Powerful hi-speed universal motor. Adjustable, removable rectangular "slide on" base. 13/16" diameter nozzle. **Asbestos-Free; Voltage rating:** both 120VAC amps; HG-1, 14; HG-2, 18.5; Power Input (Watts) HG-1, 1800; HG-2, 2200; **Average Temp.:** HG-1, 260°C to 399°C; HG-2, 399°C to 538°C.
708-7400. Model HG-1R1 ..... **EACH 203.20**
708-7401. Model HG-2R1 ..... **EACH 186.94**

Fit® Heat Gun-2
Lightweight, portable, and with three interchangeable heating elements and two reflectors. Heat Gun 2 provides a continuous flow of heated air. 260°C (500°F), 340W blue element; 340°C (650°F), 475W silver element; 427°C (800°F), 525W black element. Three position switch permits the blower to operate with the heater off for rapid cooling of nozzle and reflector.
708-9405. FG-2 ..... **EACH 166.20**

FG-7 Regulated Fit® Torch
For outdoor use or wherever a convenient electrical outlet is not available. This precision control, pressure regulated torch saves up to 50% of fuel consumed by standard valve-type torches. Delivers 6000-13,000 BTUH (adjustable) using propane. Includes burner assembly with 1" (25mm) diameter heavy-duty tip and up-front control valve, four foot UL Listed hose and regulator. Propane cylinder not included.
708-7403. FG-7 ..... **EACH 90.60**

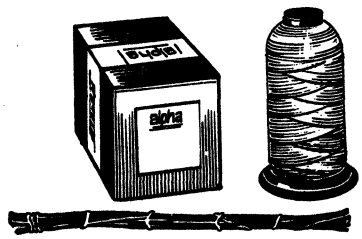
FG-5 Infra-Red Heat Gun
Noiseless, lightweight heat gun without heat built-up. Can be used on bench or as a hand tool. Ellipsodial reflectors aid heat concentration for a swift, dependable job. Includes interchangeable tubing reflectors and sleeve reflector. **Input power:** 105-120VAC, 50-60 Hz, 4.2 amps. Lamp life exceeds 1000 hours (intermittent use). **Note: not suitable for use with Teflon® tubing or any translucent/transparent tubing. Weight:** 1.6 lbs.
708Q7404. Model FG-5 ..... **EACH 1041.94**

FG-6 Refillable Fit® Torch
Designed for shrinking FIT tubing outdoors at the job site, the FG-6 is a compact, self-contained unit which can be refilled with standard propane cylinders. Burns for several minutes between refills, or can be used for longer periods with a standard 14.1 oz. (389g) propane cylinder attached. Ideal where work space is limited and where electricity is not available for FIT heat gun use. Delivers 15,000 BTUH at maximum setting with 1" (25mm) diameter heavy duty tip. Cylinder not included.
708-7406. FG-6 FIT® Torch ..... **EACH 74.60**

Twisted Lacing Cord and Flat Braid Lacing Tape

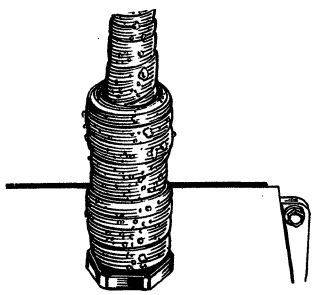
Nylon Twisted Lacing Cord. LC-113 is MIL-T-713 Type P, Class 1. **LC-114** is Class 2, and **LC-115** is Class 3. All three types have a waxed finish and feature excellent knot retention and high tensile strength (**LC-113** - 70 lbs.) (**LC-114** - 48 lbs.) (**LC-115** - 32 lbs.). **Insert 1 for white or 2 for black where X appears in the table below.**

Nylon and Dacron Flat Braided Lacing Tape. All types are nylon except **LC-162** which is dacron. Dacron provides less elongation, better resistance to acids, an no appreciable discoloration. All types are designation MIL-T-43435 with variations for type, size, and finish. **LC-132** has a finish of synthetic rubber-like resin with non-mercuric fungicidal properties. Melting point is above 190°F. Softens at 140°F but doesn't flow. **LC-134, LC-136, and LC-162** have a finish of micro-Crystalline wax with a melting point above 130°F, compounded with a fungicide containing neither copper nor mercury. Soft, pliable and easy to tie. Also meets MIL-T-713 Type P, Class 2. **LC-140** has a finish of a special continuous coating of fungistatic synthetic rubber. Knots tied with this finish will not slip. Extremely pliable and soft. **LC-143** has a thermoplastic synthetic resin with a melting point above 350°F for use where a "wax free" type is specified. Dry, non-flaking finish. **Available in white and black: Insert 1 (white) or 2 (black) where X appears in Stock Number, table below.**



Stock No.	Mfr.'s Type	Standard Put-Up	Tensile Strength	Nominal Width	Nominal Thickness	Nominal Diameter	PER SPOOL	
							Black	White
708-939X	LC-113	1/2 lb. — 550 yds.	70	—	—	.050"	**27.75**	**25.53**
708-940X	LC-114	1/2 lb. — 750 yds.	48	—	—	.035"	**27.75**	**25.53**
708-941X	LC-115	1/2 lb. — 1100 yds.	32	—	—	.030"	**27.75**	**25.53**
708-942X	LC-132	500 yds. on spool	50	.090"	.014"	—	**45.75**	**40.75**
708-943X	LC-134	500 yds. on spool	30	.062"	.010"	—	**43.25**	**30.25**
708-944X	LC-136	500 yds. on spool	50	.090"	.012"	—	**48.75**	**41.75**
708-945X	LC-140	500 yds. on spool	50	.090"	.014"	—	**43.75**	**40.25**
708-946X	LC-143	500 yds. on spool	50	.090"	.014"	—	**43.75**	**40.25**
708-947X	LC-162	500 yds. on spool	50	.090"	.012"	—	**43.75**	**40.25**

Sealing Tape



Xtra-Seal™

Protects against Corrosion and Moisture

Alpha's Xtra-Seal silicone sealing strips are precured, cold-applied gel strips that have sealing and conforming capabilities. Xtra-Seal has a unique ability to coat and self-heal, yet can be easily reentered, which makes it superior to conventional sealing methods. This ability to wet and seal surfaces provides an effective barrier against corrosion and forms a tight environmental seal. **Temperature range:** −55°C to +125°C. Packaged on 25 ft. rolls. **Nominal thickness:** 0.035". **Ultimate elongation:** 180% min. **Tensile strength:** 15 psi min.

Indoor

Stock No.	Mfr.'s Type	Width	Color	PER COIL/25'		
				1-5	6-23	24-Up
708-9660	XST-IN-1	1"	Blue	**40.18**	**37.97**	**35.75**
708-9661	XST-IN-2	2"	Blue	**80.44**	**75.93**	**71.50**
708Q9662	XST-IN-3	3"	Blue	**120.55**	**113.90**	**107.25**

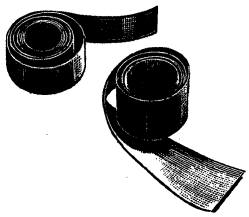
Flame-Retardant

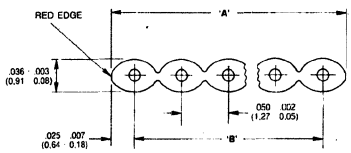
Stock No.	Mfr.'s Type	Width	Color	PER COIL/25'		
				1-5	6-23	24-Up
708-9666	XST-FR-1	1"	Gray	**59.63**	**55.63**	**53.20**
708Q9667	XST-FR-2	2"	Gray	**119.25**	**111.25**	**104.39**
708Q9668	XST-FR-3	3"	Gray	**178.89**	**166.88**	**156.59**

Outdoor (UV Stabilized)

Stock No.	Mfr.'s Type	Width	Color	PER COIL/25'		
				1-5	6-23	24-Up
708-9663	XST-UV-1	1"	Black	**45.97**	**42.90**	**40.25**
708-9664	XST-UV-2	2"	Black	**91.95**	**85.80**	**80.51**
708-9665	XST-UV-3	3"	Black	**137.92**	**128.70**	**120.76**

Spectra-Zip® Planar Cable (Gray)





► **Fast, Low Cost Mass Termination for All Standard 50 MIL Insulation Displacement (IDC) Connectors**

► **High Flexible Gray PVC Insulation with One Red Edge**

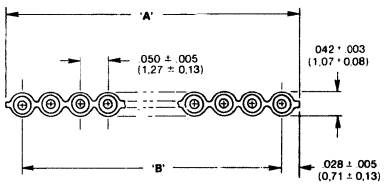
► **U.L. and CSA Recognized**

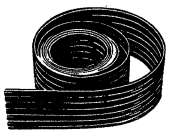
Spectra-Zip planar cable offers a balanced combination of economy, reliable performance, weight and space savings, controlled electrical characteristics, and low-cost termination for general-purpose interconnection in electronic parts from calculators to computers and switching networks, Spectra-Zip cable consists of stranded round conductors insulated with gray PVC to form a planar cable. The insulation is extruded around the conductors so that the cable has a 'double contour' to allow for mounting IDC connectors on either surface of the cable. A tear feature built into the cable allows easy, uniform breakouts without rupturing the insulation. 100-foot putups in dispenser boxes. 28 AWG, 7/36, .050 centers.

Characteristics. Physical: Conductors—28 AWG 7/36 strand tinned copper. Number of Conductors—10, 14, 16, 20, 24, 25, 26, 34, 37, 40, 50, 60 and 64. Color—Gray, one edge red. Conductor Spacing—.050″, ±.003″. Cable Thickness—.035″ Nom. Laminate—Gray PVC, Flame retardant VW-1. **Electrical:** Voltage Rating—300V. Current Rating—1 Amp. Nom. At 10°C above ambient. Temperature Rating—105°C. Impedance—105 Ohms Nom. Capacitance—15 pF/ft. Nom. Crosstalk—10′ sample, 5nS rise time with 2 lines driven. NE = 3.5%, FE = 5.0% nom. U.L. Style Number-Cable Style 2651.

Stock No.	Mfr.'s Type	No. Cond.	Width 'A' Inches	Span 'B' Inches	PER 100′	
					1-4	5-9
608-7110	843-191-2801-010	10	.500	.450 ± .007	**17.50**	**15.84**
608-7114	843-191-2801-014	14	.700	.650 ± .007	**23.65**	**19.29**
608-7116	843-191-2801-016	16	.800	.750 ± .011	**26.76**	**22.04**
608-7120	843-191-2801-020	20	1.000	.950 ± .011	**33.46**	**27.55**
608-7124	843-191-2801-024	24	1.200	1.150 ± .011	**40.15**	**33.06**
608-7125	843-191-2801-025	25	1.250	1.200 ± .011	**41.82**	**34.44**
608-7126	843-191-2801-026	26	1.300	1.250 ± .011	**43.49**	**35.82**
608-7134	843-191-2801-034	34	1.700	1.650 ± .011	**55.76**	**46.84**
608-7140	848-191-2801-040	40	2.000	1.950 ± .015	**65.60**	**55.10**
608-7150	843-191-2801-050	50	2.500	2.450 ± .015	**82.00**	**68.88**
608-7160	843-191-2801-060	60	3.000	2.950 ± .015	**98.40**	**82.66**

3C® Color Coded Planar Cable





► **Double Contour Allows Termination from Either Side of Cable, Easy Conductor Separation for Circuit Routing**

► **Fast, Low Cost Mass Termination to All Standard 50 MIL Insulation Displacement (IDC) Connectors**

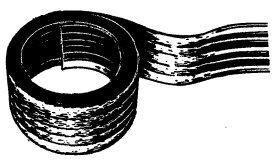
► **U.L. and CSA Recognized**

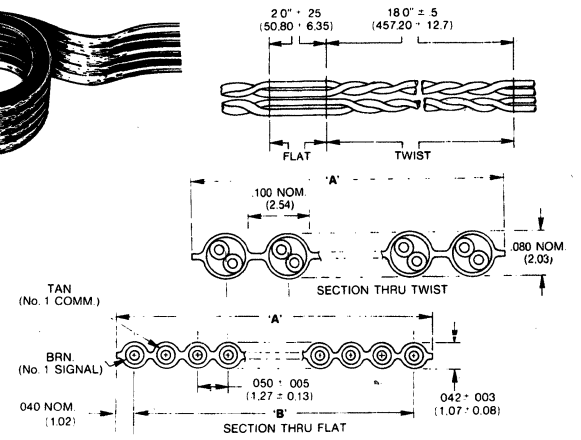
3C® Controlled Characteristic Cable is ideal for applications in digital and analog signal transmission. 3C Color Coded Cables are designed for mass termination techniques. With conductor centers the same as the contact centers of the connector, separation and stripping of individual conductors is completely eliminated. The color coding allows easy circuit-tracing and routing. 3C color coded cable consists of stranded round conductors pre-insulated with color coded PVC and laminated on specific centers between layers of clear PVC film to form a Planar Cable. This cable is available in 100-foot lengths, packaged in dispenser boxes with a footage indicator. 28 AWG, 7/36, .050 centers.

Characteristics. Physical: Conductors—28AWG, 7/36 strand tinned copper. Number of Conductors—10,14,16,20,24,25,26,34,37,40,50,60,64. Color Code—Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White, Black (Repeat). Conductor Spacing—.050 ± .005″. Cable Thickness—.042″ Nom. Laminate—Clear PVC Self Extinguishing. **Electrical:** Voltage Rating—300V. Current Rating—1 Amp. Nom. at 10°C above ambient. Temperature Rating—80°C. Impedance—105 Ohms Nom. Capacitance—17.0 pF/ft. Nom. Crosstalk—10′ sample, 5nS Rise Time with 2 lines driven. NE = 4.0% FE = 4.6% Nom. U.L. Style Number—Component wire style 1061. Cable style 2697.

Stock No.	Mfr.'s Type	No. Cond.	Width 'A' Inches	Span 'B' Inches	PER 100′	
					1-4	5-9
608-7210	843-135-2801-10	10	.505	.405 ± .015	**28.50**	**24.89**
608-7214	843-135-2801-14	14	.705	.650 ± .007	**38.50**	**34.86**
608-7216	843-135-2801-16	16	.805	.750 ± .015	**47.00**	**39.83**
608-7220	843-135-2801-20	20	1.005	.950 ± .015	**58.00**	**49.79**
608-7224	843-135-2801-24	24	1.205	1.150 ± .015	**62.40**	**52.42**
608-7225	843-135-2801-25	25	1.255	1.200 ± .015	**70.00**	**58.42**
608-7226	843-135-2801-26	26	1.305	1.250 ± .015	**73.00**	**60.75**
608-7234	843-135-2801-34	34	1.705	1.650 ± .015	**88.40**	**79.45**
608-7240	843-135-2801-40	40	2.005	1.950 ± .020	**104.00**	**93.47**
608-7250	843-135-2801-50	50	2.505	2.450 ± .020	**130.00**	**116.84**
608-7260	843-135-2801-60	60	3.005	2.950 ± .020	**156.00**	**140.21**
608-7264	843-135-2801-64	64	3.205	3.150 + .020	**166.40**	**149.56**

Twist 'N' Flat Planar Cable





► **Unique Design Allows Mass Termination to IDC Connectors**

► **Up to 64 Conductors (32 pr.) with Precise Spacing for Controlled Electrical Characteristics**

► **Highly Flexible PVC Insulation is Color Coded with a Tan Common to Allow Ten Repeatable Colors**

► **Double Contour at Flat Sections Allows Termination from Either Side of Cable, Easy Conductor Separation for Circuit Routing**

► **U.L. and CSA Recognized**

Twist 'N' Flat cable combines the time and cost savings of mass termination with the electrical performance of twisted pairs, making it ideal for high speed computers and communications equipment. Labor savings of 95% and more compared to automatic strip and crimp terminations are readily achieved. Twist 'N' Flat cable consists of stranded round conductors insulated with color coded PVC, twisted into pairs and laminated between layers of PVC film to form a planar cable. The twist in adjacent pairs is reversed to reduce crosstalk even further. Standard cables alternate 18-inch long twisted pair sections with 2-inch flat sections in which the conductors are laminated in parallel. This cable is packaged in 100-foot lengths in dispenser boxes with a footage indicator. 28 AWG, 7/36, .050 centers.

Characteristics. Physical: Conductors—28 AWG, 7/36 strand tinned copper. Conductor Insulation—.010″ Nom. wall. Number of Conductors—10, 14, 16, 20, 26, 34, 40, 50, 60 and 64. Color Code—Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray, White, Black (Repeat) Tan common. Conductor Spacing—Twisted pairs center .100″ Nom. Conductors in Flat Centers—.050″ ± .005″. Cable Thickness—.042″ Nom. (Flat Section). Laminate—Clear PVC self extinguishing. **Electrical:** Voltage Rating = 300V. Current Rating—1 Amp Nom. at 10°C above ambient. Temperature Rating—80°C. Impedance—100 ohms Nom. Capacitance—22 pF/ft. nom. Crosstalk—10′ sample, 5nS rise time with 1 line driven, NE = 4.0%, FE = 3.5% Nom. U.L. Style Number—Component wire style 1061. Cable style 2697.

Stock No.	Mfr.'s Type	No. of Pairs	Width 'A' Inches	Span 'B' Inches	PER 100′	
					1-4	5-9
608-7310	843-132-2801-010	5	.53	.450 ± .015	**47.94**	**41.45**
608-7314	843-132-2801-014	7	.73	.650 ± .015	**65.80**	**55.27**
608-7316	843-132-2801-016	8	.83	.750 ± .015	**75.20**	**66.32**
608-7320	843-132-2801-020	10	1.03	.950 ± .015	**94.00**	**82.90**
608-7326	843-132-2801-026	13	1.33	1.250 ± .015	**122.20**	**107.78**
608-7334	843-132-2801-034	17	1.73	1.650 ± .015	**159.80**	**140.94**
608-7340	843-132-2801-040	20	2.03	1.950 ± .020	**188.00**	**165.81**
608-7350	843-132-2801-050	25	2.53	2.450 ± .020	**235.00**	**207.27**
608-7360	843-132-2801-060	30	3.03	2.950 ± .020	**282.00**	**248.72**
608-7364	843-132-2801-064	32	3.23	3.150 ± .025	**300.80**	**265.30**

Belden/Olympic Cross-Reference

The following is a guide of suggested alternate items which are functionally equivalent. For convenience, color code differences are denoted with an asterisk. Since constructional differences are not indicated, **consult your nearest Allied Sales Office for a detailed description.**

Belden No.	Olympic No.	Belden No.	Olympic No.	Belden No.	Olympic No.	Belden No.	Olympic No.	Belden No.	Olympic No.	Belden No.	Olympic No.	Belden No.	Olympic No.	Belden No.	Olympic No.
1154A	3078	8445	2005*	8746	2627	9365	3162	9559	3184	9840	3939	82506	9504	83509	43509
1155A	3604	8446	2385	8747	2706	9366	3163	9562	3052	9842	3950	82509	9505	83512	43512
1156A	6690T	8447	2386	8748	2709	9367	3164	9563	3185	9843	3951	82512	9506	83515	43515
1227A	3077	8448	2387	8749	2715	9368	3197	9565	3186	9844	3952	82723	2976T	83552	43552
1228A	3079	8449	2388	8750	2727	9369	3198	9566	3035	9855	6173	82729	2998T	83553	43553
1229A	3078R	8450	2874	8751	2968	9388	3199	9570	3055	9857	6857	82740	2202T	83554	43554
1230A	3080R	8451	2875	8752	2967	9389	3200	9571	3106	9860	6860	82741	2702T	83556	43556
1231A	3081R	8452	6300	8753	2611	9390	3201	9572	3112	9863	6163	82742	2703T	83559	43559
1232A	3083R	8453	6301*	8754	2613	9391	3202	9574	3108	9873	2990	82743	2706T	83562	43562
1242A	2382	8456	2010	8755	2619	9392	3203	9575	3114	9874	2991	82757	2704T	83569	43569
1243A	3602	8457	2012	8756	2623	9402	2989	9576	3100	9875	2992	82760	2886T	83602	43602
1244A	3603	8458	2015*	8757	2604	9405	2389	9577	3101	9876	2993	82761	2877T	83604	43604
1245A	3604	8459	2025*	8759	2902	9407	3130	9578	3110	9877	2994	82777	2980T	83606	43606
1246A	3606	8460	2370	8760	2886	9408	3131	9579	3116	9879	2995	82778	2981T	83609	43609
1247A	3625	8461	2801	8761	2877	9409	3132	9580	3118	9880	6880	83000	301	83612	43612
1248A	3602	8465	2205	8762	2881	9410	3133	9581	3120	9881	6881	83001	302	83652	43652
1249A	3603	8466	2212	8763	3033	9411	3134	9582	3122	9883	3020	83002	303	83653	43653
1250A	3604	8467	2207	8764	2973	9412	3135	9583	3124	9886	3021	83003	305	83654	43654
1251A	3606	8468	2215	8765	2974	9418	2890	9584	3102	9890	3024	83004	306	83656	43656
1252A	3612	8469	2209	8766	2975	9420	2455*	9585	3056	9891	6891	83005	308	83659	43659
1253A	3625	8470	2372	8767	2971	9421	2008	9597	3103	9892	6892	83006	307	83662	43662
8011	759	8471	2302	8768	2972	9422	2457*	9598	3104	9893	6893	83007	309	83702	43702
8012	758	8472	6302*	8769	2987	9423	2009	9608	9430	9894	3025	83008	310	83703	43703
8013	757	8473	2342	8771	2880	9424	2459*	9609	9431	9898	6898	83009	311	83704	43704
8019	756	8477	2362	8772	2884	9425	2462*	9610	9432	9901	6901	83010	312	83706	43706
8020	755	8478	6303*	8773	2988	9427	2466*	9611	9433	9907	6907	83023	316	83709	43709
8021	754	8479	6743	8774	2982	9429	2470*	9612	9434	9908	368*	83025	317	83712	43712
8022	753	8481	2365	8775	2983	9430	2007	9613	9435	9910	367	83026	318	83715	43715
8023	752	8483	2374	8776	2985	9431	2020*	9614	9436	9912	366	83027	320	83719	43719
8024	751	8484	2104*	8777	2980	9432	2030*	9615	9437	9916	357*	83028	319	86262	6269TF
8025	750	8486	2798	8778	2981	9433	2040*	9616	9438	9918	355*	83029	321	87120	5206T
8102	9400	8487	3026	8780	2910	9434	2050*	9617	9439	9919	353*	83030	322	87760	2886T
8103	9401	8488	2008*	8784	2390	9438	6438	9618	9440	9921	351*	83041	330	87761	2877T
8104	9402	8489	2204	8786	3028	9439	2107	9619	9441	9923	350*	83043	331	87292	6272T
8105	9403	8500	162	8787	3027	9444	2104	9620	2305	9924	360	83045	332	88102	3929T
8106	9404	8501	160	8790	2907	9445	2105	9621	2309	9925	9412	83046	334	88103	3930T
8107	9405	8502	158	8791	2908	9455	2109	9622	2325	9927	9413	83047	336	88104	3931T
8108	9406	8503	156	8794	2381*	9457	2112	9623	2345	9929	9414	83048	337	88106	9404T
8110	9407	8504	154	8795	2380*	9458	2115	9626	2225	9931	9415	83049	338	88240	5240T
8112	9408	8505	153	8897	509	9462	2970	9680	9601*	9932	9416	83050	339	88241	6244T
8115	9409	8509	155	8898	508	9463	6463	9681	9602*	9933	9417	83073	M22759/11-26-9	88281	6174T
8118	9410	8510	179	8899	506	9476	6313	9682	9604*	9934	9418	83074	M22759/11-24-9	88442	2002T
8125	9411	8511	177	8916	365	9477	6314	9683	9607*	9935	9419	83075	M22759/11-22-9	88444	2004T
8205	2781	8512	175	8917	364	9478	6315	9684	9609*	9936	9420	83076	M22759/11-20-9	88489	2204T*
8214	5214	8513	173	8918	363	9479	6316	9685	3029	9937	9421	83077	M22759/11-18-9	88641	2822T
8216	5216*	8514	171	8919	362	9480	6317	9686	3035	9938	9422	83084	M22759/16-24-9	88723	2976T
8219	5219	8515	170	8920	361	9481	6318	9688	6688	9939	9442	83085	M22759/16-22-9	88741	2702T
8227	6203	8516	178	9101	6101	9482	6319	9689	6689	9940	9443	83086	M22759/16-20-9	88742	2703T
8232	6232	8517	176	9151	2366	9483	6320	9696	6196	9941	9444	83087	M22759/16-18-9	88743	2706T
8237	5237*	8518	174	9152	2367	9484	6321	9721	2308	9942	9445	83241	53241	88757	2704T
8238	5238*	8519	172	9153	2371	9485	6322	9728	6409	9943	9446	83242	53242	88760	2886T*
8240	5240	8520	109	9154	2885	9486	3204	9729	2998	9944	9447	83264	53264	88761	2877T
8254	6295	8521	107*	9156	2802	9487	3205	9730	6400	9945	9448	83265	53265	88777	2980T
8255	5255	8522	105*	9157	2804	9488	3206	9731	6401	9946	9449	83266	53266	88778	2981T
8259	5259*	8523	103*	9158	2605	9489	3207	9732	6402	9947	9450	83267	53267	89108	6108T
8261	5261	8524	101	9159	2805	9491	3150	9733	6403	9948	9451	83269	53268	89120	5206T
8262	5262	8525	100	9160	2608	9492	3151	9734	6404	9949	9452	83270	53270	89207	6275T
8263	5263*	8527	110	9161	2808	9493	3152	9735	6405	9950	9453	83284	53284	89248	6246T*
8267	5267	8528	115	9182	6182	9494	3153	9736	6406	9951	2940	83301	3400	89269	6269T
8268	5268	8529	113	9184	6172	9495	3154	9737	6407	9952	2941	83302	3404	89272	6272T
8281	6174	8530	112	9201	6201	9497	2373	9738	6408	9953	2942	83303	3408	89292	6292T
8302	9470	8538	111	9207	6275	9498	2375	9740	2202	9954	2943	83304	3412	89418	2890T*
8303	9471	8597	152	9243	6243	9501	2944	9741	2812	9961	2932	83305	3416	89503	2946T
8304	9472	8598	151	9244	6244*	9502	2945	9742	2815	9962	2933	83306	3420	89504	2947T
8305	9473	8599	150	9248	6246	9503	2946	9743	2819	9963	2934	83307	3424	89505	2948T
8306	9474	8601	6310	9250	6250	9504	2947	9744	2702	9964	2935	83308	3428	89555	6555T
8307	9475	8602	6311	9251	6251	9505	2948	9745	2703	9965	2928	83315	3401	89688	6688T
8308	9476	8603	6312	9259	6259	9506	2949	9746	2704	9966	2929	83316	3405	89689	6689T
8310	9477	8618	2892	9260	6326	9507	2950	9747	2712	9967	2930	83317	3409	89696	6196T
8312	9478	8619	2219	9261	6327	9508	2951	9748	2719	9968	2931	83318	3413	89728	6409T
8315	9479	8620	2304	9265	6265	9509	2952	9749	2723	9980	376	83319	3417	89729	2998T
8318	9480	8621	2307	9268	6268	9510	2953	9750	2783	9981	375	83320	3421	89730	6400T
8325	9481	8622	2312	9269	6269	9512	3170	9751	2786	9982	374	83321	3425	89731	6401T
8332	9454	8623	2315	9272	6272	9513	3171	9752	2789	9983	372	83322	3429	89732	6402T
8333	9455	8624	2319	9273	6273	9514	3172	9755	2795	9984	370	83330	3402	89734	6404T
8334	9456	8627	2344	9291	6291	9515	2954	9767	2999	9985	373	83331	3406	89740	2202T*
8335	9457	8628	2347	9302	2960	9516	3173	9768	2984	9986	359	83332	3410	89759	9504
8336	9458	8629	2352	9305	2961	9519	2955	9769	2986	9990	2977	83333	3414	89855	6173T
8337	9459	8641	2822	9306	2962	9520	3174	9770	2879	9991	2978	83334	3418	89880	6880T
8338	9460	8690	2803	9309	2963	9521	3175	9771	3038	9992	2979	83335	3422	89891	6691T
8340	9461	8691	2806	9312	3145	9524	3176	9772	3039	9999	6299	83336	3426	89892	6892T
8342	9462	8692	2809	9314	3144	9525	2956	9773	3000	19105	6713	83337	3430	89901	6901T
8345	9463	8718	2894	9315	2964	9526	3177	9774	3001	19106	6703	83345	3403	89907	6907T
8348	9464	8719	2891	9316	3143	9527	3178	9775	3002	19107	6693	83346	3407	9L28009	9500/9
8355	9465	8720	2893	9318	3142	9533	2823	9776	3003	19108	6683*	83347	3411	9L28010	9500/10
8402	3500*	8722	3034	9319	2965	9534	2824	9777	3004	19109	6673*	83348	3415	9L28014	9500/14
8403	3006*	8723	2976	9320	3141	9535	2825	9784	3036	19120	6300	83349	3419	9L28015	9500/15
8404	3007*	8724	3032	9322	3140	9536	2826	9794	2382*	19129	6723	83350	3423	9L28016	9500/16
8405	3008*	8725	3037	9327	2966	9537	2827	9802	3022	19130	6733	83351	3427	9L28020	9500/20
8407	3551	8726	3040	9328	3187	9538	2828	9803	3023	19201	6652	83352	3431	9L28024	9500/24
8408	3549*	8727	3041	9329	3188	9539	2829	9807	3943	19202	6642	83403	433	9L28025	9500/25
8412	3500	8728	3030	9330	3189	9540	2830	9808	3944	19203	6632	83404	432	9L28026	9500/26
8418	3506	8729	2882*	9331	3190	9541	2835	9809	3945	19204	6622	83412	420	9L28034	9500/34
8422	6806*	8730	3031	9332	3191	9542	2840	9810	3946	19205	6663	83413	422	9L28036	9500/36
8423	3501	8732	2996	9333	3192	9543	2845	9811	3953	19206	6653	83414	424	9L28037	9500/37
8424	3502	8734	2959	9334	3193	9544	2850	9829	3929	19207	6643	83415	426	9L28040	9500/40
8425	3503*	8735	2912	9335	3194	9545	2860	9830	3930	19208	6633	83416	428	9L28050	9500/50
8426	3504*	8737	2896	9336	3195	9546	2870	9831	3931	19209	6623	83424	425	9L28060	9500/60
8427	3505	8739	2895	9337	3196	9550	2957	9832	3932	19216	6654	83425	427	9L28064	9500/64
8428	3540*	8740	2601	9341	3208	9551	3179	9833	3933	19217	6644	83443	410	—	—
8437	2911	8741	2602	9342	3209	9552	3180	9834	3934	19227	6602	83444	412	—	—
8441	2958	8742	2603	9343	3210	9553	3181	9835	3935	19228	6612	83445	414	—	—
8442	2002	8743	2606	9344	3211	9554	3182	9836	3936	19229	6603	83446	416	—	—
8443	2003*	8744	2609	9363	3160	9555	6555	9837	3937	19230	6613	83504	43504	—	—
8444	2004	8745	2615	9364	3161	9556	3183	9838	3938	82442	2002T	83506	43506	—	—

Sound/Broadcast Audio and Instrumentation Cables

20 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated. 20 AWG stranded tinned copper drain wire with chrome vinyl jacket. 300V. **Temp. Rating:** – 20°C to + 60°C.

Mfr.'s Type	No. of Cond.	Strands	Nom. O.D.	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
2881*†	2	7/28	.204″	876-4101	107.27	876-4102	24	185.91
2883*†	2	10/30	.186″	876-4104	104.55	876-4105	20	198.33
2884*	3	7/28	.208″	876-4107	122.73	876-4108	29	232.73
2887*	4	10/30	.225″	876-4110	172.73	876Q4111	38	290.12

*2 Cond. UL2092, 3 Cond. UL2093, 4 Cond. UL2094 †Twisted pair.

18 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated. 20 AWG drain wire with chrome vinyl jacket. 300V. **Temp. Rating:** – 20°C to + 60°C.

2886*†	2	16/30	.222″	876-4113	118.18	876-4114	30	218.18
2888*	3	16/30	.236″	876-4116	154.55	876-4117	42	256.67

†Twisted pair.

18 Gauge, Stranded Conductors UL2464

Cabled conductor, tinned copper, vinyl-insulated, aluminum mylar shield overall, 20 AWG stranded tinned copper drain wire with chrome vinyl jacket. 300V. **Temp. Rating:** – 20°C to + 80°C.

2890*	4	16/30	.245″	876-4119	195.83	876Q4120	46	375.23

16 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, twisted-pair, aluminum mylar shield, 18 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600V. **Temp. Rating:** – 20°C to + 60°C.

Mfr.'s Type	No. of Cond.	Strands	Nom. O.D.	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
2891*	2	19/29	.304″	876-4122	177.27	876Q4123	49	313.34

*2 Cond. UL2106, 3 Cond. UL2107, 4 Cond. UL2108

16 Gauge, Cabled Conductors

Cabled conductor, tinned copper, vinyl-insulated, aluminum mylar shield overall, 18 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600V. **Temp. Rating:** – 20°C to + 60°C.

2892*	3	19/29	.318″	876-4125	259.09	876Q4126	68	429.37
2892/4*	4	19/29	.385″	876-4128	316.67	876Q4129	85	546.67

14 Gauge, Stranded Conductors

Stranded, tinned copper conductor, polyethylene-insulated, twisted pair, aluminum mylar shield. 16 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600V. **Temp. Rating:** – 20°C to + 60°C.

2893	2	19/27	.340″	876-4131	232.73	876Q4132	73	403.34

12 Gauge, Stranded Conductors

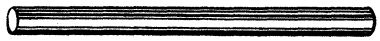
Stranded, tinned copper conductor, polyethylene-insulated, twisted-pair, aluminum mylar shield, 18 AWG stranded tinned copper drain wire with chrome vinyl jacket. 600V. **Temp. Rating:** – 20°C to + 60°C.

2894	2	19/25	.400″	876-4134	366.67	876Q4135	103	663.34

Tinned Copper Flat Braid and Bus Bar

Flat Braid: Woven braid of tinned copper strands rolled flat. Use where top flexibility and low-volt/high current capacity are needed. Often used for grounding and as bonding straps or in connections to moving, parts.

Mfr.'s Type	Nom. Flat Width	Nom. Thick	AWG Indiv. Ends	Total No. of Indiv. Ends	Current Cap	100′ Stock No.	100′ EACH	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ EACH
701	1/32″	.020″	36	16	6	876-4139	19.09	876-4140	63.64	876-4141	123.87
702	3/64″	.020″	36	24	7	876-4142	20.25	876-4143	78.25	876-4144	128.25
703	3/32″	.020″	36	48	11	876-4145	29.75	876-4146	86.36	876-4147	148.00
704	1/8″	.020″	36	72	16	876-4148	38.25	876-4149	88.18	876-4150	161.82
705	3/16″	.020″	36	120	25	876-4151	43.64	876-4152	136.36	876Q4153	218.86
706	1/4″	.030″	36	168	32	876-4154	49.09	876-4155	148.30	876Q4156	284.31
707	3/8″	.030″	36	288	46	876-4157	98.03	876Q4158	352.94	876Q4159	553.33
708	1/2″	.030″	36	384	53	876-4160	94.27	876Q4161	309.09	876Q4162	526.67
709	5/8″	.030″	36	384	53	876-4163	98.79	876Q4164	318.35	876Q4165	596.67
710	3/4″	.040″	36	832	85	876-4166	163.97	876Q4167	618.33	876Q4168	1111.67
711	1″	.045″	36	832	85	876-4169	163.33	876Q4170	659.17	876Q4171	1211.67



Bus Bar: Pure electrolytic, soft-drawn solid copper properly annealed and tinned. Used for coil windings, antennas, component leads, bus bar, ground wire, and point-to-point wiring. MIL-W-3861, QQ-W-343-Type S, ASTM-B-33 specs.

Stock No.	Mfr.'s Type	Conductor Size (AWG)	Nom. O.D.	1000′ EACH
876-4172	749	32	.008″	9.36
876-4173	750	30	.010″	10.87
876-4174	751	28	.013″	12.47
876-4175	752	26	.016″	13.37
876-4176	753	24	.020″	17.36
876-4177	754	22	.025″	30.36
876-4178	755	20	.033″	36.75
876-4179	756	18	.040″	52.26
876-4180	757	16	.051″	66.58
876-4181	758	14	.065″	117.87
876-4182	759	12	.082″	206.78

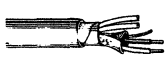
Plenum Cables

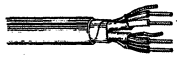
Power Limited Circuit Cable - Class 2

Approved for direct installation in air plenums without conduit. Use up to 200′. Low cap. 12.5 PF/FT between conductors twisted pairs. 24 AWG stranded tinned conductors, cabled with overall aluminum mylar shield, 22 AGW stranded tinned copper drain wire, overall opaque jacket.

Mfr.'s Type	No. of Pairs	Strand	Nom. O.D.	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
9500	2	7/32	.208″	876Q4029	325.00	876Q4030	20	551.62
9501	3	7/32	.220″	876Q4032	420.83	876Q4033	36	654.28
9502	4	7/32	.240″	876Q4035	471.54	876Q4036	37	846.15
9503	6	7/32	.290″	876Q4038	646.67	876Q4039	52	1153.85
9504	7	7/32	.300″	876Q4041	646.15	876Q4042	58	1292.31
9505	9	7/32	.350″	876Q4044	846.15	876Q4045	63	1428.57
9506	12*	7/32	.420″	876Q4047	1076.92	876Q4048	129	1998.00

*12 pairs plus 1 single.





Multi-Paired Individually-Shielded Cable

Tinned copper, teflon insulated, black/red and green/white pairs each under an aluminum-mylar shield. 22 AWG stranded drain wires with overall tape wrap, red jacket. NEC725-38(B)(3); UL Subject 13.

2976T	2	7/30	.180″	876Q4080	325.24	876Q4081	24	583.34
2980T	3	7/30	.252″	876Q4083	416.67	876Q4084	36	734.08

POS Cables

Solid, tinned copper conductor. Foil shield with drain wire, tinned copper braid shield. Opaque teflon jacket.

Mfr.'s Type	No. of Conductors	AWG	Nom. O.D.	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
6173T	2	22	.280″	876Q8017	479.17	876Q8018	41	883.33

Remote-Control, Signaling, Power Limited Circuits

Stranded, tinned copper using extruded insulation, cabled; TFE binder tape, overall opaque jacket unshielded or shielded. Shielded has aluminum mylar shield and drain wire NEC725-38(B)(3).

Unshielded

Mfr.'s Type	No. of Conductors	AWG	Nom. O.D.	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
2202T	2	18	.175″	876Q7090	225.50	876Q7091	24	392.50
2204T	4	18	.214″	876Q7093	353.13	876Q7094	42	663.64
2206T	6	18	.290″	876Q7096	425.00	876Q7097	54	701.00
2208T	8	18	.224″	876Q7099	583.33	876Q8000	70	1055.00
2302T	2	16	.256″	876Q8002	258.33	876Q8003	27	458.33

Shielded

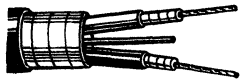
2877T	2	22	.150″	876Q8005	190.00	876Q8006	16	343.00
2882T	4	22	.215″	876Q8008	220.00	876Q8009	24	398.50
2886T	2	18	.196″	876Q4077	253.00	876Q4078	26	453.00
2890T	4	18	.215″	876Q8011	310.00	876Q8012	33	565.00

Twinaxial Cable

NEC725-38(B)(3). UL Subject 13, Computer cables - equivalent to IBM 7362061 type.

Mfr.'s Type	Conductor	AWG	Shield	Jacket	Nom. O.D.	500′ Stock No.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
6275T	1 TC, 1 C	20	TC Brd 95%	Black Tint Teflon	.282″	876Q4074	693.00	876Q4075	57	1375.00

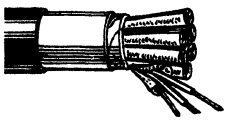
Portable Cord



Bare Stranded Copper conductor, separator, rubber insulation, rubber jacket. 300V. 18 AWG, 2-conductor.

Stock No.	Mfr.'s Type	U.L. Style	Nom. O.D.	Length (ft.)	Wt. Lbs.	EACH
876-5006	6303	SJ	.300″	250′	12.5	141.84

Shielded Pairs Audio/Control Cable



Tinned copper conductors, polypropylene insulation. Individually shielded pairs with a 24 AWG common drain wire. Aluminum mylar shield. 22 AWG, 7/30 stranded conductors. Pairs cabled on common axis to reduce diameter. Chrome vinyl jacket. 400V.

Mfr.'s Type	Number of Pairs	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2976	2	.165″	876-5049	112.36	876-5050	22	198.87

Single Pair Cable

2875

Aluminum Mylar Shield. 22 AWG, Strand Conductors, Tinned Copper.
Vinyl insulated, stranded tinned copper drain wire, chrome vinyl jacket. **Temperature Rating:** – 20°C to + 80°C. 300V. UL2464.

Mfr.'s Type	Number of Cond.	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2970	2	.178″	876-4000	98.17	876-4001	19	193.33

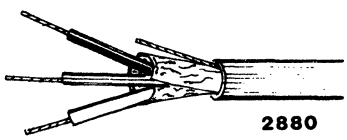
Polypropylene insulated, 24 AWG, stranded tinned copper drain wire. Black or gray vinyl jacket. **Temperature Rating:** – 55°C to + 105°C. 200V.

2875	2	.135″	876-4002	81.63	876-4003	15	153.06

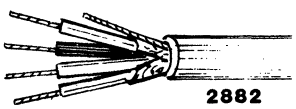
Polyethylene insulated, 22 AWG stranded tinned copper drain wire. Chrome vinyl jacket. **Temperature Rating:** – 20°C to + 60°C. 350V. UL2092.

2877	2	.175″	876-4004	153.06	876-4005	16	176.47

Multi-Conductor Cable



2880



2882

Aluminum Mylar Shield. 22 AWG, Stranded Conductors, Tinned Copper. Conductors Cabled.
Polypropylene insulated, stranded tinned copper drain wire. Gray vinyl jacket. **Temperature Rating:** – 20°C to + 80°C. 200 V.

Mfr.'s Type	Number of Cond.	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2879	3	.145″	876-4008	112.74	876-4009	18	215.68

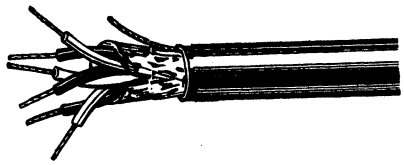
Polyethylene insulated. 22 AWG stranded tinned copper drain wire. Brown vinyl jacket. **Temperature Rating:** – 20°C to + 80°C. 350V. UL2093.

2880	3	.183″	876-4010	91.70	876-4011	21	171.67

Polyethylene insulated, 24 AWG stranded tinned copper drain wire. Chrome vinyl jacket. **Temperature Rating:** – 20°C to – 60°C. 350V. UL2094.

2882	4	.215″	876-4012	145.35	876-4013	30	235 00

Computer Cables



For your computer requirements. U.L. style 2464 (300V) CSA S-R PVC. Available in both single conductors and twisted pairs. Both are 24 gauge (7 × 32), tinned copper, vinyl insulated, overall aluminum mylar shield, 24 AWG stranded tinned copper drain wire, and chrome vinyl jacket. Passes the VW-1 (FR-1) vertical flame test.

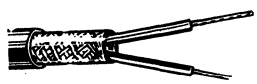
Multi-Conductor Cable

Mfr.'s Type	Number of Cond.	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2823	3	.168″	876-7001	83.65	876-7002	18	159.68
2824	4	.180″	876-7004	101.69	876-7005	22	207.27
2825	5	.190″	876-7007	118.18	876Q7008	25	229.36
2826	6	.205″	876-7010	145.46	876Q7011	28	263.64
2827	7	.205″	876-7013	168.18	876Q7014	30	287.27
2828	8	.220″	876-7016	166.67	876Q7017	34	323.64
2829	9	.240″	876-7019	178.65	876Q7020	38	341.20
2830	10	.250″	876-7022	209.09	876Q7023	40	409.09
2835	15	.280″	876Q7025	281.82	876Q7026	56	544.55
2840	20	.310″	876Q7028	445.46	876Q7029	70	762.71
2845	25	.370″	876Q7031	472.73	876Q7032	89	910.20

Multi-Pair Cables

Mfr.'s Type	Number of Pairs	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
2945	2	.222″	876-7037	128.96	876Q7038	24	214.55
2946	3	.232″	876-7040	166.35	876Q7041	29	287.62
2947	4	.265″	876-7043	210.11	876Q7044	35	339.65
2948	5	.280″	876-7046	235.35	876Q7047	47	398.76
2949	6	.295″	876Q7049	283.39	876Q7050	50	496.36
2950	7	.300″	876Q7052	309.09	876Q7053	55	549.82
2951	8	.330″	876Q7055	347.27	876Q7056	65	631.33
2952	9	.340″	876Q7058	422.65	876Q7059	70	694.55
2953	10	.380″	876Q7061	453.64	876Q7062	79	773.40
2954	15	.425″	876Q7064	561.95	876Q7065	105	915.39
2956	25	.515″	876Q7034	972.73	876Q7035	166	1712.50

UL2095 Braided Shield Cable



Stranded tinned copper twisted conductors, 18 AWG, 16/30, color coded vinyl insulation, 75% braided tinned copper shield. – 20°C to + 80°C. Gray vinyl jacket.

Mfr.'s Type	Number of Cond.	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
3062	3	.245″	876-5022	269.09	876Q5023	38	498.00

Braided Shield Control Cable

Stranded tinned copper conductor. Color coded polyethylene insulation, cabled with filters where necessary. Mylar wrap, braided tinned copper shield, gray vinyl jacket overall. 20 AWG, 26/34 strand. – 20°C to + 80°C.

Mfr.'s Type	Number of Cond.	Nom. O.D.	500′		1000′		
			Stock No.	EACH	Stock No.	Wt. Lbs.	EACH
3007	4	.260″	876-5025	298.00	876Q5026	53	587.27

18

Teflon and Hook-Up Wire

Type E Extruded Teflon Wire

Single conductor stranded silver plated copper, extruded TFE Teflon insulation. – 65°C to + 200°C. **Voltage Rating:** 600V. Resistant to acids, alkalis, oil, flame, moisture, solvents, and fungus.

Mfr.'s Type	AWG	Strand	Nom. O.D.	500′ Stock No.	500′ Wt. Lbs.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
302	28	7/36	.036″	876-126N	1	70.00	876-127N	1.6	110.00
303	26	7/34	.040″	876-128N	1	62.00	876-129N	2.0	99.00
304	26	19/38	.041″	876-130N	1	79.00	876-131N	2.0	110.95
305	24	19/36	.045″	876-132N	2	86.00	876-133N	2.8	120.30
306	24	7/32	.044″	876-134N	3	75.00	876-135N	2.8	104.50
307	22	19/34	.051″	876-136N	3	96.00	876-137N	3.7	134.40
308	22	7/30	.050″	876-138N	2	90.00	876-139N	3.7	125.10
309	20	19/32	.059″	876-140N	3	110.00	876-141N	5.5	156.90
310	20	7/28	.058″	876-142N	3	113.30	876-143N	5.5	151.00
311	18	19/30	.070″	876-144N	3	133.35	876-145N	6.0	213.55
312	16	19/29	.077″	876Q146N	4	169.80	876Q147N	8.0	244.35
313	14	19/27	.094″	876Q148N	8	233.35	876Q149N	16.1	357.75
314	12	19/25	.113″	876Q150N	12	283.40	876Q151N	23.5	431.10
315	10	37/26	.134″	876Q152N	18	420.00	876Q153N	35.0	763.80

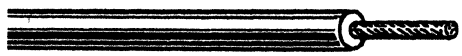
100′ Lengths Available as **Non-Cancellable, Non-returnable.**

Substitute color number for "N" in stock number.

1 — White
2 — Black
3 — Red
4 — Green
5 — Yellow
6 — Blue.

UL1007 Hook-Up Wire

U.L. Style 1007. CSA Style TR-64. MIL-W-76B. 300V, 80°C. Stranded tinned copper, color coded, medium wall polyvinylchloride insulation. – 40°C to + 80°C. Resistant to acids, alkalis, oil, flame, moisture, and fungus.



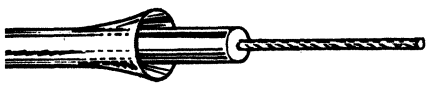
350	24	7/32	.057″	876-100N	3	17.50	876-101N	2.8	28.00
351	22	7/30	.065″	876-102N	2	18.50	876-103N	3.8	29.20
353	20	10/30	.071″	876-104N	3	22.00	876-105N	5.0	35.20
355	18	16/30	.080″	876-106N	4	30.20	876-107N	7.2	48.40
357	16	26/30	.095″	876-108N	6	41.00	876-109N	10.8	64.80

UL1015

U.L. Style 1015. CSA Style TEW. 600V, 105°C. Stranded tinned copper, color coded, polyvinylchloride insulation. – 55°C to + 105°C. Resistant to acids, alkalis, oil, flame, moisture, and fungus.

361	22	7/30	.095″	876-110N	3	22.00	876-111N	6.0	34.00
362	20	10/30	.102″	876-112N	4	24.60	876-113N	7.5	39.40
363	18	16/30	.112″	876-114N	5	31.30	876-115N	9.9	50.60
364	16	26/30	.125″	876-116N	7	43.50	876-117N	13.8	69.00
365	14	41/30	.142″	876-118N	10	59.70	876-119N	20.0	95.60
366	12	65/30	.158″	876-120N	16	92.94	876-121N	31.2	148.70
367	10	105/30	.183″	876Q122N	22	103.35	876Q123N	44.0	185.70
368	8	133/29	.250″	876Q124N	37	175.00	876Q125N	73.8	353.40

THHN Wire



Stranded bare copper conductor, color coded, PVC insulation, nylon sheath. 600V, 90°C. Gas and oil resistant. **Stocked Colors:** 1-4 and 6.

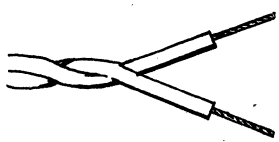
Stock No.	AWG	Strand	Ins. Thickness	Nylon Sheath	O.D.	Amp Impacity	Wt. Lbs.	PER 500′
876-154N	16	26	.015″	.004″	.100	10	3.0	45.83
876-155N	14	19	.015″	.004″	.110	15	4.0	76.00
876-156N	12	19	.015″	.004″	.130	20	6.0	91.66
876-157N	10	19	.020″	.004″	.170	30	10.0	116.66
876-158N	8	19	.030″	.005″	.220	50	16.0	254.16

Substitute color number for "N" in stock number. 1 — White; 2 — Black; 3 — Red; 4 — Green; 5 — Yellow; 6 — Blue.

Conductor Speaker Wire

UL1007 2-Conductor Speaker Wire

300V. Tinned copper, vinyl insulated.

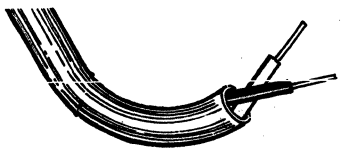


Mfr.'s Type	AWG	Strand	Nom. O.D.	Color Code	500′ Stock No.	500′ Wt. Lbs.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
2370	18	16/30	.180″	Black/White	876-1600	9	54.20	876-1601	18.0	126.66
2372	16	19/29	.204″	Black/White	876-1604	13	91.70	876-1605	25.0	183.33
2373	16	19/29	.206″	Orange/Black	876-1608	13	85.00	876-1609	25.8	145.50

UL1007 3-Conductor Speaker Wire

300V. Tinned copper, vinyl insulated.

2375	16	19/29	.220″	Orange, Black, Orange w/Black stripe	876-1612	19	140.00	876Q1613	37.4	280.00



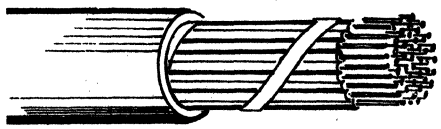
Intercom Cable

Solid bare copper, polyethylene insulation. Conductors twisted. Rose gray vinyl jacket .022″. Sold in knockout cartons.

Stock No.	Mfr.'s Type	No. of Cond.	AWG	Strand	Nom. O.D.	Color Code	PER 500′
876-1620	2380	2	22	Solid	.160″	Red Green	31.58
876-1625	2382	4	22	Solid	.190″	Green, Red, Yellow, Black	43.33

REA PE-71 Inside Telephone Cables

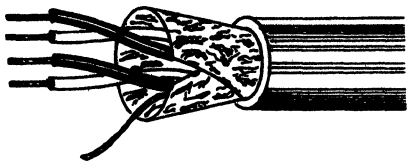
Solid bare copper, vinyl insulated, twisted pairs. Gray vinyl jacket with nylon rip cord.



Mfr.'s Type	No. of Pairs	AWG	Nom. O.D.	500′ Stock No.	500′ Wt. Lbs.	500′ EACH	1000′ Stock No.	1000′ Wt. Lbs.	1000′ EACH
3079	3	24	.190″	876-1630	8	49.87	876-1631	15	89.53
3080	6	24	.270″	876-1635	20	91.89	876-1636	39	167.00
3083	25	24	.460″	876Q1640	55	216.75	876Q1641	110	433.00

Multi-paired Overall Shielded Cables

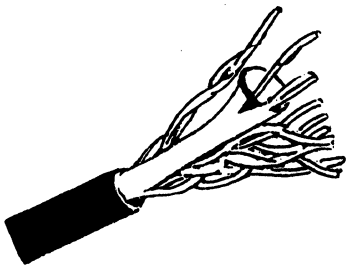
NEW



ULAWM Style 2448 and UL2919. Passes VW-1 (FR-1) vertical flame test. **Temperature rating:** – 20°C to + 60°C. Twisted pairs of polyethylene insulated 24 AWG, seven strand tinned conductors, cabled with overall aluminum/mylar shield with 22 (7) AWG tinned copper drain wire. Jacketed with flame retardant gray PVC, .032" nominal wall thickness. Nominal mutual capacitance 12.5 pF/FT.

Mfr.'s Type	No. of Pairs	Nom. O.D.	Nom. Capacitance pF/FT	Stock No.	PRICE PER 500'	Stock No.	PRICE PER 1000'
9600	2	.264	12.5	876-9600	146.00	876Q9610	233.34
9601	3	.278	12.5	876-9601	180.00	876Q9611	275.00
9602	4	.300	12.5	876-9602	210.00	876Q9612	333.33
9604	6	.353	12.5	876-9604	280.00	876Q9614	458.33
9607	9	.409	12.5	876-9607	390.00	876Q9617	633.33
9609	12 + 1 Single	.456	12.5	876-9609	495.00	876Q9619	800.00

IBM Compatible Cables



Stock No.	Mfr.'s Type	Description	Wt. 1000'	PRICE PER 1000'
876Q4200	6688	Type 1 IBM *4716748 2 Data Pairs Non-Plenum 22 AWG Solid Bare Copper	52.00	480.00
876Q4201	6688T	Type 1 IBM *4716749 2 Data Pairs Plenum 22 AWG Solid Bare Copper	63.00	1153.84
876Q4202	6689	Type 2 IBM *4716739 2 Data Pairs, 4 Voice Pairs Non-Plenum, 22 AWG Solid Bare Copper	84.00	777.36
876Q4203	6689T	Type 2 IBM *4716738 2 Data Pairs, 4 Voice Pairs Plenum, 22 AWG Solid Bare Copper	95.00	1600.00
876Q4204	6690	Type 6 2 Pair Office Grade Data Cable	52.00	603.07

Coaxial Cable

Polyetheylene Dielectric Flexible RG-Type.

Mfr.'s Type	RG Type	Impedance Ohms	Inner Conductor			Shield		Jacket		100' Spools		500' Spools		1000' Spools	
			Mat'l	Strand	AWG	Mat'l Inner	Mat'l Outer	Mat'l	O.D. "	Stock No.	EACH	Stock No.	EACH	Stock No.	EACH
6246R*	6U	75.0	C	Solid	18	F	TC	Black V	.270	876-9700	34.33	876Q9730	118.33	876Q9760	226.66
5237	8U	52.0	C	7/21	13	C	—	Black V	.415	876-9701	76.06	876Q9731	258.33	876Q9761	516.66
5254	8A/U	52.0	C	7/21	13	C	—	Black NCV	.415	876-9702	103.33	876Q9732	354.16	876Q9762	708.33
5238	11/U	75.0	TC	7/26	18	C	—	Black V	.415	876-9703	58.33	876Q9733	198.33	876Q9763	396.66
5240R*	58/U	53.5	C	Solid	20	TC	—	Black V	.200	876-9704	26.67	876Q9734	92.50	876Q9764	185.00
5259	58A/U	50.0	TC	19/32	20	TC	—	Black V	.199	876-9705	25.00	876Q9735	90.83	876Q9765	181.66
5262	58C/U	50.0	TC	19/32	20	TC	—	Black NCV	.199	876-9706	25.00	876Q9736	90.83	876Q9766	181.66
6244R*	59/U	73.0	CW	Solid	22	C	—	Black V	.242	876-9707	30.00	876Q9737	88.33	876Q9767	176.66
6244TF	59/U	75.0	C	Solid	20	C	—	Teflon	.220	876-9708	50.00	876Q9738	329.16	876Q9768	578.33
5263	59B/U	75.0	CW	Solid	23	C	—	Black NCV	.242	876-9709	26.67	876Q9739	91.66	876Q9769	183.33
6555T	Dual 59B/U	75.0	CW	Solid	23	C	—	Teflon	.230 × .430	876-9710	150.00	876Q9740	725.00	876Q9770	1450.00
6269R*	62A/U†	93.0	CW	Solid	22	C	—	Black V	.242	876-9711	26.67	876Q9741	95.83	876Q9771	175.00
6269TF	62A/U	93.0	C	Solid	22	C	—	Teflon	.222	876-9713	76.67	876Q9743	290.00	876Q9773	535.00
5216	174/U	50.0	CW	7/34	26	C	—	Black V	.105	876-9714	21.67	876Q9744	74.16	876Q9774	148.33
5267	213/U	50.0	C	7/21	13	C	—	Black NCV	.405	876-9715	83.34	876Q9745	308.33	876Q9775	616.66
5268	214/U	50.0	SC	7/21	13	SC	SC	Black NCV	.425	876-9716	316.67	876Q9746	1125.00	876Q9776	2250.00
6273	223/U	50.0	SC	Solid	19	SC	SC	Black NCV	.212	876-9717	113.34	876Q9747	395.83	876Q9777	791.66

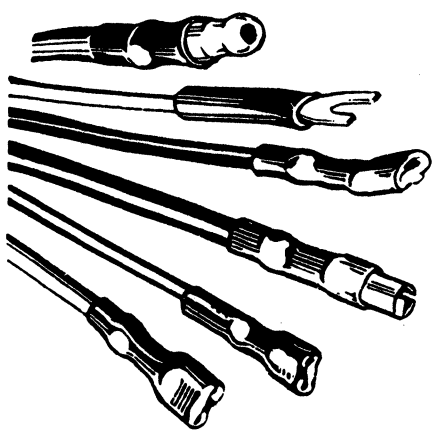
*UL Classified CL2. †UL 1478. **MATERIAL CODE:** C—bare copper; TC—tinned copper; SC—silver covered copper; V—polyvinylchloride, Type 1; NVC—non contaminating polyvinylchloride Type 2; 2X—double shield; CW—copper covered steel (copperweld). AM—Aluminum/Mylar Tape; O—Cellular (foam) polyethylene.

FP Heat-Shrinkable Tubing

NEW

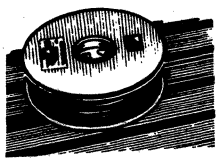
FP221 Irradiated Polyolefin (M2305315)

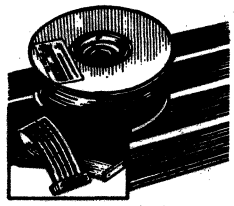
FP221 is a general purpose heat-shrinkable tubing. It features are flexibility, flame retardent, self extinguishing and fungus proof. This tubing has a max shrink rate of 50% of supplied diameter. **Operating Temperature:** – 55°C to + 135°C. **Colors Available:** 1 Black, 2 Red, 3 White, 4 Clear. Insert the color number where N appears in the stock number.



Size	Min. Supplied ID (")	Max. Recovered ID (")	Wall Thickness (")	4' Lengths			100' Lengths	
				Stock No.	No. of Lengths	PRICE PER BOX	Stock No.	PRICE PER SPOOL
3/64"	.046	.023	.016	876-200N	25	23.34	876-220N	23.33
1/16"	.063	.031	.017	876-201N	25	25.11	876-221N	25.11
3/32"	.093	.046	.020	876-202N	25	29.56	876-222N	29.57
1/8"	.125	.062	.020	876-203N	25	28.89	876-223N	28.89
3/16"	187	.093	.020	876-204N	25	35.11	876-224N	35.11
1/4"	.250	.125	.025	876-205N	25	43.56	876-225N	43.56
3/8"	.375	.187	.025	876-206N	25	48.44	876-226N	48.44
1/2"	.500	.250	.025	876-207N	5	11.07	876-227N	55.33
3/4"	.750	.375	.030	876-208N	5	15.20	876-228N	76.00
1"	1.000	.500	.035	876-209N	5	21.87	876-229N	109.33
1 1/2"	1.500	.750	.040	876-210N	5	44.44	876Q230N	222.22
2"	2.000	1.000	.045	876-211N	5	66.67	876Q231N	333.33
3"	3.000	1.500	.050	876-212N	2	44.27	876Q232N	553.33
4"	4.000	2.000	.055	876-213N	2	55.56	876Q233N	694.44

Flat Cables





Ansley flat cable is designed to mass terminate all types of Ansley connectors without wire stripping or soldering. The flexible, symmetrical cable is extruded, not laminated, in order to maintain exacting .050″ (1.27 mm) pitch tolerance from conductor to conductor. Connectors can be terminated to flat cable in up or down configurations or 180° from each other.

Series-171 — Standard Gray Flat Cable

Dark blue stripe on number 1 conductor for positive polarization. Alternating red and blue stripes every fifth conductor. 28 AWG, stranded conductors .050″ (1.27mm) conductor spring. 105°C/PVC insulated, 300 VRMS. UL Style 2651. Primarily designed for intra-cabinet wiring applications.

Stock No.	Mfr.'s Type	Number of Conductors	EACH		
			1-4	5-9	10-49
515-6000	171-9	9	19.60	16.33	13.07
515-6001	171-10	10	21.78	18.15	14.52
515-6004	171-14	14	30.50	25.42	20.33
515-6006	171-16	16	34.88	29.07	23.25
515-6008	171-20	20	43.58	36.32	29.05
515-6010	171-25	25	54.48	45.40	36.32
515-6011	171-26	26	56.78	47.32	37.85
515-6013	171-34	34	74.10	61.75	49.40
515-6018	171-40	40	87.18	72.65	58.12
515-6020	171-50	50	109.00	90.83	72.67
515-6025	171-60	60	133.06	110.88	88.71
515-6030	171-64	64	141.78	118.15	94.52

Series-201 — Color Coded Flat Cable

28 AWG, stranded conductors. 1.27 mm (0.57″) conductor spacing. Industry standard color coded color coding. PVC insulation. 105°C, 300 VRMS, UL 20067.

Stock No.	Mfr.'s Type	Number of Conductors	EACH		
			1-4	5-9	10-49
515-6201	201-10	10	30.56	25.47	20.37
515-6204	201-14	14	42.62	35.52	28.41
515-6206	201-16	16	49.78	41.48	33.19
515-6208	201-20	20	60.78	50.65	40.52
515-6210	201-25	25	76.58	63.82	51.05
515-6211	201-26	26	79.12	65.93	52.75
515-6213	201-34	34	101.10	84.25	67.40
515-6217	201-40	40	118.76	98.97	79.17
515-6220	201-50	50	145.72	121.43	97.15

Series-200 — Twisted Pair Flat Cable

Ansley® Twisted Pair Flat Cable is designed for applications where crosstalk reduction is required. It combines the time and cost savings of mass termination with the electrical performance of twisted pairs, making it ideally suited for differential driver or signal-ground circuit applications.

The cable consists of stranded round conductors insulated with color-coded PVC, twisted into pairs and laminated to a polyester film. reverse twisting of adjacent pairs assures optimal signal performance. 18′ twisted pair and 2″ flat section or termination with IDC connectors. 28 AWG stranded conductors. 1.27 mm (0.57″) flat zone conductor spacing. Rated 105°, 300 volts. UL 20184.

Stock No.	Mfr.'s Type	Number of Conductors	EACH		
			1-4	5-9	10-49
515-6150	200-10	10	41.99	34.95	27.96
515-6155	200-20	20	83.88	69.90	55.92
515-6160	200-26	26	109.06	90.88	72.71
515-6165	200-34	34	142.60	118.83	95.07
515-6170	200-40	40	167.78	139.82	111.85
515-6175	200-50	50	209.72	174.77	139.81
515-6180	200-60	60	251.66	209.72	167.77

Series-196 — Ground Plane Flat Cable

Ansley® Soft-Tear Ground Plane Flat Cable is designed for intra- and inter- cabinet high speed data transmission applications. It provides high density, consistent, and repeatable electrical characteristics, with particularly low crosstalk, for high-speed data transmission.
The unique, economical Soft-Tear design, combined with Ansley® notching and trimming tools, greatly simplifies the removal of insulation and ground plane, reducing preparation time by as much as 70% over conventional ground plane cable. The extruded insulation maintains exacting pitch tolerances from conductor to conductor over the life of the cable. 28 AWG stranded conductor. 1.27 mm (.050″) conductor spacing. .27(.005″) thick ground plane. Number 1 conductor acts as a drain wire (dark blue polarity stripe).

Stock No.	Mfr.'s Type	Number of Conductors	EACH		
			1-4	5-9	10-49
515-6300	196-20	20	135.31	112.78	90.23
515-6305	196-26	26	175.94	146.62	117.29
515-6310	196-34	34	230.06	191.72	153.37
515-6315	196-40	40	270.66	225.55	180.44
515-6320	196-50	50	338.64	282.20	225.76

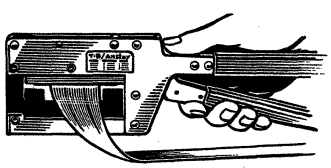
Flat Cable Test Data

Catalog Series	Insulation	Rating (°C)	Voltage Rating (RMS)	Impedance Ohms	Capacitance pF/FT	Velocity of Propagation nS/FT	Typical Crosstalk Characteristics, 10 ft. Sample, 1 line driven					
							Rise Time nSec		Near End %		Far End %	
171	PVC	105	300	100	14.0	1.38	3.00	7.00	5.00	3.20	6.70	2.70
196	PVC	105	300	65	28.0	1.68	3.00	7.00	4.10	2.00	7.00	3.75
200	PVC	105	300	95	15.7	1.60	3.00	7.00	4.20	4.00	8.50	5.40
201	PVC	105	300	100	14.0	1.38	3.00	7.00	5.00	3.20	6.70	2.70

Flat Cable Cutter

Type 779-5030M. Cable Cutter for up to 64 conductor flat cable.
515-4160 ..... **EACH 76.06**

Model 779-2100 Hand Crimp Tool



Features and Benefits

► Allows mass termination of up to 64-conductor flat cable with Ansley® IDC connector, for wide application flexibility

► Hand tool terminate in seconds without wire stripping or soldering, for low installed cost.

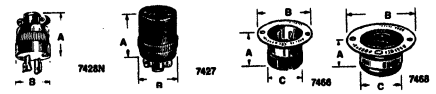
► Shure Stake™ mechanism eliminates operator guesswork, assures a reliable crimp cycle every time

Type 779-2100. Tool frame accommodates snap-in interchangeable dies to install the entire range of Ansley IDC connectors.
515-4100 ..... **EACH 202.83**

Dies for Hand Tool

Stock No.	Mfr.'s Type	Description For Use With ...	EACH
515-4105	779-2150	All Female Socket Transition Connectors	35.50
515-4110	779-2153	SLIMLINE PCB Solder Transition Connector	35.50
515-4115	779-2157	Low Profile Dip Plugs 8, 18, 20 Position	35.50
515-4120	779-2159	Low Profile Dip Plugs 22 Position	35.50
515-4125	779-2160	Low Profile Dip Plugs 24 Position	35.50
515-4130	779-2161	Low Profile Dip Plugs 40 & 48 Position	35.50
515-4135	779-2164	All CARD EDGE Connectors	35.50
515-4140	779-2166	All "D" Connectors EXCEPT 50 Position	35.50
515-4145	779-2167	50 Position "D" Connectors	35.50
515-4146	779-2168	609-XX06 and 609-XX16 Male	35.50
515-4147	779-2172	All Ribbon Connectors	35.50

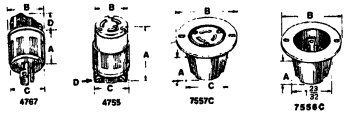
Midget Hart-Lock Devices (2-Pole, 2-Wire, 15A; 125V)



7428N (backwired dead front) and 7427 (for polarized and nonpolarized plugs) are black nylon/phenolic with cord grip for 7/16" to 1/2" OD cords. Both are 13/16" long. 7466 and 7468 are bakelite with metal housings. NEMA ML1-R, ML1-P ANSI C73.29.

Stock No.	Mfr.'s Type	Dimensions A	B	C	D	Description	EACH 1-9	10-49
813-7428	7428N	13/16	1	—	—	Male Cap	6.64	6.10
813-7427	7427	13/16	1	—	—	Female Conn.	9.34	8.34
813-7466	7466	.937	13/8	11/8	—	Flanged Inlet	9.63	8.86
813-7468	7468	.781	13/8	11/8	—	Flanged Outlet	8.19	7.54

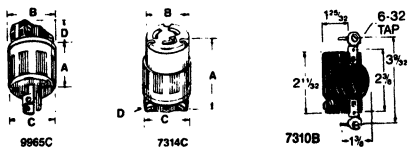
Hart-Lock Devices* (3-Pole, 3-Wire; 10A; 250V, 15A; 125V)



Gray nylon/lexan suitable for 105°C continuous use. 4767 and 4755 have dual range cord grip clamps for .250" to .656" OD cords and are backwired dead front designed. 7556C and 7557C have backwired clamp type terminals. *Not U.L. listed.

Stock No.	Mfr.'s Type	Dimensions A	B	C	D	Description	EACH 1-9	10-49
813-7572	4767	15/16	111/32	11/2	—	Male Cap	9.22	8.48
813-4755	4755	21/8	111/32	11/2	—	Female Conn.	19.56	18.01
813-7556	7556C	127/32	29/16	123/32	—	Flanged Inlet	12.87	11.84
813-7557	7557C	127/32	29/16	123/32	—	Flanged Outlet	12.90	11.29

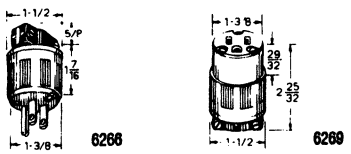
Hart-Lock Devices (3-Pole, 3-Wire; 20A; 125/250V)



Gray Nylon/lexan suitable for 105°C continuous use. All items except 7327N have dual range cord grip clamps for .375"-1.000" O.D. cords and backwired dead front. 7327 has backwired clamp type terminals.

Stock No.	Mfr.'s Type	Dimensions A	B	C	D	Description	EACH 1-9	10-49
813-6312	9965C	211/32	2	21/8	5/8	Male Plug	11.42	10.51
813-7313	7314C	37/16	125/32	21/8	5/8	Female Conn.	18.38	16.91
813-7310	7310	—	—	—	—	Recept.	14.25	13.15

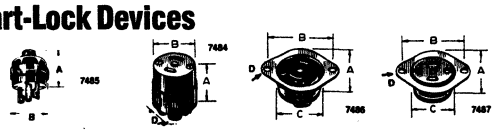
Straight Blade Devices (2-Pole, 3-Wire Grounding 15A; 125V)



These devices have cord grips for .250"-.656" diameter cords. Nylon/lexan* backwired dead front construction. Complies with NEMA WD1-1979 requirements. NEMA 5-15R, 5-15P ANSI C73.11. *Lexan is a registered trademark of General Electric.

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-49
813-6266	6266	Male Dead Front Plug	10.66	9.80
813-6269	6269	Female Cord Connector	14.52	13.35

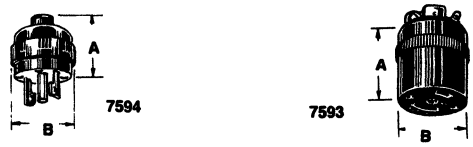
Little Midget Hart-Lock Devices (3-Pole, 3-Wire Grounding 15A; 125V/250V)



These devices are for 3-conductor cables and have clamps for .281" to .421" OD cord. Devices are polarized to prevent incorrect connection. NEMA ML3-R, ML-3P. ANSI C73.30.

Stock No.	Mfr.'s Type	Dimensions A	B	C	D	Description	EACH 1-9	10-49
813-7484	7484	11/4	15/32	—	—	Female Conn.	10.29	9.46
813-7485	7485	27/32	15/32	—	—	Male Cap	7.45	6.86
813-7486	7486	15/8	13/4	17/32	5/32	Flanged Inlet	8.83	8.12
813-7487	7487	15/8	13/4	111/64	5/32	Flanged Outlet	10.90	10.03

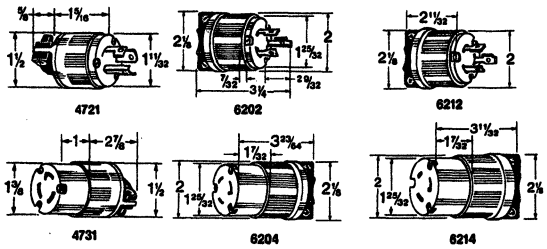
Little Midget Hart-Lock Devices (2-Pole, 3-Wire Grounding 15A; 125V)



While similar to the previous parts, these devices have a hollow brass grounding sleeve. Cord grips are the same size. NEMA ML-2-R, ML2-P.

Stock No.	Mfr.'s Type	Dimensions A	B	C	D	Description	EACH 1-9	10-49
813-7593	7593	27/32	17/64	—	—	Female Conn.	10.40	9.58
813-7594	7594	115/64	13/16	—	—	Male Cap	8.75	8.05

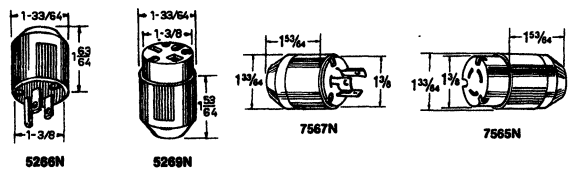
Hart-Lock Locking Devices (2-Pole, 3-Wire)



These devices feature nylon/lexan backwired dead front constuction and dual range cord grip.

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-49
813-4720	4721	15A; 125V NEMA L5-15P, ANSI C73.42	8.04	7.39
813-4730	4731	15A; 125V NEMA L5-15R, ANSI C73.42	14.34	13.19
813-6202	6202	20A; 125V NEMA L5-20P, ANSI C73.72	10.13	9.32
813-6204	6204	20A; 125V NEMA L5-20R, ANSI C73.72	13.93	12.82
813-6212	6212	20A; 250V NEMA L6-20P, ANSI C73.75	10.13	9.32
813-6214	6214	20A; 250V NEMA L6-20R, ANSI C73.75	15.80	14.22

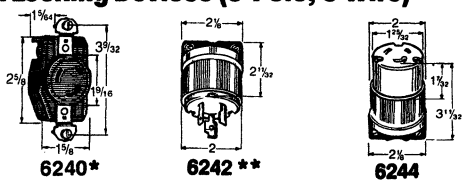
Autogrip™ Plugs and Connectors (2-Pole, 3-Wire*)



Thermoplastic dead front, backwired plugs and thermoplastic connectors. Automatic cord grip clamps the cord during assembly. *Except last two items.

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-49
813-5266	5266N	Straight blade plug; (15A; 125V NEMA 5-15P ANSI C73.11)	8.14	7.48
813-5269	5269N	Straight blade connector; (15A; 125V NEMA 5-15R ANSI C73.11)	14.40	13.24
813-7567	7567N	Locking plug; 3-pole, 3 wire (10A; 250V, 15A; 125V)	14.13	12.97
813-7555	7565N	Locking connector; 3-pole, 3-wire (10A; 250V, 15A; 125V)	14.13	12.97

Hart-Lock Locking Devices (3-Pole, 3 Wire)



- **High strength glass reinforced nylon body (suitable for 130°C/266°F continuous use) on Type 6240***
- **Back and side wired terminals for fast wiring**
- **One piece contacts for improved continuity**
- **Rugged double riveted mounting strap assembly**
- **Nylon/Lexan® back wired "dead-front" construction on Types 6242 and 6244****
- **Neoprene gasket seals cord hole opening and keeps dust and moisture out of terminal area**
- **Nylon/Lexan® materials suitable for 105°C/221°F continuous use.**

Stock No.	Mfr.'s Type	Description	EACH 1-9	10-49
813-6240	6240	20A; 125/250V NEMA L10-20R, ANSI C73.96	17.08	15.72
813-6242	6242	20A; 125/250V NEMA L10-20P, ANSI C73.96	9.83	9.04
813-6244	6244	20A; 125/250V NEMA L10-20R, ANSI C73.96	10.75	9.89

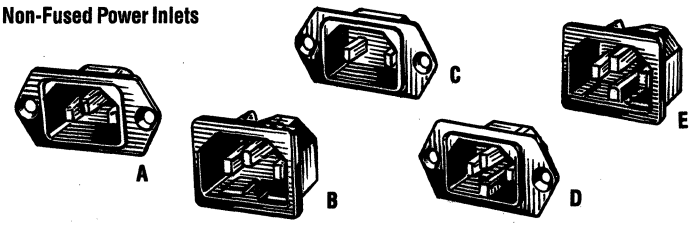
Power Inlets/Outlets

General Description

The Feller IEC 320 Appliance Connector line includes most common inlets and outlets for Class I and II equipment. At 250 VAC, these units are rated 10-15 A for UL/CSA and 6-10 A for VDE (see table). Available pin temperatures include 65°C, 120°C, and 155°C.

Specifications

Non-Fused Power Inlets

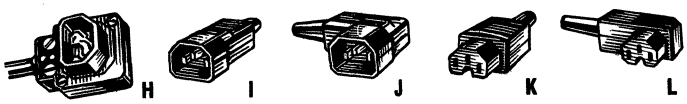


Stock No.	Mfr.'s Type	Description	Terminals	Amps		Fig.	EACH		
				UL/CSA	VDE		1-24	25-99	100-Up
509-1000	6100-31	Screw mount types	Solder tab	15	10	A	**.97**	**.80**	**.78**
509-1005	6100-32	Screw mount types	.187" faston	15	10	A	**.97**	**.80**	**.78**
509-1010	6100-33	Screw mount types	.250" faston	15	10	A	**.97**	**.80**	**.78**
509-1015	6100-41/1.5*	Snap-in mount types	Solder tab	15	10	B	**.97**	**.80**	**.78**
509-1020	6100-42/1.5*	Snap-in mount types	.187" faston	15	10	B	**.97**	**.80**	**.78**
509-1025	6100-43/1.5*	Snap-in mount types	.250" faston	15	10	B	**.97**	**.80**	**.78**
590-1030	6102-31	2 Pole	Solder tab	15/10	6	C	**1.08**	**.89**	**.87**
590-1035	6102-33	2 Pole	.250" faston	15/10	6	C	**1.08**	**.89**	**.87**
590-1040	6110-31	Screw mount types	Solder tab	15	10	D	**1.04**	**.86**	**.83**
590-1045	6110-32	Screw mount types	.187" faston	15	10	D	**1.04**	**.86**	**.83**
590-1050	6110-33	Screw mount types	.250" faston	15	10	D	**1.04**	**.86**	**.83**
590-1055	6110-41/1.5*	Snap-in types	Solder tab	15	10	E	**1.04**	**.86**	**.83**
590-1060	6110-42/1.5*	Snap-in types	.187" faston	15	10	E	**1.04**	**.86**	**.83**

Power Inlet Combinations with Fuse Holder

509-1100	6200-21	Screw type w/fuse holder for 5 × 20 mm	Solder tab	10	10	F	**2.10**	**1.73**	**1.68**
509-1105	6200-22	Screw type w/fuse holder for 5 × 20 mm	.187" faston	10	10	F	**2.10**	**1.73**	**1.68**
509-1110	6200-23	Screw type w/fuse holder for 5 × 20 mm	.250" faston	10	10	F	**2.10**	**1.73**	**1.68**
509-1115	6200-41/1.5*	Snap-in types w/fuse holder or 5 × 20 mm	Solder tab	10	10	G	**2.10**	**1.73**	**1.68**
509-1120	6200-42/1.5*	Snap-in types w/fuse holder or 5 × 20 mm	.187" faston	10	10	G	**2.10**	**1.73**	**1.68**
509-1125	6200-43/1.5*	Snap-in types w/fuse holder or 5 × 20 mm	.250" faston	10	10	G	**2.10**	**1.73**	**1.68**

Accessory Power Plugs



509-1200	8143.L60	Adjust. entry	—	10	10	H	**5.74**	**4.74**	**4.59**
509-1205	8143.60	Straight entry	—	10	10	I	**5.52**	**4.55**	**4.42**
509-1210	8143.A60	Right angle	—	10	10	J	**5.74**	**4.74**	**4.59**
509-1215	8943.W60	Straight entry	—	15	10	K	**3.89**	**3.21**	**3.08**
509-1220	8943.LW60	Angled entry	—	15	10	L	**4.44**	**3.66**	**3.53**

Power Outlets

509-6001	6600-31	Screw mount type	Solder tab	15	10	M	**1.55**	**1.27**	**1.24**
509-6002	6600-33	Screw mount type	.250" faston	15	10	M	**1.55**	**1.27**	**1.24**
509-6003	6600-41/1.5	Snap-in type	Solder tab	15	10	N	**1.55**	**1.27**	**1.24**
509-6004	6600-43/1.51	Snap-in type	.250" faston	15	10	N	**1.55**	**1.27**	**1.24**

Non-Fused Power Outlets

509-1270	6130-66	PC mount	—	15	10	P	**1.56**	**1.29**	**1.25**
509-1275	8843.ZPL40,50	PC mount	—	10	6	P	**1.56**	**1.29**	**1.25**

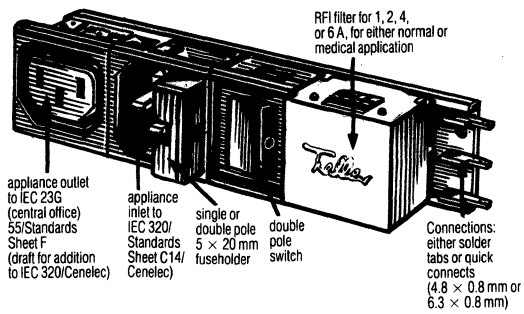
FELCOM®

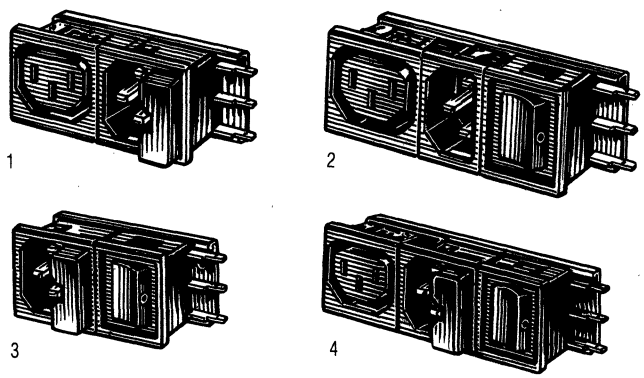
General Description

Felcom (Feller Combination Module) is a combination of efficient individual components. These components are mounted on a printed circuit board which provides the mechanical and electrical connection as well as the connection to the appliance itself. The conductive base of the combination, or printed circuit board, is covered to prevent inadvertent contact. This cover also bears the combination's ratings and schematics. Felcom is available as a snap-in version for six different panel thickness.

You can create your own Felcom combination. You will only have one component to mount in your equipment. The wiring is already done for you.

Felcom...Cuts costs, saves time, and is available in any combination.





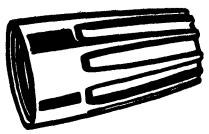
Stock No.	Mfr.'s Type*	Design	Description	EACH		
				1-24	25-99	100-Up
509-2201	6433-15	1	Including: Appliance plug connector, Fuseholder, Appliance outlet	**7.07**	**5.83**	**5.66**
509-2202	6423-25	1	Including: Appliance plug connector, Fuseholder, Appliance outlet	**7.95**	**6.56**	**6.36**
509-2203	6424-05	2	Including: Appliance plug connector, Fuseholder, Switch	**5.30**	**4.37**	**4.24**
509-2204	6424-15	2	Including: Appliance plug connector, Fuseholder, Switch	**9.28**	**7.65**	**7.42**
509-2205	6424-25	2	Including: Appliance plug connector, Fuseholder, Switch	**10.16**	**8.38**	**8.13**
509-2206	6431-05	3	Including: Appliance plug connector, Switch, Appliance outlet	**9.94**	**8.20**	**7.95**
509-2207	6433-15	4	Including: Appliance plug connector, Fuseholder, Switch, Appliance outlet	**11.93**	**9.83**	**9.54**
509-2208	6432-25	4	Including: Appliance plug connector, Fuseholder, Switch, Appliance outlet	**12.81**	**10.56**	**10.25**

*1 = fuse 5 × 20 mm. 2 = fuses 5 × 20 mm. 3 = Quick connect 6.3 × 0.8 mm. ▲ Solder tabs 3.5 × 0.8 mm. • 10. 12:1.5:3.0 mm (panel thickness). A Solder tabs 13.4 mm. Quick connect 17.0 mm.

Wire Nut® Wire Connectors

Five models cover solid and stranded wires, 10 to 24 AWG. High-temperature models are rated up to 150°C. Standard models are rated up to 105°C.

Wire-Nut® connectors comply with Federal Specification W-S-610d, are UL 486C listed (#E5238), and CSA Certified (#LR9706).



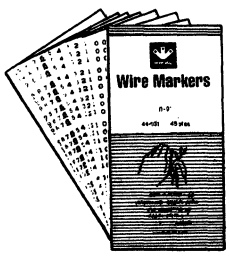
Cu/Cu Only

LISTED

Stock No.	Mfr.'s Type	Model	Color	Min. & Max. Wire Combin.	PER PKG./100	PER PKG./1000
988-3071	30-071	71B	Gray	2#18, 2#16	3.83	—
988-3017	30-171	71B	Gray	2#18, 3#16	—	29.95
988-3072	30-072	72B	Blue	2#18, 3#16	4.31	—
988-3027	30-172	72B	Blue	2#18, 3#16	—	33.95
988-3073	30-073	73B	Orange	2#18, 3#16	4.15	—
988-3037	30-173	73B	Orange	1#18, 3#16	—	41.95
988-3074	30-074	74B	Yellow	1#14, 1#18	5.99	—
988-3047	30-174	74B	Yellow	2#14, 3#16	—	48.95
988-3076	30-076	76B	Red	1#12, 2#18	8.63	—
988-3067	30-176	76B	Red	2#10, 1#12	—	70.95

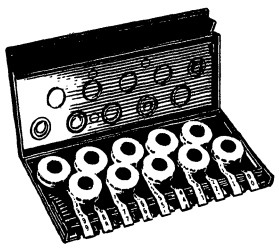
Wire Markers

Ten pages in each booklet—each page bearing the legend assortment indicated. All booklets except 44-111 contain 450 wire markers and 450 terminal markers. Booklet 44-111 has 348 wire markers and 348 terminal markers.



Stock No.	Mfr.'s Type	Number of Markers and Legend	EACH
988-4401	44-101	45 Each: 0-9	10.35
988-4402	44-102	10 Each: A-Z, 0-15, +, −, /	10.35
988-4403	44-103	10 Each: 1-45	10.35
988-4404	44-104	10 Each: 46-90	10.35
988-4405	44-105	150 Each: 1, 2, 3	10.35
988-4406	44-106	150 Each: A, B, C	10.35
988-4407	44-107	150 Each: T1, T2, T3	10.35
988-4408	44-108	150 Each: L1, L2, L3	10.35
988-4409	44-109	6 Each: 1-15; 4 Each: 16-90; 2 Each: A-Z, +, −, /, 0	10.35
988-4410	44-110	45 Each: 1,2,3,A,B,C; 30 Each: T1, T2, T3, L1, L2, L3	10.35
988-4411	44-111	45 Each: +, −, AC, DC; 33 Each: POS, NEG, GND; 27 Each: NEUT; 21 Each: SPARE, BLANK	10.35

Wire-Marker Dispenser



With this Ideal Dispenser, you can carry all the wire-marker legends needed for the job in one convenient, easy-to-use package. It measures only 4 7/8″ × 7 1/2″, and can be carried comfortably in shirt or pants pocket. If desired, you can even use the built-in hook to hang the dispenser from your belt or tool pouch.

Stock No.	Mfr.'s Type	Description	EACH
988-4201	42-301	Dispenser with 0 thru 9 legend rolls	20.75
988-4202	42-302	Dispenser with asst'd. NEMA color rolls	19.75
988-4203	42-303	Dispenser only	1.25
Refills			
988-4239	42-399	Refill pack with 1 each of 0-9 legend rolls	12.45
988-4240	42-400	0	12.45
988-4241	42-401	1	12.45
988-4242	42-402	2	12.45
988-4243	42-403	3	12.45
988-4244	42-404	4	12.45
988-4245	42-405	5	12.45
988-4246	42-406	6	12.45
988-4247	42-407	7	12.45
988-4248	42-408	8	12.45
988-4249	42-409	9	12.45

ESD Field Service Static Guard

Type 61-038 plug indicates hard ground for 3-wire. 125V receptacles. Banana jack insert allows easy connection of ESD wrist strap and cordset to a proven ground. **Type 61-046** field service system includes plug. 10′ lead set, medium wrist strap aand extra-long lead set for on-site flexibility. All cordsets have an integral 1 megohm resistor for safety.

Stock No.	Mfr.'s Type	Description	EACH
988-6138	61-038	Standard Plug	18.95
988-6139	61-039	10′ Lead Set	12.95
988-6141	61-041	15′ Lead Set	13.95
988-6142	61-042	Small Wrist Strap	6.95
988-6143	61-043	Medium Wrist Strap	6.95
988-6144	61-044	Large Wrist Strap	6.95
988-6146	61-046	Statguard Kit	34.95

Continuity Tester

Pocket-size tester (5 1/2″ long) checks continuity grounds on conduit systems and identities wires in multi-wire cables. Its light signal indicates completed circuit. For use on electrical control equipment, panel-board wiring and various other applications. 4-foot removable cord with alligator clip included. Powered by two AA batteries, not included. Not for use on live circuits.

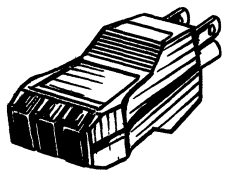
988-6130. 61-030 ..... **EACH 13.95**

Test-Glo™ Circuit Tester

Use this industrial-quality tester for safe, easy checking of electrical circuits, sparkplugs, motors, fuses, and more. Resistors between each test prod and lead reduce voltage reaching the leads. Long thin handles allow deep probing with 'no-slip' safety rings. Neon lamp at front of prod for easy spotting. 24″ lead (rated 10,000V) allows wide-span usage. Dust-proof and moisture resistant. Use with 80 to 600V, AC or DC.

988-6140. 61-040 ..... **EACH 13.95**

E-Z Check™ Receptacle Circuit Tester



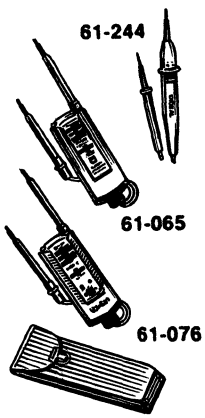
Type 61-035 identifies faults in 3-wire, 125V receptacles. Checks for open ground, reverse polarity, open hot, open neutral, hot and ground reversed, hot on neutral and hot open. Safer push-pull shape. Easy-to-read indicator lights. Yellow color for safety.

988-6135. 61-035 ..... **EACH 12.95**

One tool performs 8 tests. Quickly and easily checks 7 common wiring conditions, plus also tests the integrity and operation of any GFCI protected circuit or outlet.

988-6151. 61-051 ..... **EACH 25.95**

Voltage Testers



Durable, safe and versatile voltage tester provides long-life service. Tests for 110 to 600VAC or VDC., 25 to 60Hz. AC or DC identification, blown fuses, grounding and leakage. Two separate voltage indicators for double protection. UL listed and CSA certified.

988-6165. 61-065 ..... **EACH 25.95**

Voltage/continuity tester functions as a heavy-duty voltage tester (up to 600V, AC, or DC), low voltage indicator (low as 6 volts), and non-switching continuity tester. Tests for circuit continuity, identification of AC or DC, 24 to 60Hz, DC polarity, blown fuses, grounding and current leakage. UL listed and CSA certified.

988-6176. 61-076 ..... **EACH 47.95**

Leather Case and Leads for 61-076 and 61-065

988-6110. 61-010. Case ..... **EACH 17.95**

988-6170. Type 61-070 Leads ..... **EACH 11.95**

Test-Glo™ 244 voltage, continuity and polarity indicator is perfect for solving numerous problems in the house, workshop, auto and hobby areas. For use on 4.5-440VAC or VDC. LED's let you check polarity at a glance. Tests continuity from 0-20 kOhm and semi-conductors for continuity. Powered by 12-volt battery.

988-6124. 61-244 ..... **EACH 19.95**

Fuse Pullers—Safety Grips

Fuse pullers for maximum safety in pulling all sizes of cartridge fuses from 0-600 amps. Carefully designed for maximum efficiency whenever removing or replacing cartridge type fuses. No more danger of shock and burns or bending fuses clips through improper removal. For positive alignment and contact between fuses and clips.

Stock No.	Mfr.'s Type	Length	Style	Removes Fuses:	EACH
988-3401	34-001	5″	Midget	Small 9/32″—1/2″ dia.	2.95
988-3402	34-002	7 1/2″	Pocket	0-100A, 250V; 600V	5.95
988-3403	34-003	11 3/4″	Giant	31-600A, 250V; 31-400A, 600V	12.95
988-3415	34-015	5″	Small	0-30A, 250V	3.75
988-3416	34-016	7 1/4″	Medium	0-100A, 250V; 0-60A, 600V	4.95

S-Class™ Fish Tape

Stock No.	Mfr.'s Type	Description	EACH
988-3151	31-151	50′ tape with Tape-Pak® reel and winder and Gold-Fish® leader	95.95
988-3153	31-153	100′ tape with Tape-Pak® reel and winder and Gold-Fish® leader	129.20
988-3155	31-155	200′ tape with Tape-Pak® reel and winder and Gold-Fish® leader	208.95

Tape-Pak™ Fish Tapes

Tough, high-impact plastic reel provides sure, non-slip handling. Built-in winder helps prevent kinks.

Stock No.	Mfr.'s Type	Tape Length & Size	Reel Dia.	EACH
988-3124	31-024	100ft. × 1/8″ × .060″	12″	39.85
988-3125	31-025	200ft. × 1/8″ × .060″	12″	54.95

Stripmaster® Wire Strippers

Automatic single squeeze feature holds jaws open for removing wire without crushing end. For stripping lighter gauge wires. Units have 6 holes, except 14-22 with 4 holes.

Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4592	45-092	10 to 22 Wire	19.95
988-4593	45-093	14 to 22 Wire	19.95
988-4597	45-097	16 to 26 Wire	19.95
988-4598	45-098	20 to 30 Wire	19.95

Replacement Blades

Stock No.	Replacement Blades	PER PAIR
988-4421	L-4421	5.95
988-4422	L-4422	5.95
988-4994	L-4994	5.95
988-5361	L-5361	5.95

Custom Stripmaster® Wire Strippers

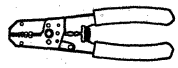
Blade construction and holding power of broad jaws permit fast accurate stripping. Strips without nicking wire or marking insulation to meet the most rigid inspection standards. Includes short stop latch and adjustable wire stop.

Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4586	45-186	10 to 14 Wire	84.95
988-4587	45-187	16 to 26 Wire	84.95
988-4588	45-188	20 to 30 Wire	84.95

Replacement Blades

Stock No.	Replacement Blades	PER PAIR
988-5559	L-5559	34.95
988-8110	L-8110	34.95
988-8111	L-8111	34.95

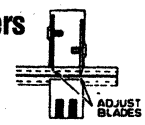
7-In-1 Stripper



One tool performs seven functions.

988-4577. 45-777 .....EACH 16.95

Coaxial Cable Strippers



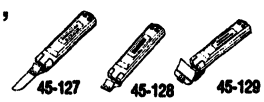
Stock No.	Mfr.'s Type	Description	EACH
988-4562	45-162	Coaxial Stripper, up to 1/8" O.D.	14.95
988-4563	45-163	Coaxial Stripper, 1/8" to 7/32" O.D.	14.95
988-4564	45-164	Coaxial Stripper, 1/4" to 9/16" O.D.	24.95
988-4565	45-165	Coaxial Stripper, 3/16" to 5/16" O.D.	14.95
988-9225	L-9225	Replacement Blade Set for 45-162, 45-163, and 45-165	2.50
988-9226	L-9226	Replacement Blade Set for 45-164	3.00

T-Wire Stripper/Cutters

For clean stripping of wires used in electronic instruments and appliances. Sturdy, compact, constructed of hardened steel for rugged duty and long service. Comfortable plastic grips for sure handling and safety.

Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4520	45-120	10 to 18 Solid	6.95
988-4521	45-121	16 to 26 Stranded	7.95
988-4525	45-125	22 to 30 Solid	7.95
988-4523	45-123	Cutter Only	7.95

"Swivel-Blade" Cable Strippers



Strip most types of cable. Cut outer sheathing without damaging inner conductor or insulation. Can be used on coaxial and power cable from 5/16" to 1 1/2" O.D. Adjustable blade strips insulation, up to 5/32". "Swivel-blade" automatically turns to direction in which tool is moved.

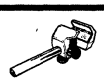
Stock No.	Mfr.'s Type	AWG Gauge	EACH
988-4527	45-127	Stripper w/Utility Knife for 5/16" to 3/4" O.D.	14.95
988-4528	45-128	Stripper for 5/16" to 3/4" O.D.	14.95
988-4529	45-129	Stripper for 3/4" to 1 1/2" O.D.	14.95

Electrician's Pliers with Crimping Die

Can be used for twisting wires and deburring conduit. Has New England nose and special plastic grips.

988-3020. 30-420. 8 1/2" .....EACH 24.95
988-3030. 30-430. 9" .....EACH 27.95

Heavy-Duty Cable Stripper



Tool for stripping common size concentric cable, 1/2" to 19/16" O.D. (approximately #1 to 1000 MCM). Perfect for polyethylene, irradiated PVC, hard Nylon, indoor/outdoor PVC, outdoor/weatherproof PVC. Will not nick insulation.

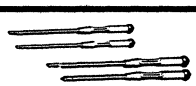
988-4526. 45-126 .....EACH 89.95

Electric Marker

Marks metal, glass, stone, ceramics, plastics, hard rubber, wood. Vibrates at 7200 strokes per minute. Reduces "bouncing". Has carbide-tipped point.

988-1111. 11-111 .....EACH 37.95

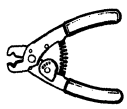
Slim Electronics Screwdriver



Screwdrivers for working in tight areas, remarkable strength and accuracy. Precision-engineered tips that offer a precise fit.

Stock No.	Mfr.'s Type	Description	EACH
988-3648	36-248	Set of 7 slim electronics screwdrivers. Contains one of each of 36-240 thru-246.	34.95
988-3649	36-249	Set of 4 slim electronics screwdrivers. Contains one each of 36-240, -241, -242 and -246.	19.95

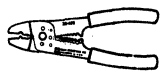
V-Notch Stripper



Both strips and cuts solid and stranded copper and aluminum wire. With Spring

988-4501. 45-101. 10-28 AWG .....EACH 4.50

Combination Crimp Tool



Five tools in one: Crimps, strips, cuts wire, cuts screws and bolts and cleans/chases threads. Light-weight 8-inch hardened steel tool.

988-3028. 30-428 .....EACH 16.95

Diagonal-Cutting Pliers

Induction-hardened cutting edges provide precision cutting in tight work areas. 6" Diagonal-cutting.

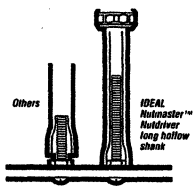
988-3526. 35-076 .....EACH 16.95

Cable Cutter

Cuts 2/0 aluminum and copper. Not recommended for steel or ACSR. 9 1/2" Cable Cutter.

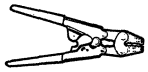
988-3552. 35-052 .....EACH 19.95

Nutmaster™ Nutdriver



Stock No.	Mfr.'s Type	Description	EACH
988-3590	35-290	3/16" Nutdriver	4.95
988-3591	35-291	1/4" Nutdriver	5.24
988-3592	35-292	5/16" Nutdriver	5.50
988-3593	35-293	11/32" Nutdriver	5.75
988-3594	35-294	3/8" Nutdriver	5.95
988-3595	35-295	7/16" Nutdriver	6.24
988-3596	35-296	1/2" Nutdriver	6.50
988-3599	35-299	7-Piece Nutdriver Set	38.02

Ratchet Crimp Tool



Tool crimps both insulated or bare terminals and splices for wire sizes 22 to 10 AWG.

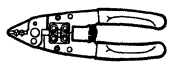
988-8301. 83-001 .....EACH 89.95

Lite-Strip™ Optical Fiber Stripper

Precisely strips outer cable jacket insulations, tight buffer tubes and mechanically strippable coatings. Blades are knife-type.

Description

Life-Strip™ Optical Fiber Stripper (900μ/250μ)

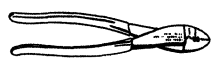


Fiber Capacity

125μ/250μ and 140μ/250μ

988-4550. 45-350 .....EACH 39.95

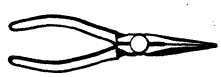
Multi-Crimp Tool



Crimps bare or insulated terminals and splices on wire sizes 22-10 AWG.

988-3029. 30-429 .....EACH 24.95

Long-Nose Pliers



Extra-long, thin jaws of these pliers are useful for electrical and mechanical workers. 6" Long-nose w/cutter.

988-3536. 35-086 .....EACH 17.95

101 Plus Heat Gun

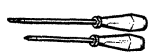
Perfectly suited to the unique requirements of electronic assembly. 101 Plus Heat Gun (comes with gold nozzle only) 120V., 60 Hz., 4.5A., UL listed.

988-4601. 46-101 .....EACH 84.95

Nozzles for 120 volt, 101 Plus heat Gun (Cat. No. 46-101)

Stock No.	Mfr.'s Type	Color	Nominal Temp. Range	BTU	Wattage	EACH
988-4621	46-921	Green	600°-800°F	1110	325	10.95
988-4622	46-922	Gold	800°-1000°F	1620	475	10.95
988-4623	46-923	Red	1000°-1250°F	1790	525	10.95

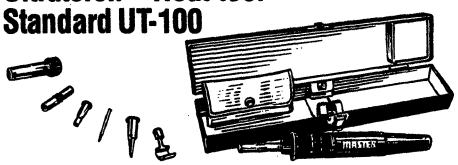
Comfort Handle Screwdriver



More power and torque. Nickel matt-chromed with black tips treated to protect against chipping, peeling and corrosion.

Stock No.	Mfr.'s Type	Description	EACH
988-3600	36-200	3" shank w/3/16" Keystone blade	4.95
988-3601	36-201	4" shank w/7/32" Keystone blade	5.95
988-3603	36-203	6" shank w/5/16" Keystone blade	6.95
988-3611	36-211	2 1/2" shank w/1/8" (#0) Phillips blade	3.18
988-3612	36-212	3 1/4" shank w/3/16" (#1) Phillips blade	3.95
988-3613	36-213	4" shank w/7/32" (#2) Phillips blade	4.95
988-3614	36-214	6" shank w/5/16" (#3) Phillips blade	7.95
988-3620	36-220	1" shank w/1/4" Keystone blade	3.95
988-3623	36-223	1" shank w/7/32" (#2) Phillips blade	3.95
988-3625	36-225	4" shank w/5/32" Cabinet-tip blade	3.18
988-3626	36-226	5" shank w/5/32" Cabinet-tip blade	3.18
988-3630	36-230	6" shank w/1/8" Cabinet-tip blade	3.95

Ultratorch® Heat Tool Standard UT-100



Each Ultratorch UT-100 comes standard with a soldering/heat ejector, a torch ejector, a tapered needle soldering tip, a flameless heat tip, a heat shrink attachment, a soldering sponge and an accessory spanner wrench, all packaged in a metal case.

Ordering Information & Specifications

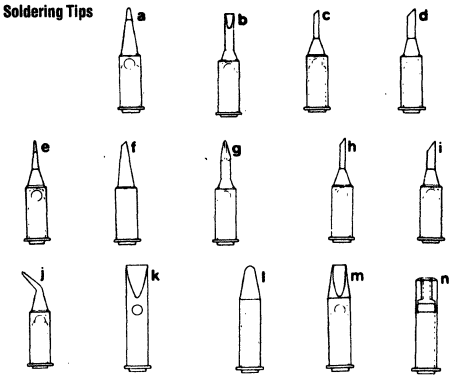
Each Ultratorch UT-100 comes standard with a soldering/heat ejector, a torch ejector, a heat shrink attachment, a tapered needle soldering tip, a flameless heat tip, a solder sponge, and an accessory spanner wrench, all packaged in a form-fitted metal case.

Stock No.	Mfr.'s Type	Description	Wt. (Gas Filled)	Length	EACH
861-1500	UT-100	Standard Ultratorch	3.7 oz. (105 gm)	w/soldering Tip 9.5" (241 mm); w/Heat Tip 6.9" (175 mm); Torch 7.8" (198 mm)	65.70

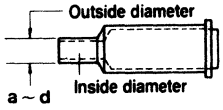
Attachments & Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-0101	a.)70-01-01	1 mm tapered needle	6.83
861-0102	b.)70-01-02	3.3 mm chisel (standard)	6.83
861-0103	c.)70-01-03	2 mm spade	6.83
861-0104	d.)70-01-04	3 mm spade	6.83
861-0105	e.)70-01-05	0.5 mm dia. tapered needle	6.83
861-0106	f.)70-01-06	2 mm dia. micro spade	6.83
861-0107	g.)70-01-07	0.5 mm dia. square tapered pyramid	6.83
861-0108	h.)70-01-08	2 mm dia. 35° spade	6.83
861-0109	i.)70-01-09	3 mm dia. 35° spade	6.83
861-0110	j.)70-01-10	1 mm dia. offset tapered needle	6.83
861-0111	k.)70-01-11	8 mm dia. high powered chisel	8.17
861-0112	l.)70-01-12	3 mm dia. high powered round head needle	8.17
861-0113	m.)70-01-13	5 mm dia. high powered long tapered chisel	8.17
861-0114	n.)70-01-14	8.4 mm tip adaptor (4 mm dia. × .7 mm pitch)	8.17
861-1550	a.)70-01-50	Heat tip (1.59 mm I.D.)	8.17
861-1551	b.)70-01-51	Heat tip (3.3 mm I.D.)	6.83
861-1552	c.)70-01-52	Heat tip (4.9 mm I.D.) (standard)	6.83
861-1553	d.)70-01-53	Heat tip (7.4 mm I.D.)	6.83
861-1554	70-01-54	Large Heat Shrink Attachment	2.40
861-1555	70-01-55	Heat Shrink Attachment (Standard)	2.75
861-0002	70-02	Protective Cap	2.15
861-0007	70-07SU	Soldering Ejector (Standard)	8.85
861-0008	70-07TU	Torch Ejector (Standard)	8.85
861-0035	70-35	Ejector Spanner Wrench (Standard)	1.53
861-0037	70-37U	Tip Cleaner Sponge	2.30
861-0040	70-40U	Metal Box (Standard)	8.83
861-0052	70-52U	Carrying Strap	2.70
861-5177	51773	Butane Fuel, 145 gm (5 1/8 oz.) cannisters	2.47

Soldering Tips



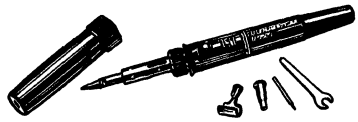
Heat Tips



Heating Temperatures

200-500°C (392-932°F) when soldering; 700°C (1292°F) max. when heat shrinking; 1260°C (2300°F) max. when used as a torch.

Self-Igniting Ultratorch® Heat Tool Standard UT-100Si



The cordless Ultratorch Si is a combination portable soldering iron and flameless heat tool. Perfect for infield services and maintenance and for production areas where accessibility may be limited.

Ordering Information & Specifications

Each UT-100Si comes complete with a soldering and heat tip, spanner wrench, open-end wrench, heat shrink attachment and protective cap. All existing standard UT-100 tips will also fit your new self-igniting version.

Stock No.	Mfr.'s Type	Description	Wt. (Gas Filled)	Length	EACH
861-1311	UT-100Si	Standard Self-Igniting Ultratorch	4.4 oz. (126 gm)	w/Soldering Tip 10.3" (262 mm); w/Heat Tip 9.7" (247 mm)	59.70

Attachments & Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-0102	70-01-02	3.3 mm Chisel Soldering Tip (Standard)	6.83
861-1555	70-01-55	Heat Shrink Attachment (Standard)	2.75
861-0002	70-02	Protective Cap (Standard)	2.15
861-0052	70-52U	Carrying Strap	2.70
861-8001	80-01U	Handle (Standard)	47.10
861-8003	80-03	Tip Housing (Standard)	3.45
861-8004	80-04U	Burner (Standard)	11.30
861-8007	80-07U	Ejector (Standard)	6.00
861-8014	80-14	Knurled Cap Nut (Standard)	2.70
861-8035	80-35	Ejector Spanner Wrench (Standard)	1.30
861-8040	80-40	Open End Wrench (Standard)	1.35
861-5177	51773	Butane Fuel, 145 gm (5 1/8 oz.) cannisters	2.47

Note: Engineering specifications allow for use of all UT-100 attachments and accessories on the UT-100Si.

Heating Temperatures: 250-500°C (482-932°F) when soldering; 650°C (1202°F) max. when heat shrinking.

Ultratorch® Heat Tool Mini UT-50

Fits in your shirt pocket for absolute portability. Perfect in-field work and production repair work, where instant heat is needed. Comes standard with protective cap, soldering tip and heat tip.

Ordering Information & Specifications

Each Mini UT-50 comes standard with a protective cap, soldering tip and heat tip. Optional soldering and heat tips are available.

Stock No.	Mfr.'s Type	Description	Wt. (Gas Filled)	Length	EACH
861-1520	UT-50	Mini Ultratorch	1.9 oz. (54 gm)	w/Soldering Tip 6.5" (165 mm); w/Heat Tip 6" (152 mm); Torch 5.2" (132 mm)	55.40

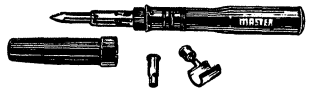
Attachments & Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-7101	71-01-01	1 mm Dia. Tapered Needle Soldering Tip	8.62
861-7102	71-01-02	2.4 mm Dia. Chisel soldering Tip (Standard)	8.42
861-7103	71-01-03	2 mm Dia. Spade Soldering Tip	8.42
861-7150	71-01-50	Heat Tip (I.D. 1.5 mm)	10.17
861-7152	71-01-52	Heat Tip (I.D. 4.7 mm) (Standard)	10.17
861-7155	71-01-55	Heat Shrink Attachment	2.40
861-7100	71-01U	Handle (Standard)	39.55
861-7002	71-02	Protective Cap (Standard)	7.33
861-7004	71-04	Orifice (Standard)	2.05
861-7007	71-07	Ejector (Standard)	11.50
861-7014	71-14	Knurled Cap Nut (Standard)	1.50
861-7015	70-15	Burner Joint (Standard)	2.00
861-7027	71-27	Spring for Shutter (Standard)	1.00
861-7028	71-28	Air Shutter (Standard)	2.00
861-5177	51773	Butane Fuel, 145 gm (5 1/8 oz.) cannisters	2.47

Heating Temperatures

200-450°C (392-842°F) when soldering; 430°C (806°F) max. when heat shrinking; 1260°C (2300°F) max. when used as a torch.

Ultratorch® Heat Tool Jumbo UT-200



This is the "Big Brother" of the Model UT-100 with more power (BTU's) to do the job. It comes standard with soldering tip, heat tip, heat shrink attachment and protective soldering tip cap. Optional soldering and heat tips are available.

Ordering Information & Specifications

Each Jumbo UT-200 comes standard with a soldering tip, heat tip, heat shrink attachment and protective soldering tip cap. Optional carrying strap, soldering and heat tips are available.

Stock No.	Mfr.'s Type	Description	Wt. (Gas Filled)	Length	EACH
861-1525	UT-200	Jumbo Ultratorch	7.8 oz. (222 gm)	w/Soldering Tip 11.3" (287 mm); w/Heat Tip 10.5" (267 mm); Torch 9.3" (236 mm)	85.20

Attachments & Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-7201	72-01-01	3 mm Dia. Tapered Needle Soldering Tip	17.42
861-7202	72-01-01	10 mm Dia. Chisel Soldering Tip (Standard)	17.42
861-7203	72-01-03	4 mm Dia. Spade Soldering Tip	17.42
861-7206	72-01-06	4 mm Dia. Micro Spade Soldering Tip	17.42
861-7207	72-01-07	1.5 mm Square Tapered Pyramid Soldering Tip (Standard)	17.42
861-7212	72-01-12	4 mm Dia. Chisel Soldering Tip	17.42
861-7213	72-01-13	12.5 mm Dia. Spade Soldering Tip	17.42
861-7214	72-01-14	12.4 mm Tip Adaptor (m5 × .8 mm pitch)	17.42
861-7251	72-01-51	Heat Tip (I.D. 3.6 mm)	17.42
861-7252	72-01-52	Heat Tip (I.D. 6.6 mm) (Standard)	17.42
861-7253	72-01-53	Heat Tip (I.D. 9.7 mm)	17.42
861-7255	72-01-55	Heat Shrink Attachment (Standard)	4.62
861-7256	72-02	Protective Cap (Standard)	4.30
861-7257	72-03	Tip Housing (Standard)	4.30
861-7528	72-07SU	Soldering Ejector (Standard)	14.95
861-7259	72-07TU	Torch Ejector (Standard)	14.95
861-7260	72-14	Knurled Cap Screw (Standard)	3.65
861-7061	72-52U	Carrying Strap	3.55
861-8035	80-35	Ejector Spanner Wrench (Standard)	1.30
861-8040	80-40	Open End Wrench (Standard)	1.35
861-7200	72-01UMU	Handle (Standard)	49.50
861-5177	51773	Butane Fuel, 145 gm (5 1/8 oz.) cannisters	2.47

Heating Temperatures

300-530°C (572-986°F) when soldering; 700°C (1292°F) max. when heat shrinking; 1260°C (2300°F) max. when used as a torch.

Self-Igniting Ultratorch® Heat Tool Jumbo UT-200Si

The cordless Self-Igniting version of the Jumbo Ultratorch UT-200.

Ordering Information & Specifications

Comes complete with a soldering and heat tip, spanner wrench, openend wrench, heat shrink attachment, and protective cap. The existing Jumbo tips will also fit your self-igniting version.

Stock No.	Mfr.'s Type	Description	Wt. (Gas Filled)	Length	EACH
861-1312	UT-200Si	Jumbo Self-Igniting Ultratorch	7.8 oz. (222 gm)	w/Soldering Tip 11.9" (302 mm); w/Heat Tip 11.2" (285 mm)	71.27

Attachments & Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-7202	72-01-02	10 mm Dia. Chisel Soldering Tip (Standard)	17.42
861-7252	72-01-52	Heat Tip (I.D. 6.6 mm) (Standard)	17.42
861-7255	72-01-55	Heat Shrink Attachment (Standard)	4.62
861-7256	72-02	Protective Cap (Standard)	4.30
861-7260	72-14	Knurled Cap Nut (Standard)	3.65
861-8003	80-03	Tip Housing (Standard)	3.45
861-8035	80-35	Ejector Spanner Wrench (Standard)	1.30
861-8040	80-40	Open End Wrench (Standard)	1.35
861-8201	82-01U	Handle (Standard)	56.05
861-8204	82-04U	Burner (Standard)	12.85
861-8207	82-07U	Ejector (Standard)	7.95
861-5177	51773	Butane Fuel, 145 gm (5 1/8 oz.) cannisters	2.47

Note: Engineering specifications allow for use of all UT-200 attachments and accessories on the UT-200Si.

Heating Temperatures

250-530°C (482-986°F) when soldering; 540°C (1004°F) max. when heat shrinking.

Operating Capacity

At maximum setting, refills will last up to 4 hours depending on the model and environmental temperatures. **Note:** Environmental temperatures will influence operating time.

Master Heat Gun®

Heavy-duty, industrial quality. Features universal motor, high air velocity, volume and temperatures. All attachments and accessories may be purchased separately.

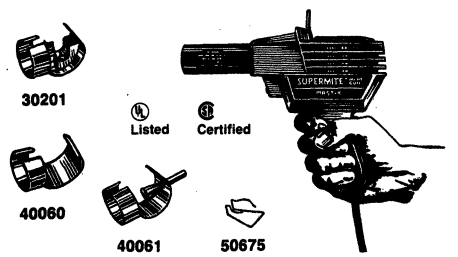
Ordering Information and Specifications

Stock No.	Mfr.'s Type	Temperature	Volts	Amps	EACH
861-1602	HG-201A	200-300°F/ 93-149°C	120	5.0	77.20
861-1601	HG-202A	200-300°F/ 93-149°C	220/240	3.0	84.25
861-1603	HG-301A	300-500°F/149-260°C	120	12.0	77.20
861-1606	HG-302A	300-500°F/149-260°C	220/240	6.0	84.25
861-1604	HG-501A	500-750°F/260-399°C	120	14.0	77.20
861-2607	HG-502A	500-750°F/260-399°C	220/240	7.0	84.25
861-1605	HG-751B	750-1000°F/399-538°C	120	14.5	84.25
861-2608	HG-752A	750-1000°F/399-538°C	220/240	9.0	84.25

Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-1706	51309	1/4" pinpoint attachment	9.95
861-1660	A-160-HG	For shrink tubing up to 3/4" O.D.	8.25
861-1670	A-170-HG	For shrink tubing from 3/4" up to 2" O.D.	8.25
861-2670	A-203-HG	Extra-wide (8") for shrink tubing up to 3/4" O.D.	19.95
861-2620	A-205-HG	For shrink boots up to 1 3/4" O.D.	18.05
861-3020	30202	Solder preform attachment	14.20
861-5113	51013	Molded carrying case	19.95
861-5124	51024	Shrink wrap packaging attachment 8" wide	17.50
861-5142	51542	Glass protector attachment	5.65
861-5143	51543	2 1/4" spreader attachment	5.65
861-5144	51544	1/8" reducer attachment	5.65

Supermite® Heat Gun SM-900



Industrial quality, lightweight, easy-to-use general purpose heat gun. All attachments and accessories may be purchased separately.

Ordering Information and Specifications

Stock No.	Mfr.'s Type	Temperature	Volts	Amps	EACH
861-0900	SM-900	850°F/454°C	120	7.6	43.25

Attachments and Accessories

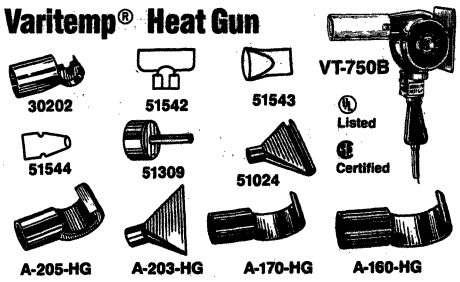
Stock No.	Mfr.'s Type	Description	EACH
861-3201	30201	Solder preform attachment	15.20
861-1709	40060	Heat shrink attachment	4.17
861-1710	40061	Pinpoint attachment	8.17
861-1711	50675	Bench stand	4.85

Replacement Heating Elements

Stock No.	Mfr.'s Type	Color	Temperature*	Volts	Watts	EACH
861-2022	20221K	Black	850°F/454°C	120	912	13.85

Note: 220-volt versions available on special order for all types. Call your nearest Allied sales facility for price and delivery.

Varitemp® Heat Gun



Variable temperature version of the Master Heat Gun. All attachments and accessories may be purchased separately.

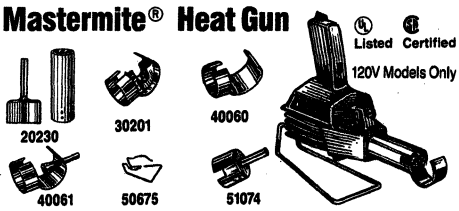
Ordering Information and Specifications

Stock No.	Mfr.'s Type	Temperature*	Volts	Amps	EACH
861-1506	VT-750B	Ambient to 1000°F/538°C	120	14.5	108.00
861-1507	VT-752A	Ambient 750°F/400°C	220/240	7.0	109.60

Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-1660	A-160-HG	For shrink tubing up to 3/4" O.D.	8.25
861-1670	A-170-HG	For shrink tubing from 3/4" up to 2" O.D.	8.25
861-2670	A-203-HG	Extra-wide (8") for shrink tubing up to 3/4" O.D.	19.95
861-2620	A-205-HG	For shrink boots up to 1 3/4" O.D.	18.05
861-3020	30202	Solder preform attachment	14.20
861-5124	51024	Shrink wrap packaging attachment 8" wide	17.50
861-1706	51309	1/4" pinpoint attachment	9.95
861-1706	51309	1/4" pinpoint attachment	9.95
861-5142	51542	Glass protector attachment	5.65
861-5143	51543	2 1/4" spreader attachment	5.65
861-5144	51544	1/8" reducer attachment	5.65

Mastermite® Heat Gun



Just the right heat, air velocity and volume to perform jobs without blowing components off the workbench. Quiet running, four heat ranges. Each Master-Mite comes standard with bench stand, heat shrink attachment and interchangeable heating element.

Ordering Information and Specifications

Stock No.	Mfr.'s Type	Temperature	Volts	Hz.	Amps	EACH
861-1610	10008	650°F/343°C	120	60	4.0	54.60
861-2609	10009	650°F/343°C	220	50/60	2.0	54.60
861-2610	10010	650°F/343°C	240	50	1.9	54.60
861-2611	10011	850°F/427°C*	120	60	0.9	57.35

*Heat gun with high temperature element and pinpoint attachment.

Replacement Heating Elements

Stock No.	Mfr.'s Type	Color	Temperature*	Volts	Watts	EACH
861-1615	20012	Blue	500°F/260°C	120	340	10.45
861-1613	20013	Silver	650°F/343°C	120	475	10.45
861-1620	20014	Black	800°F/427°C	120	525	10.45
861-2633	20033	Blue	500°F/260°C	220	400	10.45
861-2634	20034	Silver	650°F/343°C	220	450	10.45
861-2635	20035	Black	800°F/427°C	220	500	10.45
861-2160	20160	Blue	500°F/260°C	240	400	10.45
861-2161	20161	Silver	650°F/343°C	240	450	10.45
861-2162	20162	Black	800°F/427°C	240	500	10.45
861-2217	20217	Silver	850°F/454°C**	120	108	10.45

*Temperature measured 1/2" from nozzle. **Only when used w/pinpoint attachment.

Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-2230	20230	High temperature pinpoint attachment w/element kit (standard w/10011)	18.80
861-3201	30201	Solder preform attachment	15.20
861-1709	40060	Deflector attachment-slide-on deflector encapsules shrink tubing with even heat distribution (standard)	4.17
861-1710	40061	Pinpoint attachment—1/4" concentration of heat exactly where you want it	8.17
861-1711	50675	Adjustable stand (standard)	4.85
861-1774	51074	High temperature pinpoint attachment (standard w/10011) For use ONLY with heating element #20217.	9.05

Model 1000 Heat Gun
Varitemp® Heat Gun
Model 1500

Industrial quality. Feature plug-in, unbreakable heating elements, special-use attachments for various applications and low amperage draws. Each model comes standard with its heat shrink or pinpoint attachment. Also available in variable temperature models.

Ordering Information and Specifications

Stock No.	Mfr.'s Type	Temperature	Volts	Amps	EACH
861-1000	1000	650°F/343°C	120	9.0	85.00
861-1002	1000A	500°F/260°C	120	8.0	85.00
861-1611	1000B	800°F/427°C	120	3.2	85.00
861-1003	1500**	Ambient to 650°F/343°C	120	9.0	99.20

*Only when used w/pinpoint attachments. **Comes standard with 1080 watt element, variable temperature control, and heat shrink attachment.

Replacement Heating Elements

Stock No.	Mfr.'s Type	Description	Volts	Watts	EACH
861-3030	30230	Replacement for 1000 and 1500	120	1080	8.95
861-3031	30231	Replacement for 1000A	120	960	8.95
861-3029	30229	Replacement for 1000B	120	375	8.95

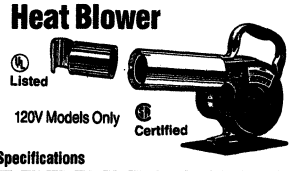
Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-3032	30302	Roofing attachment w/reducer (for use with 1500)	29.25
861-3041	30241	Adjustable stand (standard on all models)	14.30
861-3073	30273	Solder preform attachment (for use on all A models)	18.95
861-5074	50874	5/8" dia. reducer only (for use on all except B models)	7.95
861-5075	50875	Pinpoint attachment (standard w/all B models)	9.95
861-5170	51070*	Solder preform only (for use on all A models)	12.95
861-5102	51102	Heat shrink attachment (standard on all except B models)	5.00
861-5118	51218	Roofing attachment only (for use with 1500)	21.30

*Note: Solder preform attachment or roofing attachment cannot be used without adapting it to heat gun with #50874 reducer.

Masterflow® Heat Blower

Features heavy duty induction motor for continuous duty applications. Heat shrink attachment must be ordered separately.



Ordering Information and Specifications

Stock No.	Model	Temperature	Volts	Amps	EACH
861-1607	AH-301	300°F/149°C	120	10.0	97.25
861-3607	AH-302	300°F/149°C	220/240	5.2	98.75
861-1608	AH-501	500°F/260°C	120	14.0	104.45
861-3608	AH-502	500°F/260°C	220/240	7.3	105.95
861-1609	AH-751	750°F/399°C	120	18.0	104.45
861-3609	AH-752	750°F/399°C	220/240	9.4	105.95

Attachments and Accessories

Stock No.	Mfr.'s Type	Description	EACH
861-1712	40309	Heat shrink attachment 1 3/4" O.D.	5.85

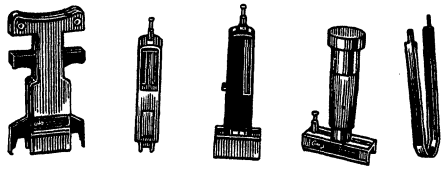
Replacement Heating Elements

Stock No.	Mfr.'s Type	Description	Volts	Watts	EACH
861-0815	815	Replacement for AH-301	120	1200	10.35
861-0816	816	Replacement for AH-302	220/240	1200	10.35
861-3310	30310	Replacement for AH-501	120	1680	11.30
861-3310	30311	Replacement for AH-502	220/240	1680	11.30
861-1636	30312	Replacement for AH-751	120	2160	12.36
861-3313	30313	Replacement for AH-752	220/240	2160	12.36

OK Electronics Division

IC Insertion/Extraction Kits, Tools and Accessories

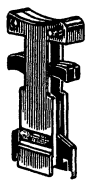
Insertion/Extraction Kit



WK-7, a kit of DIP IC extractors and inserters to accommodate all ICs from 8 to 40 pins. All tools that engage conductive surfaces are CMOS safe and include grounding lugs where appropriate. The kit consists of extractors EX-1 to 14-16 pin devices, and EX-2 for 24-40 pin chips, plus inserters MOS-1416, MOS-2428 and MOS-40 for 14-16, 24-28 and 36-40 pin ICs respectively.

827-4007. Model WK-7 Kit.....**EACH 57.20**

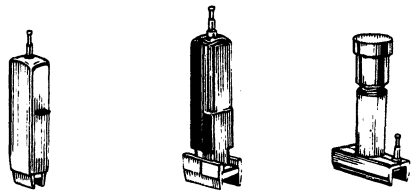
DIP Insertion Tool with Pin Straightener



Narrow profile permits tool to work on densely spaced patterns while unique insertion mechanism assures accuracy as well as excellent "feel". Additionally, the tool includes a unique pin straightener built into handle. Patented.

827-4015. Model EX-2.....**EACH 17.88**

Insertion/Extraction Tools



For highly sensitive MOS and CMOS ICs. Ground strap may be easily attached. Durable chrome ABS construction features precision parts for long life and easy on-hand operation. For use with DIP sockets.

827-1417. MOS-1416 .....**EACH 14.85**

For easy insertion of 24-28 pin ICs, same features as MOS-1416. For use with DIP sockets.

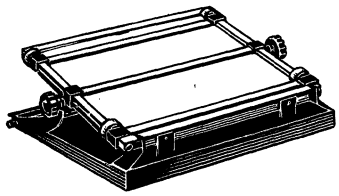
827-1420. MOS-2428 .....**EACH 14.85**

This insertion tool also aligns bent-out pins. A twist of the handle compresses the pins to proper .600 inch spacing and locks the IC into the tool. Then simply place the tool on the socket and depress the plunger for instant and accurate insertion. Features heavy chrome plating throughout for reliable static dissipation. Includes terminal lug for attachment to ground strap. For use with DIP sockets.

827-1418. MOS-40.....**EACH 17.05**

Circuit Troubleshooting Kit

- **Spring loaded guides to accommodate different board sizes**
- **Angled board position for ease of use**
- **Adjustable foam-lines retaining cover**
- **Removable center bar**
- **Replaceable foam and conductive foam available from stock**



This kit is ideal for everyone dealing with PC boards, ICs, Circuits, etc.; and can be used by electronics service technicians, field service tech's and lab engineers. Detailed operational manual for Digital Logic Probe and Digital Logic Pulser included. These four printed circuit board holders are constructed of rugged steel components for durability as well as stability in use. The frame rotates a full 360° and steel backed foam cover opens (from either end) to expose component side of PC board for stuffing components, testing, or assembly work. Close and lock cover to hold components in place then flip over frame on pivot to allow for final work on PCB.

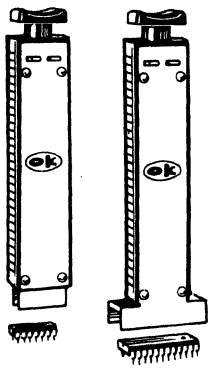
Stock No.	Mfr.'s Type	Maximum Board Size Without Center Bar	Outside Dimensions	EACH
827-7500	PCBH-60	10.6" × 8.6" (270 mm × 220 mm)	15½" × 11" (341 mm × 242 mm)	**110.00**
827-7505	PCBH-70	19.6" × 8.6" (500 mm × 220 mm)	25" × 11¾" (550 mm × 258.5 mm)	**128.70**
827-7515	PCBH-90	19.6" × 13.8" (500 mm × 350 mm)	25" × 17" (550 mm × 374 mm)	**181.50**

Extractor Tool

The EX-1 Extractor is ideally suited for hobbyist or lab engineer. Featuring one piece spring steel construction. It will extract all LSI, MSI and SSI devices from 8-to 24-pin.

827-4010. Model EX-1.....**EACH 2.70**

Static-Safe IC Insertion Tools

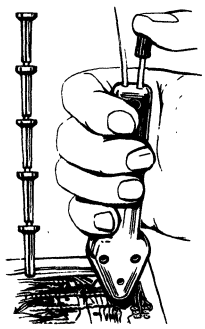


Insertion tools have optimized dimensions for direct insertion into PC boards without sockets. Special long body style facilitates firm grip and thumb action for accurate and comfortable one-hand operation. Rugged, nickel plated steel guides ensure durability and provide static-safety when using MOS and CMOS ICs. **Model BBI-1416 for 14-16 pin ICs. Model BBI-2428 for 24-28 pin ICs.**

827-1005. Model BBI-1416 .....**EACH 10.18**

827-1006. Model BBI-2428 .....**EACH 10.18**

PC Board Thru-Pins

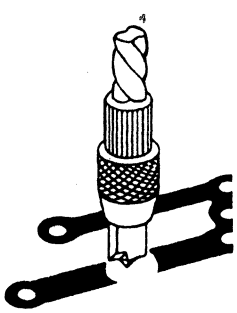


Simple, quick, economical connection between traces or pads on opposite sides of PC board without through-hole plating. Simply drill hole, insert pin, and solder. Pins are precision machined from solid brass, then plated 60/40 tin/lead over nickel for solderability. Two diameters, TUP-33 for .033" (0.8 mm) holes and TUP-39 for .039" (1 mm) holes, in handy strip form (50/strip) for easy insertion using the TPI-50 insertion tool. ***Each package of pins contains 20 strips for a total of 1000 pins.**

Stock No.	Mfr.'s Type	EACH*
825-0150	TPI-50	**70.40**
825-0139	TUP-39*	**26.40**
825-0133	TUP-33*	**26.40**

TCD-1 Printed Circuit Board Trace Cutter

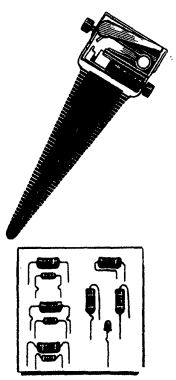
Low-cost tool for modifying etch patterns on PC boards of all types. May also be used to add holes for additional components, through holes, or jumpers. To use, simply place the cutting bit onto the circuit trace and slide the moveable collar to rotate the bit. Hardened steel mechanism for long life. Comes complete with 2 sizes of cutting bits and 2 sizes of drill bits plus detailed instructions.



827-1001. Model TCD-1.....**EACH 25.85**

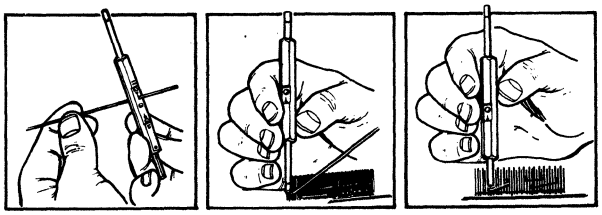
Lead Bender and Crimper

LB-100. Unique lead bender and crimper handles all common axial components and can be used on many radial and "TO" packages as well. The lead bending section enables simple right-angle layover of leads on any centers from 0.375 to 1.500" (9.5-38.1 mm) while an additional features enables "vertical" bends. For applications requiring "stand-off" or "snap-in" lead forms, just use the built-in crimper. This device is easily adjusted for both lead diameter and crimp size and requires no additional tooling or die changes. Simply set the adjusting screw, insert the lead, and crimp. May be hand-held or mounted in a vise.



827-1100. Model LB-100.....**EACH 21.45**

Hobby Wrap WSU-30M (Modified Wrap) and WSU-30 (Regular Wrap)

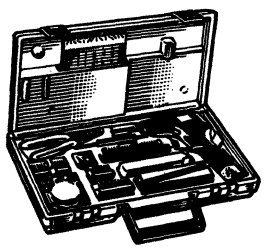


Model WSU-30M performs the work of three separate tools. Wraps/unwraps 30 AWG (0.25mm) wire onto standard .025" (0.6mm) square DIP socket posts and strips 30 AWG wire nick-free. Makes a "modified style" of wrap, in which approximately 1½ turns of insulated wire are wrapped in addition to the bare wire for added mechanical stability. All metal construction for years of dependable service. Model WSU-30 offers same design, quality, and workmanship but will wrap lengths of stripped wire only.

827-1431. Model WSU-30M ..... **EACH 14.25**

827-1430. Model WSU-30 ..... **EACH 13.15**

Wire Wrapping Kit (Model WK-5)

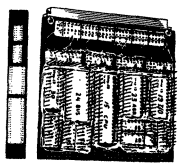


Wrap up any job anywhere with the Model WK-5 wire wrapping kit. Durable plastic carrying case contains a complement of tools that allow novice or pro to handle any wire-wrapping/unwrapping job. Kit contains Model BW-630 battery wire wrapping tool with bit and sleeve; Model WSU-30 hand wire-wrapping/unwrapping/stripping tool; universal PC board; edge connector with wire-wrapping terminals, set of PC card guides and brackets; mini-shear with safety clip; industrial quality 14, 16, 24 and 40 pin DIP sockets; an assortment of wire-wrapping terminals; a DIP inserter; a DIP extractor and a unique 3-color wire dispenser complete with 50 feet each of red, white and blue insulated, silver plated solid AWG 30 copper wire.

827-4005. Model WK-5 ..... **EACH 137.50**

Socket-Wrap I.D. Plastic Panels

Don't get stuck with unmarked pins. Identify pin numbers on wire-wrapping sockets with these socket-sized plastic panels with numbered holes in pin locations. Simply slip on the socket before wrapping to greatly simplify both initial wire-wrapping and troubleshooting or repair. Can also be written on for easy identification of location. IC part numbers, function, etc.

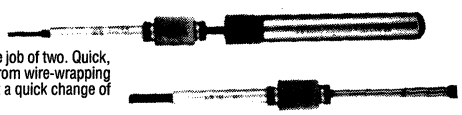


Stock No.	Mfr.'s Type	Quantity Per Pack	EACH
825-5049	ID-8-100	100	9.35
825-5050	ID-14-100	100	9.08
825-5051	ID-16-100	100	9.35
825-5052	ID-18-50	50	7.15
825-5053	ID-20-50	50	8.25
825-5054	ID-22-50	50	8.75
825-5055	ID-24-50	50	10.45
825-5056	ID-28-50	50	12.38
825-5057	ID-40-25	25	9.63
825-5058	ID-96-25	25	11.50

*Last 2 digits in Mfr.'s type indicates number of holes in panels.

Hand Wrapping/ Unwrapping Tools

New convenience. One tool that does the job of two. Quick, convenient and easy to use. To switch from wire-wrapping to unwrapping takes only seconds - just a quick change of the cap from one end to the other.



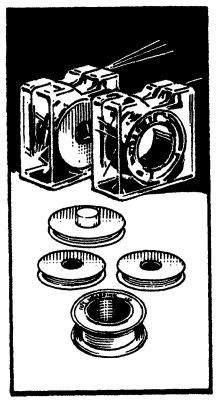
Stock No.	Mfr.'s Type	Wrapping Side: Wrap	Wrapping Side: Wire Size (AWG)	Wrapping Side: Max. Insul. Dia.	Wrapping Side: Term. Hole Dia.	Wrapping Side: Term. Hole Depth	Unwrapping Side: Term. Hole Dia.	Unwrapping Side: Term. Hole Depth	EACH
825-2050	HW-UW-18-19	Reg	18-19 GA	—	.075	1.000	.075	1.000	63.25
825-2051	HW-UW-20	Reg	20 GA	—	.075	1.000	.070	1.000	50.05
825-2052	HW-UW-224	Reg	22-24 GA	—	.075	.807	.070	1.000	50.05
825-2057	HW-UW-26SM	Mod	26 GA	.031	.046	.750	.038	1.000	59.95

Pre-Cut and Pre-Stripped Wrapping Wire

30 AWG (0.25 mm)
Insulation diameter: .0195" (0.50 mm). **Strip-off length both ends:** 1" (25 mm). 500 wires per package. Replace "X" in Stock No. with number indicated above color.

Stock No.	Insulation Length: Inch	Insulation Length: MM	0 White	1 Yellow	2 Blue	3 Red	4 Black	PK/500: 1-4	PK/500: 5-25
825-3X11	1	25	30W-010	30Y-010	30B-010	30R-010	30BLK-010	8.80	8.00
825-3X12	2	51	30W-020	30Y-020	30B-020	30R-020	30BLK-020	9.90	9.00
825-3X13	3	76	30W-030	30Y-030	30B-030	30R-030	30BLK-030	11.00	10.00
825-3X14	4	101	30W-040	30Y-040	30B-040	30R-040	30BLK-040	12.38	11.25
825-3X15	5	127	30W-050	30Y-050	30B-050	30R-050	30BLK-050	13.48	12.25

Wire Dispenser



Cuts wire to length, strips 1" of insulation. With 50-ft. roll of AWG #30 Kynar wire-wrapping wire. Refillable.

Stock No.	Mfr.'s Type	Wire Color	EACH
827-4030	WD-30-B	Blue	9.08
827-4031	WD-30-Y	Yellow	9.08
827-4032	WD-30-W	White	9.08
827-4033	WD-30-R	Red	9.08

Replacement Rolls for Above

Stock No.	Mfr.'s Type	EACH
827-4040	R-30-B-0050	5.75
827-4041	R-30-Y-0050	5.75
827-4042	R-30-W-0050	5.75
827-4043	R-30-R-0050	5.75

Tri-Color Dispenser

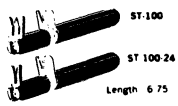
Stock No.	Mfr.'s Type	EACH
827-4020	WD-30-TRI	10.75
827-4025	R-30-TRI	8.86

Hand Unwrapping Tools

These tools are used to easily remove solderless wrapped connections from 18 thru 32 gauge wire.

Stock No.	Mfr.'s Type	Type	Wire Size (AWG)	Type	Term. Hole Dia.	Term. Hole Depth	EACH
825-2045	UW-18-19	A	18-19	Left	.075	1.000	19.25
825-2030	UW-1	A	20-26	Left	.070	1.000	11.83
825-2031	UW-2	C	20-26	Left Right	.070	1.000	16.23
825-2032	UW-4	B	20-26	Left	.070	2.360	16.23
825-2033	UW-7	A	20-26	Left	.086	.750	11.83
825-2036	UW52-L	C	20-26	Left Right	.052	.750	16.25
825-2035	UW-093R	A	24-32	Left	.038	1.000	9.90
825-2038	UWD-93-93	C	24-32	Left Right	.038	1.000	14.85
825-2039	UW-2832C	B	28-32	Left Right	.038	.750	16.23

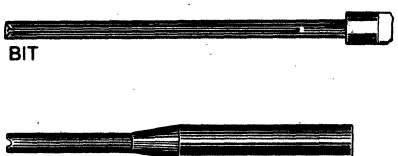
Wire Cut-and-Strip Tools



A revolutionary new concept for easy and clean stripping of wires for wire-wrapping. Easy to operate—place wires (up to 4) in stripping slot with ends extending beyond cutter blades—press tool and pull—wire is cut and stripped to proper "wire-wrapping" length.

Stock No.	Mfr.'s Type	Wire Size (AWG)	Adjustable "Shiner" Length of Stripped Wire: From	Adjustable "Shiner" Length of Stripped Wire: To	Blade Type	EACH	Stock No.	Replacement Blade Numbers	EACH
825-2201	ST-100	22-24 GA	15/16"	19/16"	Double	19.25	825-2221	OK-3907-B	3.58
825-2202	ST-100-24	24 GA	15/16"	19/16"	Single	19.25	825-2222	OK-3907-24B	3.58
825-2203	ST-100-26	26 GA	15/16"	111/16"	Single	19.25	825-2223	OK-3907-26B	3.58
825-2204	ST-100-28	28 GA	7/8"	11/8"	Single	23.10	825-2224	OK-3907-28B	4.95
825-2205	ST-100-30	30 GA	7/8"	11/8"	Single	23.10	825-2225	OK-3907-30B	4.95

Wire Wrapping Bits and Sleeves



Stock No.	Wire Gauge (AWG)	Wrap	Bit Type No.	EACH	Stock No.	Sleeve No.	Max. Insul. Dia.	Term. Hole Dia.	Term. Hole Depth	Min. Term. Diag.	Max. Term. Diag.	EACH
825-2010	22	Reg	KB22	31.63	825-2015	P2224	—	.075	.750	.054	.073	9.35
825-2100	22	Mod	WB2275M	29.43	825-2015	P2224	.052	.075	1.000	.049	.074	9.35
825-2013	22-24	Reg	KB224	25.30	825-2015	P2224	—	.075	.807	.054	.073	9.35
825-2011	24	Reg	KB24	29.15	825-2016	P2426	—	.075	.750	.055	.074	9.90
825-2101	24	Mod	WB24M	34.65	825-2015	P2224	.046	.075	.750	.054	.073	9.35
825-2012	26	Reg	KB26	31.90	825-2016	P2426	—	.075	1.000	.058	.073	9.90
825-2102	26	Mod	WB26SM	34.65	825-2020	P26LN	.031	.040	.750	.023	.038	20.35
825-2103	26	Mod	WB26M	34.65	825-2015	P2224	.046	.075	1.000	.054	.073	9.35
825-2104	28	Mod	WB28SHM	34.65	825-2018	P3032	.030	.036	.750	.031	.034	21.35
825-2025	30	Mod	SB30MSH-B	33.00	825-2018	P3032	.027	.036	.750	.031	.034	21.35
825-2105	30-32	Mod	WB3032M	34.65	825-2018	P3032	.027	.040	.750	.034	.038	21.35

Heavy Duty Electric Wire Wrapping Gun

The OK-11 series ideal for all wire-wrapping applications from R & D to production and is for use with 22-32 AWG (0.6-0.2 mm) wire. The tool's powerful motor and positive gear drive ensure long life and low maintenance even under demanding production applications. The OK-11 "BF" models only are available with a backforce device to prevent overwrapping. Ideal for cut, strip and wrap applications.

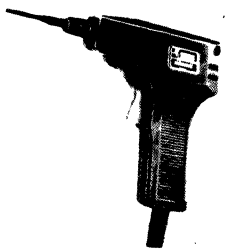
Stock No.	Mfr.'s Type	Description	EACH
825-7000	OK-11	110 V AC/DC Electric Tool	192.50
825-7010	OK-11-BF	110 V AC/DC Electric Tool with Back Force	201.30

Light Duty Electric Wire Wrapping and Unwrapping Gun

This comfortable, lightweight wire-wrapping tool is easy to use and will wrap 24-32 AWG wire. The OK-12 incorporates a timing belt drive mechanism for long life and reliability as well as variable indexing ability (in 45° increments) using variable indexing tool VIT-1. "BF" models are equipped with backforce device to prevent overwrapping. The "U" versions can be used for unwrapping by using the convenient reversing switch mounted on the tool.

Stock No.	Mfr.'s Type	Description	EACH
825-7001	OK-12	Electric Tool	170.50
825-7002	OK-12-U	Wrap/Unwrap Tool	185.90
825-7003	OK-12-BF	Backforce Tool	179.30
825-7004	OK-12-BF-U	Unwrap Backforce Tool	192.50

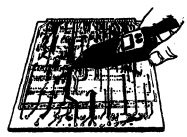
AC-Powered Wire-Wrapping Tool



The Model EW-8 with its special formulated reinforced plastic housing is an efficient, lightweight and easy-to-use tool. Model EW-8-BF incorporates "Back Force" which helps prevent over-wrapping. Bit and sleeve not included.

Stock No.	Mfr.'s type	Input Voltage	Input Current	Back Force	Speed	Weight	Wire Gauge	EACH
825-1008	EW-8	110 VAC	5 Amps	No	3300 RPM	12.7 Oz.	AWG 22-AWG 30	170.50
825-1009	EW-8-BF	110 VAC	5 Amps	Yes	3300 RPM	12.7 Oz.	AWG 22-AWG 30	189.20

TP-3 Cut and Clinch Tool

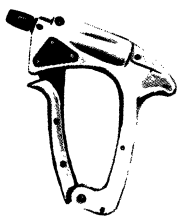


- **Cuts, Clinches and Burnishes Component Leads**
- **Quick Operation . . . Reduces Operator Time**
- **Improves Board Quality . . . Cuts Assembly Costs**

Model TP-3 will cut, clinch and burnish component leads in one quick operation. Cuts operator time, improves board quality and reduces assembly costs. Features rugged aluminum body and a durable steel cutting mechanism.

827-1004. Model TP-3 ..... **EACH 45.65**

Chuck Type Manual Wire-Wrapping Tool



The SPEED-WRAP tool is designed to produce wire-wrapped connections by merely squeezing the trigger. This model makes full use of bits and sleeves made for use in electric or air driven wire-wrapping tools, both regular and modified. It will accommodate wire from AWG 22 through AWG 32. For production line and field service use in the electronic, telecommunications and appliance industries.

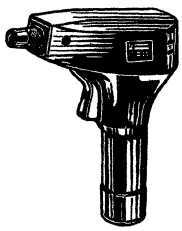
Stock No.	Mfr.'s Type	Housing	EACH
825-2001	G100/R3278	Aluminum	98.95
825-2002	G200/R3278	Lexan®	66.55

Wire Wrapping Combination Tool

WSU-2224. Compact tool does the job of three tools at a fraction of their comparable prices. The tool wraps, unwraps and even strips wire thanks to a unique built-in stripping blade. Designed for use with 22-24 AWG (0.65-0.50 mm) wire on standard .030 × .060" (0.76 × 1.52 mm) and .045" (1.44 mm) square posts. Takes minutes to learn to use; makes perfect connections in seconds without solder.

825-0224 ..... **EACH 24.75**

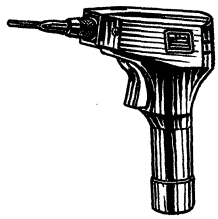
Industrial Battery Powered Wire-Wrapping Tool



For installation and field service. Model BW-928 is a battery operated wire-wrapping tool that accepts any standard bits and sleeves for 22-30 AWG wire. Features positive indexing, strong Lexan (1 m G.E. Co.) housing, and weighs only 8 ounces (225 grams). Simply turn the batteries over to reverse the tool for unwrapping. Anti-overwrapping device is an optional feature. Uses 2 standard "C" size rechargeable Nicad batteries. Bits, sleeves, and batteries not included.

Stock No.	Mfr.'s Type	Back Force	Wrapping	Unwrapping	Wire Size	EACH
825-1011	BW-928-BF	Yes	Yes	Yes	AWG 30	117.15

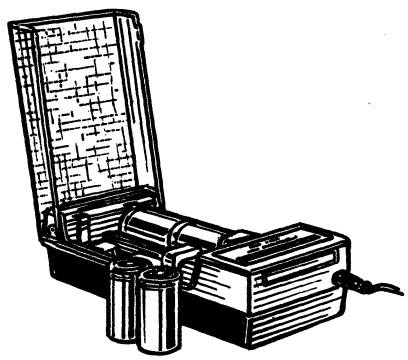
Heavy Duty Battery Powered Wire Wrapping Tools



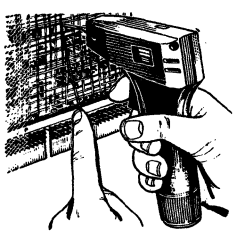
The BW-520 is a battery operated wire wrapping tool, also available in reversible models for wrapping and unwrapping. The nickel cadmium batteries are self contained in the handle of the tool. Available with "Back Force" (BF) device to prevent overwrapping. Accepts all power bits and sleeves. Batteries not included.

Stock No.	Mfr.'s Type	Description	EACH
825-7015	BW-520	Battery Wrap Tool	206.80
825-7020	BW-520-BF	Battery Wrap w/Back Force	220.00
825-7025	BW-520-U	Battery Unwrap Tool	223.85
825-7030	BW-520-BF-U	Battery Unwrap Tool w/Back Force	251.63

Battery Charger For Recharging "C" Size Nicad Batteries



Stock No.	Mfr.'s Type	Input Volts	EACH
825-2003	BC-3-115	115 VAC	29.15



Portable Wire Wrapping Tool (Model BW-2630)

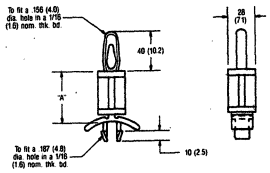
Quick on the draw, on performance and durability. The pistol grip design Model BW-2630 is a revolutionary, rugged ABS construction wire-wrapping tool that operates on 2 standard "C" Nicad batteries (not included) and accepts either of two specially designed bits. Bit Model BT-30 is for wrapping 30 AWG wire onto .025" square pins; BT-2628 wraps 26-28 AWG wire. Also includes both positive indexing and anti-overwrapping mechanisms—features usually found on models of this type costing much more.

827-2631. Model BW-2630. Wrapping Tool ..... **EACH 43.95**

827-3630. Model BT-30. Bit ..... **EACH 13.15**

827-3628. Model BT-2628. Bit ..... **EACH 13.15**

Circuit Board Supports

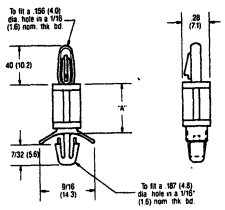


Board supports are easily installed by hand. Assembled boards are readily mounted, lock in place and are easily removed for replacement or repair. Made from strong, tough nylon. Positive spring locking action, yet are easily removed. Snap into .187″ hole in chassis .030-.093″ thick. Av. shpg. wt. 4 oz.

Stock No.	Mfr.'s Type	Height Inches	PER PKG./100
911-0504	CBS-4N	1/4	9.90
911-0506	CBS-6N	3/8	10.42
911-0508	CBS-8N	1/2	11.02
911-0510	CBS-10N	5/8	11.96
911-0512	CBS-12N	3/4	12.75
911-0514	CBS-14N	7/8	13.60

LCBS

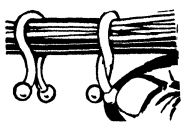
NEW



Nylon Circuit Board Supports feature a locking tension flange which laps over the board to hold securely in position. Supports up to 100 lbs. No need for tools. An arrow-type locking head snaps into a .187″ dia. hole in the chassis where it expands to lock permanently in position. A squeeze of the fingers permits removal of the board from the support for repair or replacement.

Stock No.	Mfr.'s Type	Height Inches	PER PKG./100
911-0403	LCBS3N	3/16″	11.63
911-0404	LCBS4N	1/4″	12.39
911-0406	LCBS6N	3/8″	13.05
911-0407	LCBS7N	7/16″	13.54
911-0408	LCBS8N	1/2″	13.99
911-0410	LCBS10N	5/8″	14.99
911-0412	LCBS12N	3/4″	15.96
911-0414	LCBS14N	7/8″	16.99
911-0416	LCBS16N	1″	17.96
911-0418	LCBS18N	1 1/8″	18.93
911-0420	LCBS20N	1 1/4″	19.90
911-0422	LCBS22N	1 3/8″	20.93

Twist-Lok Reusable Plastic Ties

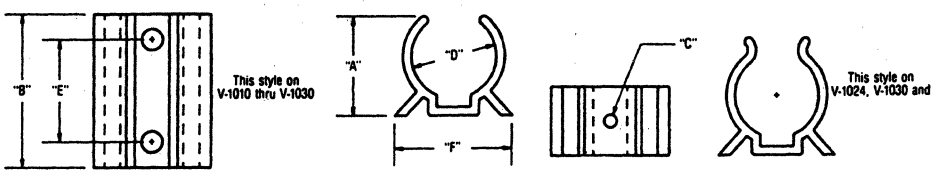


Just slip in place. Hold bundles firmly. Reusable white nylon. 4 lengths: .2 to .8″ bundles.

Stock No.	Mfr.'s Type	Approx. O'all Ht.	Wire Bundle Diameter	PER PKG./100
911-7000	TL-250	0.900″	.2-.3″	6.69
911-7010	TL-350	1.032″	.3-.4″	7.15
911-7020	TL-450	1.200″	.4-.5″	7.69
911-7030	TL-750	1.550″	.7-.8″	9.33

Vinyl Component Clips

NEW

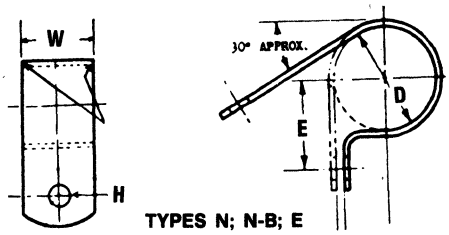


Type V-Vinyl Component Clips

Mallory Plastic Component Clips are a convenient, economical means for fastening and, where required, insulating a wide variety of electrical and electronic components, accessories and parts. They permit fast and easy insertion, hold firmly, yet allow removal. Typical applications are capacitors, resistors, lamps, batteries, and fuses.
They are made of strong, black vinyl and have high dielectric strength.
The floor of the clip is pierced for screws or other fastening devices.

Stock No.	Mfr.'s Type	Dimensions Inches (mm)						PER PKG./100
		A	B	C	D	E	F	
911-0001	V-1001	25/64 (9.9)	1/2 (12.7)	3/32 (2.4)	5/16 (7.9)	—	1/2 (12.7)	28.60
911-0002	V-1002	13/32 (10.3)	1/2 (12.7)	3/32 (2.4)	3/8 (9.5)	—	35/64 (13.9)	29.14
911-0003	V-1003	31/64 (12.3)	1/2 (12.7)	3/32 (2.4)	7/16 (11.1)	—	35/64 (13.9)	29.72
911-0004	V-1004	33/64 (13.1)	1/2 (12.7)	3/32 (2.4)	1/2 (12.7)	—	43/64 (17.1)	30.42
911-0005	V-1005	41/64 (16.3)	1/2 (12.7)	3/32 (2.4)	9/16 (14.3)	—	43/64 (17.1)	31.14
911-0006	V-1006	23/32 (18.3)	1/2 (12.7)	3/32 (2.4)	5/8 (15.9)	—	55/64 (21.8)	31.90
911-0007	V-1007	13/16 (20.6)	1/2 (12.7)	5/32 (4.0)	11/16 (17.5)	—	7/8 (22.2)	34.99
911-0008	V-1008	23/32 (18.3)	1/2 (12.7)	5/32 (4.0)	3/4 (19.1)	—	29/32 (23.0)	36.11
911-0009	V-1009	27/32 (21.4)	1/2 (12.7)	5/32 (4.0)	7/8 (22.2)	—	1 (25.4)	37.29
911-0010	V-1010	1 1/16 (27.0)	1 1/8 (28.6)	5/32 (4.0)	1 (25.4)	3/4 (19.1)	1 11/64 (29.8)	43.35
911-0011	V-1011	1 27/64 (36.1)	1 1/8 (28.6)	5/32 (4.0)	1 3/8 (34.9)	3/4 (19.1)	1 25/64 (35.3)	49.14
911-0024	V-1024	1 13/16 (46.0)	1 3/4 (44.5)	5/32 (4.0)	1 1/2 (38.1)	3/4 (19.1)	2 (50.8)	118.62
911-0030	V-1030	2 5/8 (66.7)	1 1/2 (38.1)	5/32 (4.0)	2 1/4 to 2 3/4 (57.2-69.9)	3/4 (19.1)	2 23/32 (69.1)	282.12

Cable Clamps



Type "E" 1/2" Wide (Ethyl Cellulose)

Ethocel combines light weight and chemical resistance with excellent shock resisting properties in a temperature range from + 185°F to – 40°F. Ethocel clamps feature toughness and excellent electrical properties to satisfy unlimited fastening problems throughout the electrical industry. Approved 7-21-44 Army-Navy Aeronautical AN742. **Thickness:** 0.055″ (±0.005″). **Hole Dia.:** .199″/.204″.

Stock No.	Mfr.'s Type	Dimensions		PER PKG./100
		D	E	
911-1012	E2	1/8″	.328″	3.57
911-1013	E3	3/16″	.390″	3.66
911-1014	E4	1/4″	.421″	3.96
911-1015	E5	5/16″	.453″	4.00
911-1016	E6	3/8″	.483″	4.51
911-1017	E7	7/16″	.531″	5.00
911-1018	E8	1/2″	.562″	5.33
911-1019	E9	9/16″	.625″	6.66
911-1020	E10	5/8″	.610″	6.90

Type "N" 3/8" Wide (Nylon)

Stock No.	Mfr.'s Type	Dimensions			PER PKG./100
		D	E	H	
911-1000	N1*	1/16″	9/32″	1/8″	3.72
911-1001	N2	1/8″	21/64″	11/64″	3.78
911-1002	N3	3/16″	25/64″	11/64″	4.36
911-1003	N4	1/4″	27/64″	11/64″	4.57
911-1004	N5	5/16″	29/64″	11/64″	4.57
911-1005	N7	7/16″	17/32″	11/64″	5.18

* Thickness 3/64″; all others 1/16″.

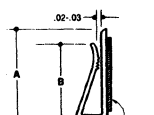
Type "N-B" 1/2" Wide (Nylon)

Stock No.	Mfr.'s Type	Dimensions			PER PKG./100
		D	E	H	
911-1006	N3B	3/16″	25/64″	13/64″	9.02
911-1007	N4B	1/4″	27/64″	13/64″	9.81
911-1008	N6B	3/8″	31/64″	13/64″	11.66
911-1009	N9B	9/16″	19/32″	13/64″	12.45
911-1010	N10B	5/8″	5/8″	13/64″	13.09
911-1011	N12B	3/4″	49/64″	13/64″	15.54

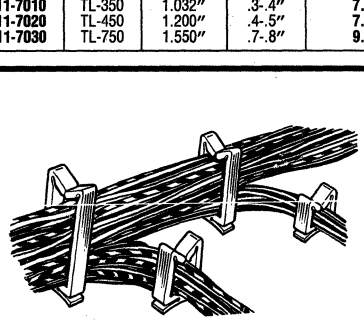
Thickness — 1/16″ on all types.

Type CFCC Flat Cable Clamps

Designed for routing one to six layers of 26-30 AWG flat or woven cable. Self-adhesive backing eliminates need for tools or mounting holes.
Type CFCC-4 Dimensions: A — 1/2″, B — .30″.
Type CFCC-8 Dimensions: A — 1″, B — .85″.
Sold in packages of 100.
911-1033. Type CFCC-4 .....**EACH 26.72**
911-1034. Type CFCC-8 .....**EACH 35.39**

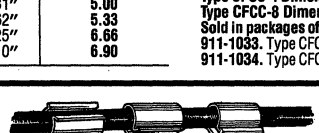


Wire Saddles



Strong, tough nylon saddles used to channel a group or bundle of wires over a given course. Have a pointed insert that is compressed and easily snapped into punched or drilled .187″ diameter holes in a metal chassis where they lock firmly and permanently in place. May be mounted in any position; no tools needed.

Stock No.	Mfr.'s Type	Inside Height Inches	Outside Height Inches	PER PKG./100
911-5091	WS-1NA	0.225	0.510	7.42
911-5092	WS-2NA	0.450	0.715	7.66
911-5093	WS-3NA	0.800	1.070	10.33
911-5094	WS-4NA	1.120	1.390	11.24

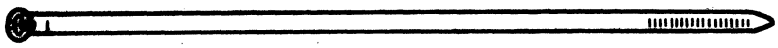


KWIK-KLIP

Offer convenient, secure fastening for a variety of electrical applications. Strip off protective backing and press in place permanently. For anchoring cable, tubing, pipe, rod. Constructed of strong, resilient PVC. KKL is locking type. Shpg. wt. 10 oz.

Stock No.	Mfr.'s Type	Diameter		Width × Length		PER PKG./100
		In.	MM	In.	MM	
911-2042	KKU-2	.125	3.17	.750 × .750	19.05 × 19.05	32.60
911-2044	KKU-4	.250	6.35	.750 × .750	19.05 × 19.05	37.14
911-2046	KKU-6	.375	9.52	.750 × .750	19.05 × 19.05	41.42
911-2048	KKU-8	.500	12.70	1 × 1	25.4 × 25.4	45.96
911-2002	KKC-2	.125	3.17	.750 × .750	19.05 × 19.05	32.75
911-2004	KKC-4	.250	6.35	.750 × .750	19.05 × 19.05	36.99
911-2005	KKC-5	.312	7.93	.750 × .750	19.05 × 19.05	39.17
911-2006	KKC-6	.375	9.52	.750 × .750	19.05 × 19.05	41.39
911-2008	KKC-8	.500	12.70	1 × 1	25.4 × 25.4	46.02
911-2024	KKL-4	.250	6.35	.750 × .750	19.05 × 19.05	39.26
911-2028	KKL-8	.500	12.70	1 × 1	25.4 × 25.4	49.35
911-2032	KKL-12	.750	19.05	1 × 1	25.4 × 25.4	70.93

Nylon Self-Locking TY-RAP® Cable Ties

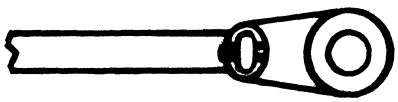


- ► Low profile head
- ► Stainless steel lock
- ► Smooth molded body
- ► Easy to install—won't slip

Wire Bundle Range	Minimum Unlocking Strength	Length	Width	PKG./100				PKG./1000		
				Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-24
1/16" — 5/8"	18 lbs.	3.62"	.094"	534-2000	TY523M	6.62	5.30	534-2005	TY23M	18.80
1/16" — 1-1/2"	18 lbs.	7.00"	.094"	534-2010	TY52315M	7.00	5.60	534-2015	TYB2315M	25.30
1/16" — 2"	18 lbs.	8.00"	.094"	534-2020	TY5232M	7.62	6.10	534-2025	TY232M	27.40
1/16" — 4"	18 lbs.	14.00"	.094"	534-2030	TY5234M	13.25	10.60	534-2035	TY234M	46.10
1/16" — 1-1/4"	30 lbs.	5.50"	.140"	534-2040	TY524M	7.37	5.90	534-2045	TY24M	27.70
1/16" — 1-1/4"	30 lbs.	5.50"	.140"	534-2050	TY524MX	8.37	6.70	534-2055	TY24MX	31.90
1/16" — 2"	40 lbs.	8.19"	.140"	534-2060	TY5242M	9.50	7.60	534-2065	TY242M	34.90
1/16" — 3"	40 lbs.	11.08"	.140"	534-2070	TY526M	15.75	12.60	534-2075	TY26M	73.40
1/16" — 3"	40 lbs.	11.08"	.140"	534-2080	TY526MX	18.12	14.50	534-2085	TY26MX	84.40
1/16" — 4"	40 lbs.	14.50"	.140"	534-2090	TY5244M	20.50	16.40	534-2095	TY244M	108.00
1/16" — 1-3/4"	50 lbs.	7.31"	.184"	534-2100	TY525M	9.75	7.80	534-2105	TY25M	36.80
1/16" — 1-3/4"	50 lbs.	7.31"	.184"	534-2110	TY525MX	10.75	8.60	534-2115	TY25MX	42.30
1/16" — 3"	50 lbs.	11.41"	.184"	534-2120	TY5253M	19.37	15.50	534-2125	TY253M	93.70
1/16" — 4"	50 lbs.	14.19"	.184"	534-2130	TY528M	22.00	17.60	534-2135	TY28M	107.20
1/16" — 4"	50 lbs.	14.19"	.184"	534-2140	TY528MX	24.00	19.20	534-2145	TY28MX	123.30

Wire Bundle Range	Minimum Unlocking Strength	Length	Width	PKG./50				PKG./500		
				Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-24
3/16" — 2"	120 lbs.	8.00"	.301"	534-2150	TY5272M	11.75	9.90	534-2155	TY272M	79.80
3/16" — 3-1/2"	120 lbs.	13.38"	.301"	534-2160	TY527M	16.06	12.85	534-2160	TY27M	105.45
3/16" — 3-1/2"	120 lbs.	13.38"	.301"	534-2170	TY527MX	17.38	13.90	534-2165	TY27MX	126.25
3/16" — 9"	120 lbs.	30.00"	.301"	534-2180	TY529M	32.19	25.75	534-2170	TY29M	239.30

X versions are for outdoor use



Cable Straps with Bolt/Screw Holes

Wire Bundle Range	Mount Hole Size No.	Minimum Unlocking Strength	Length	Width	PKG./100				PKG./1000		
					Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-24
1/16" — 5/8"	4	18 lbs.	4.0"	.094"	534-2200	TY533M	12.12	9.70	534-2205	TY33M	87.40
1/16" — 1-1/8"	8	40 lbs.	6.0"	.140"	534-2210	TY534M	13.87	10.10	534-2215	TY34M	96.00
1/16" — 1-3/4"	10	50 lbs.	7.8"	.184"	534-2220	TY535M	14.75	11.80	534-2225	TY35M	96.90
3/16" — 3-1/2"	1/4"	120 lbs.	13.9"	.301"	534-2230	TY537M	23.19*	18.55*	534-2235	TY37M	167.60**

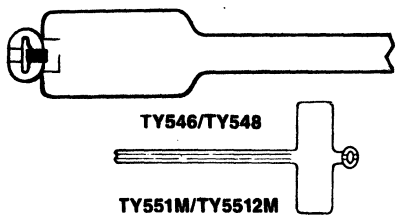
*Package of 50 **Package of 500

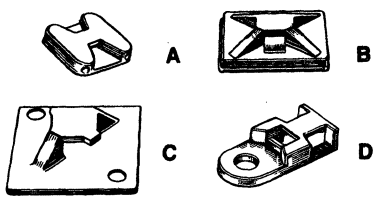
Identification Cable Ties

These ties can be permanently marked with the marking pens listed below.

Stock No.	Mfr.'s Type	Wire Bundle Range	Marking Pad Size	Minimum Unlocking Strength	Length	Width	PKG./100	
							1-4	5-9
534-2300	TY546M	3/8" — 1 3/4"	1/2" × 7/8"	50 lbs.	7.25"	.184"	28.50	22.80
534-2310	TY548M	3/4" — 4"	1/2" × 2 1/8"	50 lbs.	14.20"	.184"	40.25	32.20
534-2320	TY551M	3/16" — 5/8"	1" × 5/16"	18 lbs.	3.60"	.091"	7.31*	5.85*
534-2330	TY5512M	3/16" — 2"	1" × 5/16"	18 lbs.	8.30"	.094"	9.06*	7.25*

*Package of 50





Mounting Bases

Fig.	Description	PKG./100				PKG./1000		
		Stock No.	Mfr.'s Type	1-4	5-9	Stock No.	Mfr.'s Type	1-24
A	Adhesive, 2-way, .190 max tie width	534-2505	TC5342A	48.75	39.00	534-2510	TC342A	246.10
B	Adhesive, 3/4" × 3/4", .140 max tie width	534-2515	TC5344A	35.62	28.50	534-2520	TC344A	208.90
B	Adhesive, 4-Way, .184 max tie width	534-2525	TC5345A	47.25	37.80	534-2530	TC345A	246.10
C	Adhesive, 4-Way/2-Way for all ties	534-2535	TC5347A	40.00	32.00	534-2540	TC347A	246.10
D	No. 8 Screws, 2-Way, .180 max tie width	534-2545	TC5828	14.50	11.60	534-2550	TC828	58.20

Hand Tools and Marking Pens

Hand Tools

Pistol-type easy tension adjustment. Cuts tails off flush. Type WT 193A for .094" — .184" width ties.

534-2600. WT193A. .094"—.184" width ties ..... EACH 68.70
534-2605. WT197. .301 width ties ..... EACH 155.25

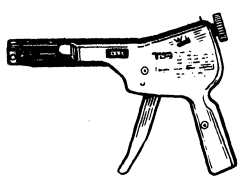
Compact hand tool made of high impact plastic. Pre-set tension. Cuts off flush. Lightweight and economical.

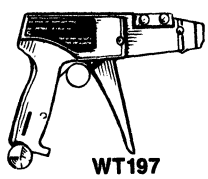
534-2610. Type WT1. .094"—.184" width ties ..... EACH 12.50
534-2615. Type WT2. .301" width ties ..... EACH 16.00

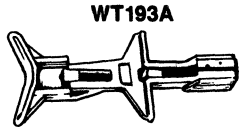
Nylon Marking Pens

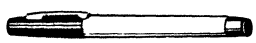
New fine tip marking pen for use with identification ties.

534-2620. WT163M-1. Red ..... EACH 3.86
534-2625. WT163M-3. Black ..... EACH 3.86


WT193A

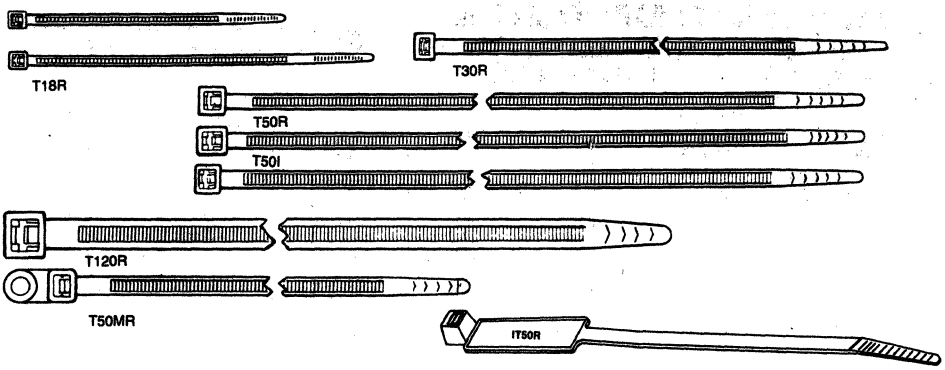

WT197


WT-1/WT-2


WT163M

Wire Ties

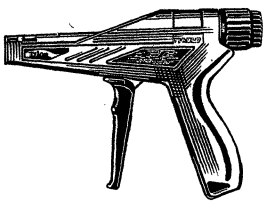
Tying wire bundles and cables is easy and seconds-fast with these speed binding and harnessing wire ties. Their rounded ends and flexibility enable you to slip them easily under and around cables and harnesses. Gradually tapered tail inserts readily into the self-locking head. Uniform serrations along the length of the tie permit easy "pull-through" right down to the wire bundle — ready for final tensioning and cut-off for a neat, tight harness. One-piece molded of self-extinguishing, fungus-inert 6/6 Nylon, the wire tie remains continuously serviceable to 185°F (85°C). There are no loose heads and no metal barbs. Packed in moisture-tight bags of 100 and 1000. Meet all applicable Military Specifications and are QPL listed. Standard color is natural, but ties are available in a variety of colors and materials, including radiation and chemical-resistant Tefzel and heat-stabilized black. Identification cable ties have a large flat area for imprinting or writing the required information.



Stock No.	Mfr.'s Type	Min. Ten. Str. Lbs./(Kgs)	Bundle Max. Dia. In./(mm)	Military Specification Reference	Length In. (mm)	PER PKG./100	BULK PKG. PER 1000 PIECES			
							Stock No.	1-24	25-49	50-99
—	T18S	18 (8.16)	5/8 (15.70)	MS3367-4	3 3/8 (85.59)	†	805-1105	19.95	18.84	17.74
805-0106	T18R	18 (8.16)	3/4 (19.05)	MS3367-4	4.00 (101.60)	2.20	805-1106	19.95	18.84	17.74
805-0107	T30R	30 (13.61)	1 1/4 (31.75)	MS3367-5	6 (152.40)	3.22	805-1107	32.24	30.31	28.55
805-0108	T50R	50 (22.68)	1 3/4 (44.45)	MS3367-1	8.00 (171.45)	4.18	805-1108	41.79	39.18	36.80
805-0140	T50I	50 (22.68)	3 (76.20)	MS3367-7	11.75 (279.40)	10.76	805-1140	107.61	98.87	92.20
805-0150	T50L	50 (22.68)	4 (101.60)	MS3367-2	15.50 (355.60)	12.62	805-1150	126.17	116.83	111.27
805-2005*	T120R	120 (54.43)	4 (101.60)	MS3367-3	15.25 (355.60)	11.53*	—	—	—	—
805-0116	T50MR	50 (22.68)	1 3/4 (44.45)	—	8.5 (171.45)	10.24	805-1116	93.06	88.73	78.76
805-0117	IT50R	50 (22.68)	4 (101.60)	MS3368-1-A	15.00 (355.00)	14.75	—	—	—	—

*Type T120R supplied in packages of 50 only. †Type T18S sold only in packages of 1000.

Mark 7 Tensioning Tool



► **Reduce Operator Fatigue and Speed Installation**

Unique 1" stroke decreases tensioning cycles. Ergonomic design fits operator's hand. Roller bearing mechanism reduces return spring tension for smooth stroke. Lightweight; only 9 1/2 oz.

► **Quick Infinite Adjustability for Flush Cut-off**

Inner cam knob sets to 3 variable tension levels. Outer cam knob "fine tunes" within the tension ranges. Easy to read digital display speeds adjustment and verification.

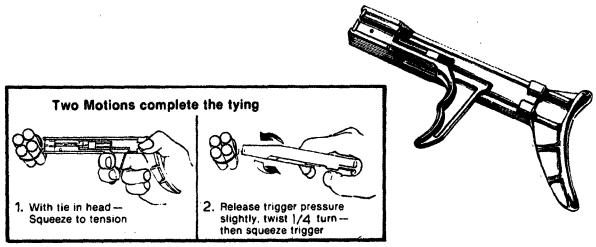
► **Long Service Life**

Durable, non-corrosive magnesium casing. Double-wall linkage for added strength. Tough chromium steel components. Roller bearing mechanism assures low friction between mechanical components.

► **Qualified Product Listed per Mil-Std. MS-90387-1**

805-0101. Model Mark 7 ..... **EACH 109.09**

Tytontwyster Cable Tie Tool



The Tytontwyster is a pocket size, installer controlled, precision tying tool offering speed and efficiency in tying applications. Two easy and quick motions complete the tying action. With tie in head — squeeze to tension; then release trigger pressure slightly, twist 1/4 turn — then squeeze trigger. That's it! Model TWT-1 cuts tail off flush. Made of high visibility orange colored high impact engineering resin. You control the tensioning and cutoff. Installs Tyton ties T18 through T50 series.

805-0102. Model TWT-1 ..... **EACH 14.14**

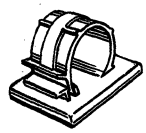
Nylon Mounting Bases (For Wire Ties Above)

MB-3A. 3/4" square; adhesive back; or use two #4 screws. For T18-T30 ties.
805-2003 ..... **PER PKG./100 18.42**

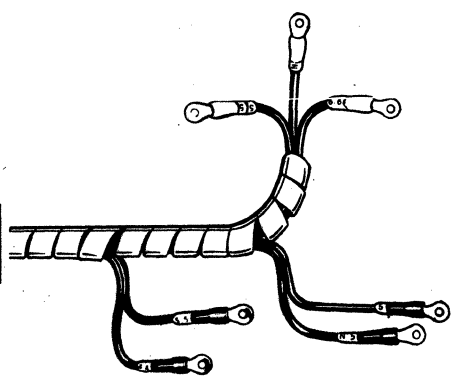
MB-4A. 1 1/8" square; adhesive back; or use two #8 screws. For T18-T50 ties.
805-2004 ..... **PER PKG./100 24.77**

Series 12 Adhesive Cable Clamps

Injection molded, flame resistant. Gray nylon. U.L. rated 94V-2.



Stock No.	Mfr.'s Type	Max. Bundle Diameter	PER PKG./100	
			1-4	5-9
805-5000	12-0250	1/4"	25.40	22.22
805-5005	12-0500	1/2"	38.07	33.40
805-5010	12-0750	3/4"	58.65	51.44



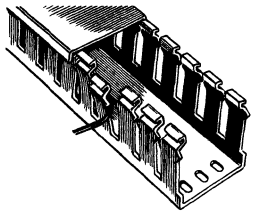
Spiral Wrap

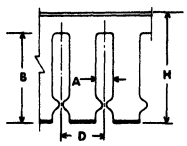
A range of Spiral Wrap in four materials for neatly harnessing cables. The range of materials covers all applications and conditions. Spiral Wrap is a versatile form of protection enabling cables to be led out at any point. Furthermore, because of its flexibility, it will follow any route taken by cable. Spiral Wrap is stocked by Allied in the following material: Non-flame retarded polyethelene (Spirathene Ref. NFP), Color — Natural. **Operating Range:** – 60°C to + 70°C. Also available on special order in the following materials: P.T.F.E. (Spiratemp Ref. P), Color — Natural. **Operating Range:** – 60°C to + 250°C (300°C for intermittent use). Nylon (Spiralon Ref. N), Color — Natural. **Operating Range:** – 55°C to + 95°C (135°C for intermittent use). Flame retarded polyethelene (Spirathene Ref. FRP), Color — White. **Operating Range:** – 50°C to + 70°C. **Standard Packs:** Spiralon and Spiratemp are supplied in 3 meter lengths, in polyethelene envelopes. Spirathene (flame retarded and non-flame retarded) are supplied in 30 meter lengths, in polyethelene envelopes.

Stock No.	Mfr.'s Type	Outside Diameter	Wall Thickness	Distance Between Lead Out Points	Cable Diameter	PER SPOOL/100'		
						1-24	25-49	50-99
805-3000	1-NFP	.125	.032	.22	1/16-1/2	13.86	12.51	11.11
805-3010	2-NFP	.250	.045	.37	3/16-2	20.05	14.30	12.69
805-3040	3-NFP	.500	.062	.50	3/8-4	43.56	32.18	28.59
805-3030	4-NFP	.750	.065	1.00	3/4-5	63.49	49.21	46.49

Wiring Duct and Covers

Slotted sidewall style is the popular choice of panel builders. Features restricted slot openings, scored sidewalls for corner and T-junctions, breakway fingers to provide additional access for wire leads, and smooth edges. Pressure sensitive adhesive backing can be utilized for either temporary positioning or permanent mounting. 1″ width duct is provided with 1/2″ adhesive strip along centerline. 2″, 3″ and 4″ widths have two 1/2″ or 3/4″ adhesive strips along their length. Duct must be mounted on a clean, oil-free panel surface. Wiring Duct Covers with their non-slip plastic lining ensure that the covers will remain in place under vibration. **Minimum order on duct and covers (sold separately) is 30 feet (carton of five 6′ lengths).**





White		Gray		Duct Size W × H	Dimensions—Inches			PER CARTON/30′		
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type		A	B	D	1-3	4-16	17-Up
805-0500	SLA-1 × 1-W	805-0600	SLA-1 × 1-G	1 × 1″	.315	.750	.800	45.60	39.90	31.80
805-0505	SLA-1 × 2-W	805-0605	SLA-1 × 2-G	1 × 2″	.315	1.620	.800	62.70	54.90	50.10
805-0510	SLA-2 × 1-W	805-0610	SLA-2 × 1-G	2 × 1″	.315	.750	.800	59.40	53.40	48.60
805-0515	SLA-2 × 2-W	805-0615	SLA-2 × 2-G	2 × 2″	.315	1.620	.800	66.90	63.30	54.00
805-0520	SLA-2 × 3-W	805-0620	SLA-2 × 3-G	2 × 3″	.400	2.620	1.000	89.70	81.00	70.50
805-0525	SLA-3 × 2-W	805-0625	SLA-3 × 2-G	3 × 2″	.315	1.620	.800	83.10	77.70	66.90
805-0530	SLA-4 × 2-W	805-0630	SLA-4 × 2-G	4 × 2″	.315	1.620	.800	95.10	86.40	73.80
—	—	805-0635	SLA-4 × 3-G	4 × 3″	.400	2.620	1.000	99.00	88.20	77.40

Covers

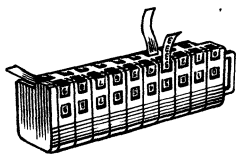
Stock No.	Mfr.'s Type	Width	Color	PER CARTON/30′		
				1-3	4-16	17-Up
805-0700	TC-1-W	1″	White	13.14	11.60	10.40
805-0705	TC-2-W	2″	White	19.20	17.50	15.30
805-0710	TC-3-W	3″	White	29.50	27.50	25.70
805-0715	TC-4-W	4″	White	34.30	28.50	25.70
805-0720	TC-1-G	1″	Gray	13.40	11.60	10.40
805-0725	TC-2-G	2″	Gray	19.20	17.50	15.30
805-0730	TC-3-G	3″	Gray	29.50	27.50	25.70
805-0735	TC-4-G	4″	Gray	34.30	28.50	25.70

Pressure Sensitive Wire Markers

Numbers, letters, symbols and abbreviations are mounted on individual cards or pocket-sized booklets. These all-temperature, plastic coated cloth markers are bonded with a strong adhesive for a lasting wrap on wires. One length accommodates wire sizes to 3/8″ O.D. 25 per box.

Stock No.	Mfr.'s Type	PER BOX/25		
		1-3	4-19	20-36
805-3080	TYHC-1-33	17.55	16.07	14.17
805-3090	TYHC-34-66	17.55	16.07	14.17
805-3100	TYHC-67-99	17.55	16.07	14.17
805-3110	TYHC-A-Z	17.55	16.07	14.17

Tyton Wire Marker Tape

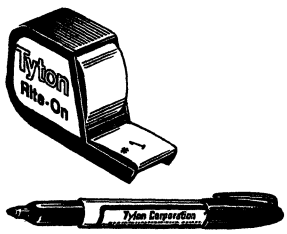


The New Tyton Wire Marker Tape Dispenser provides a convenient economical system for wiring marking. Sharp, crisp legends are coated to resist smearing and abrasion. The Wire Marker Tape is provided on a carrier strip to prevent contamination of the adhesive prior to dispensing for installation. This assures permanent non-flagging marker ends. **Dimensions:** 1/4″ wide × 11/4″ long. **Markers Per Roll:** 76 each legend. **Adhesive:** aggressive acrylic base. **Marker Material:** Dupont Tyvek - This is polyolefin material that resists tearing and abrasion.

805-0750. Type WMTDM. **1-5** ..... **EACH 23.06**
6-10 ..... **EACH 21.90**
11-25 ..... **EACH 18.96**

Rite-On Self-Laminating Wire and Cable Markers

Tyton Rite-On markers seal the legend under clear vinyl. The Tyton Rite-On tape dispenser is a flexible compact system designed to identify electrical cable, conduit, CATV coaxial cable, and large wire bundles. The durable throw-away dispenser provides a flat surface for writing on the white background marker. The vinyl marker tape has high tack adhesive that resists flagging, dirt, oil, water, alcohol, fungus, abrasion, and temperature extremes. Coupled with non-smear FTP-1 nylon marking pen, marking is fast and economical.



Stock No.	Mfr.'s Type	Write-on Area W × L	Marker Size W × L	Markers Per Roll	Wire Size Range				EACH
					Min.		Max.		
					Wire Size	ASTM	Wire Size	ASTM	
805-0800	RO514	1/2 × 5/16″	1/2 × 11/4″	300	.053″	16 ga.	.263″	#2	7.72
805-0805	RO512	1/2 × 1/2″	1/2 × 17/8″	150	.263″	#2	.330″	#0	7.72
805-0810	RO175	1 × 3/4″	1 × 3″	90	.330″	#0	.625″	#5/8	9.53
805-0815	RO101	1 × 1″	1 × 6″	40	.625″	#5/8	1.500″	—	9.53

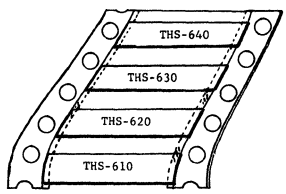
Tyton Nylon Marking Pen
805-0900. Model FTP-1 ..... **EACH 4.81**

Shrink-Tag Markers NEW

Shrink-Tag markers are a heat shrinkable marking system which provides permanent, solvent-resistant identification for wires, wire harness products, terminals, and other components.

Pin-fed Shrink Tag can be efficiently marked with Tyton Tagprint labeling software, an IBM compatible computer, and most printers. Marks can also be made with a typewriter or pen.

Manufactured from flexible polyolefin, self-extinguishing, Shrink-Tag can be used in a temperature range of −30°C to 105°C and is recognized to UL standard 224 for print performance, heat shock, and flammability.
Shrink-Tag has a 2.0 inch printable marker width and a shrink ratio of 3 to 1. All sizes are available in yellow or white and are packaged on a spool for easy handling.

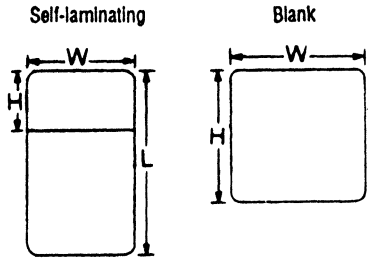


Yellow		White		Diameter (Per Inch)		Wire and Cable Size Range (AWG/MCM)	PER PKG./250
Stock No.	Mfr.'s Type	Stock No.	Mfr.'s Type	As Supplied	After Recovery		
805Q1610	THS-610Y	805Q3610	THS-610W	.125	.042	18-22	67.24
805Q1620	THS-620Y	805Q3620	THS-620W	.250	.083	10-16	72.36
805Q1630	THS-630Y	805Q3630	THS-630W	.500	.166	2-10	178.82
805Q0640	THS-640Y	805Q3640	THS-640W	1.000	.333	1-400	45.80

Tabtag Computer Printable Labels and Tagprint Labeling Software NEW

Tabtag Labels
Computer-printable Tabtag labels are available in self-laminating and blank styles for nearly any labeling application. Self-laminating Tabtags are manufactured with a clear, flexible vinyl film which overwraps the legend to provide protection against moisture, chemicals, and abrasion. Blank Tabtags are used to flag wire and cable and identify terminal blocks, printed circuit boards, E-Proms, ICs and other components. Used for bar coding and other industrial identification purposes, Tabtags resist harsh chemicals and extreme temperatures, while providing smudge-resistant identification. Additional stock sizes are available, and custom labels can be designed to meet specific requirements. Standard label color is white. Yellow and grey are available upon request.

Tagprint Software
Menu-driven Tagprint labeling software works with any IBM compatible computer using MS-DOS 2.0 or later, with a minimum of 256K RAM. Tagprint includes six print sizes, ranging from 5 characters per inch (cpi) to 17 cpi, and four bar codes (Codabar, Code-39, UPC-A, and Interleaved 2 of 5). The bar code dimensions can be altered and can be printed with text. Tagprint has color monitor capabilities and, with a color printer, can print in any of eight colors. Other features include serialization, automatic centering, label set creation, and complete storage capacity. Tagprint comes with Tyton's entire stock Tabtag dimensions.
805-1000. TPS-1 ..... **EACH 324.50**
805-1002. TPS-1 Graphics ..... **EACH 499.99**
805-1001. TPS-1 PLUS ..... **EACH 460.90**



Tabtag Labels

Stock No.	Mfr.'s Type	Label Type	Material	Label Size	Web Width	Labels Per Row	Rows Per Fanfold	Vertical Spacing	Labels Per Pkg.	EACH
805Q1100	TAG-1-100	Self-laminating	Vinyl Film	1.9″ × .75″ × 3.19″	9.500″	4	3	6 or 8 lines per inch	2,500	284.00
805Q5100	TAG-5-100	Self-laminating	Vinyl Film	.8″ × .5″ × 1.437″	6.300″	6	8	6 or 8 lines per inch	5,000	121.85
805Q6100	TAG-6-100	Self-laminating	Vinyl Film	2″ × 1″ × 3.75″	9.000″	4	3	6 or 8 lines per inch	2,500	308.70
805-1420	TAG-14-202	Blank	Vinyl Cloth	1″ × .375″	8.600″	7	24	6 or 8 lines per inch	5,000	99.25
805-1540	TAG-15-400	Blank	Polyester	1″ × .5″	8.600″	7	18	6 lines per inch	5,000	76.15
805-1560	TAG-15-600	Blank	Metalized Polyester*	1″ × .5″	8.600″	7	18	6 lines per inch	5,000	101.50
805-1640	TAG-16-400	Blank	Polyester	.9″ × .25″	8.900″	8	36	6 lines per inch	5,000	45.80
805-1770	TAG-17-707	Blank	Paper	1.5″ × .25″	8.000″	4	36	6 lines per inch	5,000	42.65
805Q1920	TAG-19-200	Blank	Plastic Cloth	2″ × .375″	9.300″	4	24	6 or 8 lines per inch	5,000	159.30
805Q2210	TAG-22-100	Self-laminating	Vinyl Film	1″ × .5″ × 1.437″	9.000″	8	8	6 or 8 lines per inch	5,000	113.95
805-2610	TAG-26-100	Self-laminating	Vinyl Film	.5″ ×·.375″ × .75″	9.300″	14	12	6 or 8 lines per inch	5,000	63.65
805Q2730	TAG-27-300	Blank	Polyvinylfluoride Film	1.5″ × .75″	7.625″	4	12	6 or 8 lines per inch	5,000	262.45

*Aluminum. If you have any questions on label materials or applications, please call Allied.

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► New Power Supply Circuits Section

► New Categories on NVRAMs and EPROMs

► New Breakdowns on RAMs Including Cache, Multiport, Video Devices, and Modules

Contains Master Selection Guides to over 80,000 commercially available integrated circuits. Arranged in a parametric search format, these guides provide sufficient data to lead you to the precise IC needed to solve a design problem. The selection guides are listed by functional categories including digital, microprocessor, interface, linear and memory ICs. Also contains a Military Parts Directory that lists MIL-38510 QPL products by function and provides a three-way commercial/M38510/DESC drawing cross reference index. Other valuable sections include a basic part number index, part numbering guide for each manufacturer, application notes, and an Alternate Source Directory to over 150,000 pin-for-pin replacement ICs.

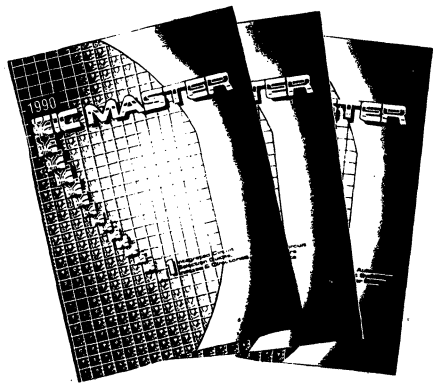
Volume Two

Contains hundreds of detailed manufacturer-supplied spec sheets and other technical data listed alphabetically by advertiser. An Advertisers Product Index refers you to both the IC listing in Volume One and the manufacturer-supplied data pages in Volume Two. In addition, a Manufacturers Directory provides a listing of all IC companies, including addresses and phone numbers. For advertisers, it also includes a listing of all Sales Offices and Representatives & Distributors.

Volume Three

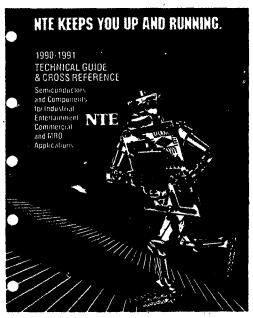
► New Section on Programmable Logic Devices with Expanded Data

This systems-level volume contains detailed directories of custom and semicustom ICs, including gate arrays, cell-based ASICs, and a greatly expanded section on Programmable Logic Devices. A Design Automation Section provides you with a guide to the CAE and CAD tools you need for custom ASIC and systems-level design. Also included are sections on microcomputer boards and microprocessor development systems. Manufacturer-supplied data sheets and other technical information relating to these products and systems are also included in this volume.



504-1000. 52F1010. 3 Volume Set .....**EACH 145.00**

NTE Selection Guide



► Over 250,000 Devices Replaced with 3500 NTE Numbers

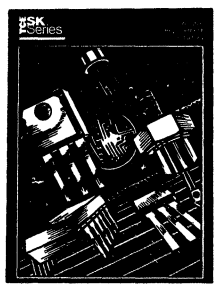
This guide contains 3500 NTE devices which replace over 250,000 parts. Tested for use specifically as replacements for solid state devices in original equipment. Each NTE transistor, TRIAC, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components.

The easy to use cross reference section enables you to locate the exact replacement needed for over 250,000 solid state devices.

935-0001 .....**EACH 3.25**

NTE Products Found On Pages 488 — 492

Thomson Consumer Electronics SK Replacement Guide



► Quick and Easy Source to Find Semiconductor Parts and Hardware
► Almost 220,000 Solid State Devices
► Replaced with Only 3,000 SK Numbers

This guide contains 3,000 SK devices which replace almost 220,000 parts. Tested for use specifically as replacements for solid state devices in original equipment. Each SK transistor, TRIAC, silicon controlled rectifier (SCR), integrated circuit, thyristor or microprocessor can be used to replace a broad variety of devices used in electronic equipment. Electrical characteristics are equal to or better than originally specified components. The easy to use cross reference section enables you to locate the exact replacement needed for almost 220,000 solid state devices.

902-5600. SKG202F .....**EACH 4.00**

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